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Continuity in interorganisational cooperation: a study of alliances within regional networks

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CONTINUITY IN INTERORGANISATIONAL COOPERATION: A STUDY OF ALLIANCES WITHIN REGIONAL NETWORKS

A thesis submitted in partial fulfilment of the requirements for the award of the degree of Doctor of Philosophy

THE UNIVERSITY OF WOLLONGONG

by

MARY G HARRIS

1996

Department of Management, Faculty of Commerce
DECLARATION

I certify that this work is original and that it does not contain material previously published or written by another person except where due reference is made and that the thesis has not been submitted for a degree in any other university or institution.

Mary G Harris
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Continuity in interorganisational cooperation was the focus of this thesis. The research aimed to contribute to interorganisational theory and practice with respect to the governance of informal business alliances. The question addressed the extent to which alliances are maintained by organisational interdependence, satisfaction with the exchange relation and compliance with 'norms of practice'. A multi-theoretical framework was developed for analysis of generalist-specialist alliances in the health industry and a case study research design was employed involving the collection of quantitative and qualitative data from four networks. A randomised survey of generalists within two urban networks identified alliances and explored issues in alliance maintenance. In addition, qualitative data was gained by structured interview from randomly selected subsets of the generalist samples and from specialists with whom they had alliances. The study found that the norms of practice governing generalist-specialist alliances were of central importance. Norms of practice included timely and educative communications, clinical competence, evidence that the partner could be trusted and an exchange environment which supported learning and mutual respect. Furthermore, the study found that alliances are more prevalent where there is greater interdependence between network members and that level of interdependence is positively associated with satisfaction and with compliance with norms of practice. It is concluded that social exchange theory in combination with network analysis, coordination theory and interorganisational knowledge provide a suitable conceptual basis for a study of continuity in interorganisational cooperation. The thesis confirms the robust nature of social exchange theory by finding a positive association between generalist satisfaction with an exchange relation and level of interdependence and extends interorganisational theory building by finding that norms of practice governing alliances are central in the mediation of rewards.
1. INTRODUCTION

"Cooperation will not continue if its benefits do not equal or exceed its costs" (Smith, Carroll et al., 1995: 17)

The focus of this thesis is continuity in interorganisational cooperation. The thesis aims to contribute to interorganisational theory and to management practice with respect to the governance of alliances. The research question is “To what extent are alliances maintained by organisational interdependence, satisfaction with the exchange relationship, and compliance with 'norms of practice'?" Exchange theory, network analysis, coordination theory and interorganisational knowledge are utilized to develop a systems framework for analysing alliance maintenance within a network of exchange relations. A case study approach (Yin, 1989) to research is employed to explore the robustness of the framework using data from four regional health care networks.

DEFINITION OF FIELD OF STUDY

Faced with rapid changes in organisational technologies and an increasingly turbulent and competitive environment, many organisations are establishing cooperative relationships in order to survive and thrive (Kanter, 1989a; Ohmae, 1989; Boyle, 1994). “Alliance” and “network” are terms used to describe new interorganisational configurations (Limerick and Cunnington, 1993: 60-73; Alter and Hage, 1993) and are sometimes used interchangeably in the literature. “Alliance” and “network” both imply a linkage for cooperative effort, a quest for some kind of mutual business advantage and independence of the players. In general, business organisations decide to make an alliance in order to “gain competitive advantage, leverage critical capabilities, increase the flow of innovation, and improve flexibility in responding to market and technology changes” (Zuckerman, Kaluzny et al., 1995: 55). “Network”, on the other hand, describes the structure of the larger configuration which emerges when a number of organisations agree to cooperate, whether under common ownership or not and whether public instrumentalities or not (Alter and Hage, 1993: 45 & 46; Limerick and
Cunnington, 1993: 60 & 61; Devers, Shortell et al., 1994). It follows that alliances can develop between parties, whether or not they share a network affiliation. Nevertheless, alliances are more likely to emerge between parties which are embedded within a pre-existing network of organisations. Alliances and networks are increasingly important vehicles for interorganisational cooperation (Smith, Carroll et al., 1995) and are the domain of this study. In particular, the study focuses on cooperative relationships between organisations which are entered into voluntarily, imply partnerships of equals, and preserve the autonomy of the participants.

Drawing on Limerick and Cunnington (1993), Alter and Hage (1993: 46) and Emerson (1972), I have defined a network as a regional cluster of legally separate organisations which have opportunity for voluntary work-related exchanges. In terms of this thesis, the networks involve generalist and specialist health care organisations which exchange about patients and their treatment.

Limerick and Cunnington (1993: 70-79) define various types of interorganisational network among which are “industry clusters” and “regional clusters”. The former specialise in an industry segment, while the latter are defined by location and product. The “Emilian Model” is an example of a regional cluster in which “very small and some medium-sized firms are grouped together in different zones according to product. Each is highly specialised, but they collaborate with each other through a series of network mechanisms” (p 70). Alter and Hage (1993: 61) label such organisational forms “systemic production networks”, a configuration which is of importance to this study. Of particular interest are the “strategic alliances” which develop among firms within a “systemic production” network and the activities which contribute to continuity in the alliance. Following Nohria and Eccles (1992: 11), this study accepts, that “it is insufficient (and probably erroneous) to explain the strategic behaviour of firms ..... without paying particular attention to the network of relations among them.” The concepts of network analysis provide a useful basis for a study of informal alliances within regional networks.
Within the health industry in Australia and the United Kingdom, generalist and specialist firms are forming alliances in the context of networks of service providers (Williams and Clare, 1981; Llewellyn-Jones, 1993). The networks are defined by the type of service they provide (e.g., services for care of mentally ill people or services for care of people with older-onset diabetes). Hakansson and Johanson (1989: 239-240) describe this type of network as industrial rather than social, differentiating networks according to the focus of interest. For example, in a social network the characteristics of the actors are of key importance. However, with industrial networks, while the actors are of some import, it is the activities, and resources required to support those activities, which are central. An industrial network is likely to be less reliant on the personal characteristics of the actors and more able to withstand change among network members as long as the vital activities occur and resource supply is maintained (Hakansson and Johanson, 1989: 239-240). Brass and Burkhardt (1992: 197-198) describe two types of industrial network, namely, workflow networks and communication networks. The first is defined by the division of labour associated with the task with the parties exchanging inputs and outputs while the second involves the exchange of information. Actors who are centrally located within either of these networks have the potential to access and mediate the flow of resources.

While the regional health care network is visible and definable, informal generalist-specialist alliances are not. Furthermore, while much has been written about generalist-specialist referral practices, little has been written about the nature of generalist-specialist alliances. Dowling (1995: 143), defines alliance in health care, as any form of association or joining together for “mutual benefit” (p 143) that contributes to integrated service delivery. “Mutual benefit” acknowledges that the parties to an alliance are not necessarily working towards shared objectives or even improved integration. Nonetheless, there are usually common interests that link alliance partners. Zuckerman and Kaluzny (1991) use the term “alliance” to describe cooperation between generalists, specialists, researchers and informal carers contributing to Community Clinical
Oncology Programs. They consider alliance to be an acceptable descriptor for relationships between small, independent and interdependent groups of health service providers and researchers contributing to the care of patients with cancer. Furthermore, by using the term “strategic alliance”, they imply that the linkages are highly valued and reasonably enduring. Dowling (1995: 143) proposes that alliances vary according to degree of connectedness, level of formality, breadth of coverage of shared activities, and degree of autonomy.

I have defined an alliance as a relatively enduring, voluntary, cooperative arrangement for mutual benefit in which the actors have an informal or formal understanding concerning the way they will manage their exchange relationship.

The above definition is similar to Kanter's (1989b: 186) “stakeholder alliance”, where, the “stakeholder” can assist or inhibit an organisation in the achievement of its goals, for example, suppliers, customers and employees. The basis for alliance is that the parties perceive a need to cooperate. “Stakeholders are those groups on which an organisation depends - the people who can help it achieve its goals or stop it dead in its tracks” (Kanter, 1989b: 186). Alliances between generalist and specialist organisations in the health industry have much in common with Kanter's “stakeholder” alliance.

The organisations of interest include small business generalist and specialist firms and public sector hospital units and health agencies. The function of the generalist firm is the provision of primary level care to people in the community, while the role of the specialist is the provision of advice and procedural expertise in situations beyond the expertise of the generalist. Hence, in some respects the specialist firm can be perceived as a “supplier” of services to the generalist and the generalist as a “customer” of the specialist. Small business medical practices, on average, include 2.5 doctors plus two or more support staff. Public sector health agencies may include up to 20 clinical and administrative staff. Even though some medical firms are quite small, it is argued that all meet Silverman's criteria for definition as an organisation. According to Silverman
Alliances among stakeholders assist organisations to achieve greater certainty in a changing and increasingly uncertain environment. However, for cooperative relationships to endure, participant expectations must be met and the relationship, itself, requires nurturing (Kanter, 1989b). Smith, Carroll et al., (1995) observe that cooperation is “the process by which individuals, groups, and organisations come together, interact and form psychological relationships for mutual gain or benefit” (p 10). To this understanding of cooperation, Ring and Van de Ven (1994), add the important dimension of continuity in that cooperative relationships are “socially contrived mechanisms for collective action, which are continually shaped and restructured by actions and symbolic interpretations of the parties involved” (p 96). Cooperation continues only for as long as all parties perceive that it is in their best interest to remain in such a relationship. But it is not entirely clear what factors contribute to the decision to remain in an alliance or to separate. Few studies have examined continuity of interorganisational cooperation and further research is needed in view of the importance of the issue (Smith, Carroll et al., 1995). This study contributes to knowledge on the subject of continuity in cooperation between organisations.

Improved coordination of effort is a frequent benefit of cooperation (Smith, Carroll et al., 1995), involving the “collective pursuit of shared goals” (Gamm, 1984: 60). The purpose of cooperation for the individual organisation is to “accomplish their respective individual goals” (p 13). Hence, cooperation is an essential antecedent of coordination and coordination is a “specific form of cooperative activity” (Alter and Hage, 1993: 82). Smith, Carroll et al., (1995) propose that “coordination stemming from cooperation seems particularly important in today’s new organisational forms, where relationships
are much more voluntary and self-defined than organisationally mandated” (p. 11). Voluntary forms of cooperation may be either, “formal”, involving written contracts addressing the responsibilities of the various parties, or, “informal” based on shared values and understandings (Ouchi, 1980; Axelrod, 1984; Alter and Hage, 1993). This thesis addresses alliance maintenance under conditions of informal cooperation.

Of particular interest in this study are the non-economic measures of cooperation which the players associate with superior outcomes, for example, improvements in the quality of the product, conflict management (Alter and Hage, 1993) and decision-making (Smith, Carroll et al., 1995). Other measures of interorganisational cooperation are the processes which facilitate understanding of roles and expectations (Levine and White, 1961), and feedback mechanisms (Thompson, 1967). Smith, Carroll et al., (1995) make the remarkable observation that “there is little empirical evidence of the influence of such feedback mechanisms on cooperation or of the effect of past performance on an individual’s decision to continue in a cooperative relationship” (p. 16). Statements such as this in the recent international literature provide a justification for research to elucidate factors which influence continuity in alliances. Similarly, Alter and Hage (1993: 90-91), in a comprehensive analysis of interorganisational cooperation, observe that most research has addressed cooperation at the policy making level and at the administrative level, while little attention has been given to coordination at the task, or operational, level. This level of dynamic interactivity is central to this thesis.

However, approaching alliance maintenance at the operational level raises an important question for the researcher, namely, whether the focus of analysis should be exchanges between individuals or exchanges between organisations. The characteristics of the organisations within the regional health care network suggest that exchanges need to be viewed from both perspectives. For example, exchanges between general practitioners and medical specialists are frequently seen as exchanges between individuals. However, this thesis maintains that these individuals are, in the main, owner-managers of small businesses who form alliances in order to advance the performance of the business. In
addition, the regional network includes public sector specialist agencies accountable to
the regional health authority. Despite their larger size and affiliation with the regional
health authority, exchanges between these organisations and generalists typically occur
between individuals. Alliance development with generalists, for instance, occurs at both
the organisational level and the individual level. This thesis recognises this complex
situation and seeks to address the issue by gaining information from individuals and
from leaders of both private sector and public sector associations and organisations.

Kanter (1989b & 1994) implies that organisations tend to act like individuals by likening
continuity in alliance to a “marriage”, that is, a dynamic relationship based on trust and
commitment and requiring ongoing attention to maintenance activities. Identified
challenges to continuity in alliance include 1) unevenness in levels of commitment, 2)
power imbalances associated with differences in wealth, expertise and access to
information, 3) one organisation benefiting more than another from the alliance, 4) lack
of attention to the alliance due to conflicting loyalties, and 5) failure to commit time and
resources to managing the relationship (Kanter, 1989b).

Kaluzny (1991) proposes four necessary conditions for effective alliances between
members of health service provider networks. First, exchanges between and within
levels of care need to be mutually rewarding. This requirement is consistent with
Kanter’s proposition that there needs to be a perception of equality in the accrual of
benefits from the alliance. Secondly, Kaluzny addresses the administrative processes
required to facilitate coordination by recommending the development and use of
protocols relevant to the unique characteristics of patients and providers. His third
criterion concerns the technical competence of the member organisations and the
appropriateness of the services that they provide to clients. Finally, Kaluzny
emphasises the importance of feedback about the products of the alliance, stressing the
need for evaluation of patient care outcomes and cost-effectiveness. It is likely that these
four conditions for alliance maintenance are widely applicable with adaptation according
to service activities, inter-professional linkages and location of specialist and generalist
organisations. Kaluzny's conditions for effective alliance specify a number of activities which, if agreed by all parties, become "norms of practice". This seminal proposition is examined in this research under conditions of informal alliance.

Limerick and Cunnington (1993) conclude from their study of Australian companies that effective management of alliances requires attention to both the "soft" and "hard" issues. Soft issues include perceptions of equity and fair sharing and hard issues include trust and information systems designed to facilitate control of cost and quality. Anderson (1992) identified three factors in successful collaborative efforts in the health industry, namely, mutual respect, understanding, and trust among collaborating parties. Kaluzny's criteria operationalize these values. Mutual respect is demonstrated by approval behaviour, (Homans, 1974), a prerequisite for mutual reward. Understanding is a product of shared information gained through the use of treatment protocols specific to particular tasks. Trust is a personal and organisational outcome which develops over time through feedback from cooperative experience. It is proposed that exchange theory, in combination with network analysis, coordination theory and the emerging theories of interorganisational cooperation, provide an appropriate conceptual basis for analysing both "soft" and "hard" elements of alliance maintenance.

Alliance becomes operational through a series of agreements, formal or informal, which structure exchanges between two or more parties in order to make transactions more predictable. Accordingly, exchange theory is a suitable theoretical basis for exploring the psycho-social aspects of alliance relationships (Smith, Carroll et al., 1995), while network analysis provides tools useful for describing situational factors influencing alliance maintenance. Furthermore, established alliances between small business firms in the health industry have characteristics consistent with successful alliances in other industries as described in the literature (Kanter, 1989b & 1994; Limerick and Cunnington, 1993; Alter and Hage, 1993). Therefore, the rich and complex literature applying coordination theory to the governance of interorganisational cooperative arrangements has been utilized to throw light on the activities of these small health care
organisations. It appears that no one conceptual paradigm can adequately capture the complex and dynamic processes that maintain interorganisational cooperation.

Many studies of interorganisational cooperation have addressed reasons for alliance development (Smith, Carroll et al., 1995), and this issue is not addressed here. However, literature concerning this topic is reviewed in order to identify situational factors that influence alliance maintenance. This thesis does not address the impact of alliances on the overall integration of service delivery within a regional network nor the outcomes for customers, nor report changes over time in alliance configurations, processes or outcomes. The study does not explore the financial transactions between alliance partners. It is assumed that improved cooperation between members of regional health care networks would impact favourably on both service integration within a regional network and client care. However, outcome studies from interorganisational cooperation are costly and, beyond the resources available to the researcher.

In summary, this study explores the variables influencing continuity of cooperation between members of regional health care networks, and the ways in which generalist and specialist small business firms and public sector agencies in established alliance manage the “hard” and “soft” issues. In so doing the research contributes to the emerging body of management knowledge concerning continuity in interorganisational cooperation.

**CONTRIBUTION TO PRACTICE**

In common with all business sectors, broad economic, demographic and social forces combined with rapid developments in technology are having a dramatic effect on the organisation of health care in many countries (Devers, Shortell, et al., 1994; Boyle, 1994; Council of Australian Governments, 1995). For example, while the demand for surgical procedures has increased in concert with the ageing of the population, developments in micro-surgery have resulted in reduced length of stay in hospital. Hence, more disabled, elderly people are requiring post-operative care in the community (Commonwealth Department of Health, Housing and Community Services, 1991).
addition, new medications, financial constraints and changes in community attitudes have led to most mentally ill people living at home or in community based boarding houses (Australian Health Ministers Advisory Committee, 1992). As a result of these changes, managing care in the community is of equal importance with managing care in the institution. This changing scene has significant implications for health care organisations, whether publicly or privately funded. Furthermore, funding bodies and communities are demanding new and cost-effective methods of coordinating services provided by multiple organisations (Council of Australian Governments, 1995). One approach which holds promise is the “networked” organisation (Commonwealth of Australia, Bureau of Industry Economics, 1991).

Health networks in Australia characteristically comprise independent private sector and not-so-independent public sector organisations, some predominantly generalist and some which have a specialist function. No single organisation or person has responsibility for ensuring coordination of effort among network members. Traditionally, linkage between organisations has occurred via the patient referral with the patient coordinating the services he/she receives. This works well with patients who have relatively uncomplicated, time-limited conditions in which the roles and responsibilities of generalist and specialist organisations are clearly understood. However, with complex chronic conditions, such as diabetes mellitus and serious mental illness, coordination of effort is more challenging. For instance, the patient may be unable to access needed services in a timely manner, resulting in unnecessary exacerbation of illness. In addition, the roles of the various players are often unclear, increasing the likelihood of duplication of effort and conflict between agencies. Furthermore, treatment methods have become more complex, requiring timely transfer of information between provider organisations for effective decision-making.

Traditionally, generalists and specialists have managed exchanges through an ad hoc referral process. However, during the last decade, the term “shared care” has emerged in the Australian and British health literature, reflecting a change in cooperative practices
between generalist and specialist organisations. Shared care refers to a formal, or informal, agreement between small business generalists and specialists (individual or collective) to share the management of patients with certain conditions. It implies a more enduring, collaborative relationship between generalist and specialist firms and greater specificity in the roles and responsibilities of each. Some general practitioners and specialists have made greater advances towards voluntary linkage than others, suggesting that some find the practice rewarding and some do not. However, there is no detailed examination of “hard” and “soft” factors which encourage maintenance of “shared care” arrangements. Shared care arrangements involving small business generalists and specialists and public sector specialist health agencies have characteristics in common with “alliances” between business organisations in other industries. For example, one of the driving forces for shared care or alliance formation is increased competition for resources. Australian private sector general practitioners and specialists are faced with growing competition for patients and resources as the number of doctors continues to increase (Australian Institute of Health and Welfare, 1994: 153) and the number of privately insured people continues to decline. At the same time the Commonwealth Government is seeking to maintain expenditure on health care at approximately 8 per cent of Gross Domestic Product (Macklin, 1990). Furthermore, shared care arrangements are entered into voluntarily. A general practitioner chooses the specialist organisation to whom he/she refers, or consults, and the specialist organisation is free to accept or decline the referral or consult according to expertise and availability. Finally, neither party has authority over the other. The relationship is between independent, relatively autonomous partners.

In Australia, general practitioners make up 66 per cent of the medical workforce and approximately 80 per cent of the population consult a general practitioner in any one year (Commonwealth Department of Health, Housing and Community Services, 1992: 8). The general practitioner acts as the “gatekeeper” to specialist services such as private and public medical specialists, public and private hospitals, and specialist allied health
professionals (Strasser, 1992). This role is supported by legislation and financial incentives under Australia's universal health insurance scheme, Medicare (Commonwealth Department of Health, Housing, Local Government and Community Services, 1993: 6). For these reasons, this study uses the small business general practitioner as one of the delimiting elements of a health care network. Medical condition is used to define the boundary of the network. Two patient conditions which require ongoing care from a range of organisations have been selected for case examination, namely, diabetes mellitus and mental illness.

General practitioners and medical specialists have a long history of voluntary linkage in the private sector but general practitioners and public sector organisations have less experience of cooperation. Established patterns of linkage are reflected in Australian general practitioner referral statistics. Seventy-six per cent of new referrals go to medical specialists and the remainder go to allied health professionals (Bridges-Webb and Britt et al., 1992). This study pays particular attention to processes which general practitioners and medical specialists utilize to achieve and maintain cooperative effort and compares these practices with general practitioner-public sector health professional linkage arrangements and outcomes. This study contributes to management knowledge of factors influencing continuity of cooperation between various health industry players.

**CONTRIBUTION TO THEORY**

Many theoretical frameworks have been utilized to analyse interorganisational cooperation. Smith, Carroll et al., (1995) identify five frameworks, namely, exchange theory, including social and economic exchange, attraction theories, power and conflict theories, modeling theories, and social structure theories. To this list, Alter and Hage (1993: 25) add population ecology theory, and interorganisational relations theory, and Laumann and Pappi (1976: 9-10) add administrative theories. Grandori and Soda (1995) use a discipline based approach to organise and review the vast body of interorganisational literature. Seven disciplines are identified because of their
contribution to this field. Clearly, the study of interorganisational cooperation can be approached in a number of ways. In recent years a leading role has been played by organisational and management studies which tend to employ an eclectic approach.

Exchanges between organisations in the business sector are necessary to acquire resources, material and clients and/or markets. Similarly, in the health industry, exchanges between professionals are necessary to acquire resources, materials and clients and to provide complementary elements of care for clients (Levine and White, 1961). Hence, a regional health care network which includes small business medical firms and public sector health care organisations is instrumental in gaining business advantage for the participants and coordinated services for clients. The traditional patient referral from general practitioner to specialist has been described by Longest (1990) as a simple market transaction in which the general practitioner advises the patient of the need to see a specialist and prepares a letter of referral. The specialist usually agrees to see the patient. The specialist's income is increased by the additional patient visit. Exchange theory and resource dependency theory have been used as suitable theoretical bases for analysis of "market" transactions (Levine and White, 1961; Shortell, 1974; Longest, 1990). However, as already indicated new patterns of exchange are emerging in response to environmental turbulence and these new forms of generalist-specialist cooperative activity are central to this thesis.

By definition, alliance maintenance is a dynamic process which involves multiple exchanges and on-going judgements by the participants of the costs and benefits of cooperation. To cope with this cyclical process of negotiation and decision-making this thesis develops a systems framework which draws from four streams of knowledge, namely, 1) exchange theory (Blau, 1964; Homans, 1974; Emerson, 1972; Cook, 1977), 2) network analysis (Turner, 1991; Cook and Whitmeyer, 1992), 3) coordination theory (Thompson, 1967; Mintzberg, 1983) and 4) the rapidly growing body of knowledge concerning interorganisational cooperation (Ouchi, 1980; Hakansson and Johanson, 1989; Starkweather, 1981 & 1990; Sofaer and Myrtle, 1991; Kaluzny,
Social exchange theory provides a sound theoretical springboard for exploring complex interpersonal and interorganisational phenomena and is particularly useful for exploring organisations “coming together to cooperate and continuing to engage in cooperative relationships” (Smith, Carroll et al., 1995: 18). Exchange theory predicts that relationships between individuals are maintained on the basis of rational choice, specifically, the desire to maximise utilities or rewards. Hence, a relationship will be maintained only for as long as it is rewarding (Negundhi, 1980: 40). Central to social exchange is the concept of functional autonomy. It follows that, in a health care delivery network in which the parties are free to choose with whom they relate, cooperation between the parties will be greater between those who believe the exchange to be rewarding. Confident that these notions are an accurate representation of social life, this study explores the psycho-social and administrative processes associated with cooperation between members of regional health networks and compares them with processes associated with an absence of cooperation. Of particular interest is the role that feedback plays in the realisation of rewards and the development of trust, and, consequently, in decisions concerning future cooperation.

Coordination theory provides a basis for predicting processes governing established alliances based on workflow interdependence and reasons for collaborative activity (Thompson, 1967; Galbraith, 1974; Minztberg, 1983). Similarly, emerging from the interorganisational literature is a set of “norms of practice” governing exchanges between members of networks and alliances (Kaluzny, 1991; Kanter, 1989b; Powell, 1990; Larsen, 1995). The fourth source of knowledge employed in the development of my systems framework is network analysis which is used to describe the regional health care network within which alliances between generalists and specialists are embedded. Among the relevant situational factors are 1) industry environment (Zajac and D'Aunno,
1994: 274-293), 2) medical condition which influences level of differentiation and workflow exchanges (Levine and White, 1961; Thompson, 1967), 3) the distribution of power and influence (Cook, 1977), and 4) status and cultural differences among the parties (Pfeffer, 1978). Each of these factors may impact on alliance activity and governance.

There is growing support in the literature for the use of a multi-theoretical approach in researching continuity in interorganisational cooperation. For example, Smith, Carroll et al., (1995), in reviewing forty-six empirical articles concerning intra- and inter-organisational cooperation, conclude that “a multi-theoretical perspective” (p 19) offers a number of advantages, among which is the opportunity to address multiple levels of analysis. This issue is quite central to my study of alliance maintenance but remarkably difficult to resolve. If the core of alliance is the relationship between individuals or individuals and organisations, then the analysis can suitably utilise behavioural, social and resource exchange theories. On the other hand, if the essence of alliance has to do with the network of organisations to which members owe allegiance, then the analysis can appropriately utilise theories such as systems theory, modeling theories, and social structure theories or a synthesis of these paradigms. Smith, Carroll et al., (1995) suggest a pragmatic resolution, namely, “since cooperation at any level must ultimately be reduced to cooperation between individuals - such as managers from different organisations - the distinction between levels is blurred” (p 11). Further support for a pragmatic approach to analysing interorganisational cooperation comes from Cook and Whitmeyer (1992) who propose the integration of exchange theory and network analysis. These researchers maintain that the combination of network analysis and exchange theory addresses the micro/macro dilemma by defining an actor as an individual or collective unit, such as a corporation, and by defining social structure as “patterns of connections among actors in networks of exchange relations” (p 112).

Other integrative theoretical approaches to the study of interorganisational cooperation have been adopted. For example, Alter and Hage (1993: 22; 81-105) drew on
interorganisational relations theory, population ecology theory, and rational choice theory to develop a conceptual framework to predict choice of coordination method, used by networks of organisations providing services to “multi-problem clients” or solving “multifaceted research problems”, under different conditions of task, size and types of interdependence. Lamb (1991) combined social exchange theory with technology theory to explain factors influencing nurse practitioners as to which doctors they would engage in exchange.

My thesis contributes to theory by developing a research design for examining alliance maintenance within the context of a network of organisational and individual exchange relationships. My systems framework is an attempt to provide a research design that 1) is sufficiently rigorous to examine relationships between variables, and 2) is sufficiently complex to capture the dynamism of alliance maintenance. Underpinning my theoretical framework is the proposition that established alliances which the partners find rewarding are characterised by relatively high levels of organisational interdependence, perceived rewards from alliance activities and compliance with norms of practice specific to the health industry. The thesis contributes to knowledge of 1) the application of exchange theories and coordination theories to the processes governing and maintaining alliances, 2) the utility of “network exchange theory” to empirical research, and 3) interorganisational theory building with respect to the interplay between rewards and compliance with norms of practice governing alliances among generalists and specialists in the health industry. It is possible that my theoretical framework may have application beyond the health industry in industries where alliances develop within networks of exchange relationships.

RESEARCH APPROACH

The study uses a multi-modal approach to data collection and employs inductive and deductive logic. The research design is best described as a “multiple-case replication design” (Yin, 1989: 27-60) involving two cases and the establishment of a chain of
evidence with data gathered by quantitative and qualitative methods from various sources by survey, semi-structured interview and analysis of relevant documents. Case study design has been selected in preference to an experimental design, because it is a useful method for gaining answers to “how” and “why” questions about real world phenomena over which the researcher can exert little control (Yin, 1989:13-26) as is the case with professional organisations. The collection of quantitative and qualitative data provides opportunity to describe what is happening in terms of linkage activities within case sites, to test predictions about cooperation and satisfaction based on social exchange theory and organisational action theory, and to gain insights into relationship dynamics which may influence cooperation.

The design of the study is cross-sectional. As such it does not allow for observation of changes over time in interorganisational relationships. However, the framework for analysis of alliance maintenance encourages repeated ‘snapshots’ which could, resources permitting, provide longitudinal data. The study is therefore best described as a variance analysis rather than a process analysis (Kaluzny and Zuckerman, 1992). Furthermore, the study does not seek to impute causality, but, rather to explore relationships between variables.

Two patient care networks have been selected for examination, namely, networks for the care of people with mental illness and networks for the care of people with diabetes mellitus. These two systems of care were selected because the conditions are chronic and the consequences are costly to patients and the health system if they are poorly managed. Because the conditions are chronic, exchanges between organisations are likely to be more established and enduring. In addition, the identification of two patient related systems permitted the researcher to describe variation associated with client condition which may affect linkage practices and outcomes.

The collection of data from the organisations selected for study was predominantly by survey and interview with individuals. With small business medical firms, the decision
was made to obtain information from one of the principals of the firm. According to Bridges-Webb, Britt et. al., (1992) approximately 30 per cent of Australian general practitioners are in solo practice, 40 per cent are in group practices involving 2-3 partners and the remaining 30 per cent are in practices with 4 or more partners. Discussions with key informants indicated that the phenomena of interest “generalist-specialist alliances” predominantly involved exchanges between individual doctors and that they were not greatly influenced by the other members of the small business organisation, such as, administrative and clinical support staff. With respect to the relevant public sector organisations, the approach was to interview the clinical director or team leader. In brief, the approach selected for data gathering was to target key individuals and to call the response an organisational response. Analysis of data occurred at three levels. At one level, responses from individuals/organisations within each network were examined. At another level, responses from individuals were aggregated to explore within-network differences across exchange categories (eg. small business generalists, small business psychiatrists and mental health professionals). In addition, across-network differences were examined using individual responses and aggregated exchange category data.

In summary, this study employs a multi-theoretical and a multi-modal approach to a consideration of factors affecting continuity of interorganisational cooperation at the operational level. Of particular interest are alliances involving small business generalists and specialists and public sector units and agencies which 1) extend beyond a simple referral or market transaction, 2) are based on “informal” understandings rather than formal contracts, 3) are entered into voluntarily, 4) are perceived by the participants as partnerships of equals, and 5) preserve the autonomy of the participants. This type of cooperation is of interest for two reasons. In the first place, participants in the network retain flexibility and avoid the morale effects characteristic of centrally controlled systems. Secondly, such an alliance has the potential to establish relatively stable and effective arrangements between members of health care delivery networks. Kaluzny, (1991) concludes that voluntary linkage arrangements, or “partnerships of equals” are
more acceptable and appropriate for managing interdependence between health professionals than more traditional approaches with a heavy reliance on regulation and compliance. Furthermore, in networks characterised by high task, complex or highly differentiated structure, impersonal coordination methods are ineffective (Alter and Hage, 1993: 257):

"External controls with an emphasis on regulation and structural differentiation may be used by state and federal authorities as a means of avoiding conflict and perceptions of poor performance, but they only make them worse" (Alter and Hage, 1993: 257).

**STRUCTURE OF THE THESIS**

In Chapter 2, exchange theory, network analysis and coordination theory are introduced, together with concepts relevant to the application of these constructs for the analysis of continuity in interorganisational cooperation (alliance maintenance).

Chapter 3, reviews the literature on interorganisational cooperation in six sections. The first section reviews literature on networks and alliances and the measures used for their analysis. The second section explores factors motivating organisations to cooperate and relates these to changes occurring in the Australian health industry. The third section examines factors associated with continuity in interorganisational cooperation. Sections four and five describe regional health care networks in the Australian context including the practice of shared care. The final section explores design and methodological issues important to researching alliances within regional organisational networks.

In Chapter 4 a theoretical framework is developed and propositions are advanced about alliance maintenance within regional networks drawing on the review of the interorganisational literature, on the propositions of exchange theory and network analysis, and on coordination theory with a particular emphasis on the management of reciprocal interdependence.
The research questions, research design, units of analysis and methods of data collection and analysis are outlined in Chapter 5. In addition, strategies to enhance the validity and reliability of the study of alliance maintenance are described including the development of a chain of evidence. The chain has six links and the evidence pertaining to the first link, "Stage 1: Preparatory," is presented as part of the methodology.

Chapter 6 reports the study findings. Following an overview of the total number of participants, the findings are presented in six stages. Stage 2, reports the outcomes of a pilot study involving a small rural, regional network. The third stage describes two regional health care networks while the fourth stage reports the findings of a two-case comparative study of alliance maintenance. The fifth stage reports the outcomes of two research workshops which provided opportunity for participant validation of the study findings. The final stage reports the findings of a focus group meeting with a convenience sample of city-based general practitioners.

In Chapter 7 the findings of the study are discussed in a manner consistent with the research design. First, the findings relevant to the research propositions are discussed. Secondly, the situational findings are addressed, including, industry and network environment. Thirdly, differences in the structure and nature of alliances associated with funding arrangements are explored. Finally, the limitations of the research design and methodology are examined.

Chapter 8, outlines the theoretical and practical conclusions of the thesis and identifies possible directions for future research.
2. THEORIES AND CONCEPTS

This Chapter introduces exchange theory, network analysis and coordination theory. In addition, concepts useful for a study of interorganisational cooperation are introduced, specifically, organisational domain, adaptation, integration and interdependence.

Essential to an analysis of factors that maintain cooperation is an understanding of the forces that drive organisations to cooperate. The drive to own, control and extend territory is very primitive and ingrained in all social animals, including, organisational power-brokers. In order to fulfil this drive, and in some instances to survive, organisations need the capacity to adapt to changes in their environment. Interorganisational cooperation is one way whereby some organisations seek to adapt to changing environmental conditions. Like adaptation, differentiation and integration are concepts derived from biological survival which have been appropriated and applied to a study of interorganisational cooperation. Growing complexity of task and resource scarcity demand greater differentiation at the level of the organism or organisation. As organisations become more differentiated they become more dependent on other organisations for needed elements. With growing organisational interdependence and differentiation comes a greater need for integration and coordination. Thus underpinning interorganisational cooperation and alliance building and maintenance, there are profound, biologically based principles which orient the researcher to the nature of the phenomenon. Cooperation, it seems, is a corporate adaptation in the interests of survival, a civil form of territoriality.

EXCHANGE THEORY AND NETWORK ANALYSIS

"Institutions do not keep going just because they are enshrined in norms, and it seems extraordinary that anyone should ever talk as though they did. They keep going because they have pay-offs, ultimately pay-offs for individuals" (Homans, 1974: 55).
Traditionally, there has been antipathy between exchange theorists and network analysts. Much of the debate has concerned the level of analysis, with network proponents claiming that exchange theory is atomistic and reductionist. At the same time, exchange theorists, such as Homans (1974), have criticised network analysts for being overly concerned with structures and societal norms and for marginalising the behaviours of individuals. Others have claimed that exchange theory is utilitarian and prone to problems of tautology. The convergence of these two streams in sociological research addresses, to some extent, the limitations inherent in each.

Homans' (1974) social exchange propositions were developed using inductive logic derived from five case studies, deductive logic based on empirical research, and “creative borrowing” from behaviouristic psychology (p 303). Homans refrained from using sociological concepts such as status and role to describe human behaviour. Instead he focused on the “activities”, “interactions”, and “sentiments” of individual “actors”. Activities are what individuals do in given situations. Interaction “denotes the process in which one unit of activity stimulates a unit of activity in another person” (Turner, 1991: 304) and sentiments refer to the internal psychological states of the individuals involved (Turner, 1991: 304). Homans proposes that these key elements are interrelated and dynamic and that they operate within a given environment. Homans pays little attention to external environmental factors. His major focus is on the internal environment as it applies to activities, interactions and sentiments among a given population (Homans, 1974). In other words, he fails to take into account the context in which individuals engage in exchange (Cook and Whitmeyer, 1992). This is a limitation of social exchange theory which network analysis addresses.

The basic premise of exchange theory is that human behaviour consists of “exchanges of rewards (and punishments) among interacting individuals” (Turner, 1991: 311). Furthermore a given behaviour is maintained by the pay-offs which the individual receives (Homans, 1974). Inherent within this construct is the first principle of economics, namely, that people “calculate the long-range consequences of their actions
in a marketplace and attempt to maximise their material profits in their transactions” (Turner, 1991: 311). However, to this materialistic notion, Homans adds a social dimension, arguing that people do not always seek to maximise profits, but only to make some profit, and that exchanges are not only monetary but include social commodities, such as approval, esteem, compliance, love, and affection (Homans, 1974).

Homans' rationality proposition summarises a number of his principles and captures the essence of social exchange theory. The rationality proposition states that “In choosing between alternative actions, a person will choose that one for which, as perceived by him or her at the time, the value, V, of the result, multiplied by the probability, P, of getting that result, is greater” (Homans, 1974: 43). In so acting, an individual maximises his or her expected utility. With respect to repeated actions, this proposition is of interest to the study of continuity in alliance where it “implies that, if the rate at which a man or woman performs an action is designated by A, then Action = Value . Probability” (Homans, 1974: 45)

Turner (1991) operationalises this proposition with an example: “if Action1, is highly valued (say, 10) but the probability of getting it by emitting Action1 is low (0.20) and if Action2 is less valued (say, 5) but the probability of receiving it is greater (0.50) than Action1, then the Actor will emit Action2 (because 10 . 0.20 = 2 yields less rewards than 5 . 0.50 = 2.5)" (p 313).

In brief, social exchange regards individuals as calculative. People make decisions about exchanges with other parties on the basis of anticipated costs and benefits. Axelrod (1984) and Kelley and Thibaut (1978) supported Homan’s propositions, finding in laboratory experiments, that cooperative behaviour could be increased by manipulating reinforcement schedules. Levine and White (1961) applied exchange theory to an analysis of exchanges among not-for-profit health and welfare agencies. They found that dependency between organisations was influenced by practical and social considerations. Practical considerations included organisational function, the extent to
which the agencies were aware of one-another and the extent to which they had access to resources external to the local community. Organisational prestige was among the important social considerations. Shortell (1974) used social exchange to explore the relationship between doctor referral rates and status. He found a relationship between rates of exchange and status among specialists but not with respect to generalists. More recently, Lamb (1991), utilising social exchange theory and technology theory to examine exchanges between nurse practitioners and doctors, found that nurse practitioner decisions to consult a doctor were not based solely on the condition of the patient. In addition to patient condition, exchange decisions were influenced by the expected outcomes of the exchange with the available consulting doctors, implying that previous encounters have a substantial influence on exchange behaviour.

Social exchange theory has ideological detractors and more substantive critics who criticise Homans' propositions on the basis that they are overly utilitarian. Those making this claim consider that his deductive logic about the behaviour of individuals reduces to “things are as they are because they are rewarding” (Turner, 1991: 317-322). However, Homans' (1974) argues that, in the absence of any laws underpinning sociological reasoning, propositions grounded in observations of the behaviour of individuals and reinforcement theory provide building blocks for understanding macro-level trends in society. For Homans, society is made up of small groups and the exchange processes which govern the small group also govern the wider community (Homans, 1950: 468). Cook and Whitmeyer (1992) maintain that it is likely that Homans' analysis of social behaviour endures precisely because his vision of the underpinning’s of social structure and institutional forms is straightforward and links closely with the actions of individuals (Cook and Whitmeyer, 1992: 111). Turner (1991: 317-322) concludes that exchange theory is one of the few approaches that can bridge the micro/macro gap with common principles.

However, despite the strong endorsement of social exchange theory by these researchers, the issue of tautology remains problematic. Risks to logic are inherent in
the key concepts, namely, value, reward, and action. For example, rewards are gratification's which have value and value is the degree of a reward (Turner (1991: 318). Homans argues that the issue of tautology does not arise if his propositions are viewed as axioms, within a deductive system (Homans. 1974). Emerson (1972) partly addressed the issue of tautology by emphasising the 'exchange relation' rather than the individual actors. According to Turner (1991), “this approach bypasses the problem of tautology so evident in much exchange theory by viewing an established exchange relation - not actors in the relation - as the smallest unit of analysis. In this way questions about each actor's values become less central because attention is focused on the relationship between actors who exchange resources” (p 560- 561).

While social exchange is well grounded theoretically and empirically, network analysis is largely empirically driven. Network analysis is based on the premise that all important social phenomena can be explained by social structure. Network analysts describe regular patterns of interaction of many actors and “use their description to learn how network structures constrain social life” (Cook and Whitmeyer, 1992: 114). With respect to the study of interorganisational linkage, network analysts explain “cooperation in terms of the position of the cooperating partners in a network relationship” (Smith, Carroll et al., 1995: 19).

Emerson (1972) links network analysis and Homans' dyadic exchange approach by using the exchange relation as the structural unit for studying “the formation and change of social structures ...... among specified actors” (Cook and Whitmeyer, 1992: 113). Furthermore, Emerson (1972) made it easier to apply exchange theory to the study of interorganisational networks by defining exchange networks as “sets of exchange relations among actors, individual or collective” (Emerson in Cook 1977: 68). Accordingly, an organisation can be defined as a corporate actor. Furthermore, an “exchange network is a set of three or more actors each of whom provides opportunities for transactions with at least one actor in a set” (Emerson, 1972: 70). According to this definition, a regional health care network can be considered an “opportunity structure”
comprising both individual actors and corporate actors and exchanges between organisations can be viewed as actions. Using this approach, Emerson (1972) and Cook and Emerson (1983) explored relationships between power and dependence and concluded that one “organisation's power over another is rooted in dependence on the resources it controls” (Starkweather and Cook, 1988: 357).

Following Emerson's logic, Cook and Whitmeyer (1992) make a strong case for the integration of exchange theory and network analysis on theoretical and empirical grounds, a linkage which they perceive is “both natural and potentially fruitful” (p 114). Given the strong endorsement of these researchers, this thesis draws on both network analysis and exchange theory to explore alliance activity and maintenance within the context of regional health care network. Network analysis provides appropriate constructs for describing the structure of the network within which alliances between generalist and specialist firms and agencies are embedded. Useful measures include ties, connections and configurations with ties described in terms of numbers, direction, reciprocity, density and centrality. Exchange theory provides propositions for examining the dynamics of exchange relations and places the emphasis on the actions, interactions and sentiments of the actors. The units of analysis employed in this thesis are defined in Chapter 5. With respect to methods of data gathering, both network analysis and social exchange frequently use observation, diaries and surveys.

**ORGANISATIONAL DOMAIN**

“It is a law of nature that territorial animals - whether individual or social - live in eternal hostility with their territorial neighbours” (Ardrey, 1972: 188).

Ardrey (1972) reminds us that among social animals there is “the drive to dominate one's fellows” (p 9) and that this is an “instinct three or four hundred million years old” (p 9). Furthermore, among animals the drive to dominate territory is independent of, and more powerful than, the drive for sex (Ardrey, 1972: 9). This deep urge to maintain control over a specified territory is associated with the protection of resources for survival.
Similarly, organisations lay claim to territory including space, resources and functions. The innate drive to extend the domain over which an organisation has control may take a number of forms, including, competition ("business is war"), or cooperation with other organisations, in which case it may involve merger or alliance. Whatever, the method used to extend domain, the objective is to achieve greater certainty in an increasingly uncertain environment (Thompson, 1967). Several writers have observed (Kanter, 1989c; Limerick and Cunnington, 1993) that the 1980s were characterised by opportunism and competition while the decade of the 1990s has seen a trend towards cooperation in business.

Starkweather (1981) describes organisational domains as “defined areas within which exchange transpires” (p 60) and Levine and White (1961) define domain in terms of specific goals that an organisation “wishes to pursue and the functions it undertakes in order to implement its goals” (p 597). In operationalising the term, these researchers propose that a health organisation's domain includes the claims it makes with respect to the illnesses it addresses, the population it serves, and the services it provides. Consensus concerning organisational goals and functions is required to the extent that the various players are willing to provide each other with the elements each needs to achieve their respective goals (Levine and White, 1961). Furthermore, domain consensus only continues for as long as the various players continue to fulfil their expected functions and maintain acceptable standards. Achieving and maintaining domain consensus involves on-going negotiation, readjustment and compromise. There seems to be a relationship between the level of negotiation over domain and the specificity of the function of the organisation. Organisations with very specific functions spend less time in exchanges concerning domain than organisations with diffuse functions. Furthermore, some organisations know very little about other organisations in the community and this leads to a lack of domain consensus and to competition among the various authorities (Levine and White, 1963).
ADAPTATION

"The more scarce, dynamic, and complex the environment, the more organic a structure should be" (Robbins, 1993: 528).

The biological principle of adaptation maintains that all species must change as their environment changes in order to survive. The application of this principle is as true for organisations, including methods used to manage interdependence, as it is for populations. Population ecology is a conceptual approach closely allied to the principle of adaptation. With respect to networks, its central concern is the survival of organisational arrangements. Several studies have observed a positive association between network formation and organisational survival (Grandori and Soda, 1995).

Starkweather and Cook (1988: 344-378) interpret the natural selection model, or population ecology approach, to imply that certain populations of organisations are "selected out" for survival as environmental circumstances change. The primary thesis of the model is that "organisations whose internal features can be arranged to best match the demands of their environments will adapt and thrive" (p 351). Hence, this model emphasises the impact of exogenous factors on organisations and says little about the potential for organisations to influence their environment. Scott (1981) proposes that this model is best utilised with respect to an analysis of small organisations which have little ability to influence their environment. Ring and Van de Ven (1994) maintain that while the natural selection model "may be appropriate for the failure of discrete transactions that are governed by atomistic market norms, it is less relevant to relational forms of exchange which....are largely structured and governed by and for the parties involved" (p 107).

Starkweather and Cook (1988: 344-378) also refer to the resource dependency model. While the natural selection model is strongly deterministic, the resource-dependence model permits organisations to be more proactive. This perspective is based on the premise that few organisations have all the resources they require to achieve their goals.
Hence, it is necessary for them to “engage in transactions with elements in the environment that can supply these resources” (p 353). Necessity therefore drives organisations to relate with one another and, in the process, the network can influence its environment.

Robbins (1993) describes three dimensions by which an organisation's environment can be measured, namely, “capacity, volatility, and complexity” (p 526). Capacity refers to the extent to which an environment has available resources which can support organisational growth. Volatility refers to the extent to which managers are able to predict change and likely outcomes. In situations of unpredictable and rapid change the environment can be described as highly volatile (Robbins, 1993: 526) and the change as “discontinuous” (Limerick and Cunnington, 1993: 37). Complexity refers to the relative heterogeneity/homogeneity of the environment. For example, industries in which there are few players and where each is acquainted with the ways of the others are relatively homogeneous. Whereas, in industries where there are many players, operating in highly innovative and opportunistic ways, the environment is heterogeneous or complex. Organisations that operate in environments with scarce resources, unpredictable change and complexity face the greatest uncertainty because they “have little room for error, high unpredictability, and a diverse set of elements in the environment to constantly monitor” (Robbins, 1993: 527). Such organisations require management strategies for effective adaptation.

Starkweather and Cook (1988) maintain that an “important goal of management is to maximise the organisation's future” (p 360). Given that organisations depend on the external environment for resources to survive, they must develop proactive strategies for managing these dependencies. These researchers identify six management strategies important for successful adaptation, including, using the environment as a primary source of intelligence, increasing the organisation's ability to acquire essential resources, establishing strong relationships with key stakeholders with respect to the core-task of the organisation, developing a network of useful exchange relations, including plugging-
in to the relevant community power network, and, acquiring community credibility and legitimacy. Inherent within these survival strategies is the move to a more differentiated organisation, with corresponding challenges to coordination.

**INTEGRATION AND COORDINATION**

Integration is defined as “the act of combining various parts into a whole” (Turner, 1987: 557). Lawrence and Lorsch (1967) applied the concepts of integration and differentiation to the study of organisations. Integration and coordination were defined by these researchers as “the process of achieving unity of effort among various sub-systems in accomplishing the organisation's tasks” while differentiation was defined as the “segmentation of the organisational system into sub-systems, each of which tends to develop particular attributes in relation to the requirements posed by its relevant external environment” (Lawrence and Lorsch, 1967: 3-4).

Lawrence and Lorsch, (1967) addressed the question of integration with respect to levels of certainty and uncertainty in an organisation's external environment. High performing organisations were found to be those which had a structure suited to their environment. For example, high-performing organisations with turbulent environments were found to be highly differentiated while organisations with relatively stable environments had low differentiation. Furthermore, the most successful organisations were “both highly differentiated and successfully integrated” (Starkweather and Cook, 1988: 352). With respect to coordination methods, organisations operating in conditions of high uncertainty were found to rely more heavily on integrating units and integrators. High performing organisations in reasonably stable environments were found to achieve coordination through the organisational hierarchy. Furthermore, these researchers found that, irrespective of environmental conditions, high performing companies were characterised by open communication and the use of a problem-solving approach to the management of conflict (Lawrence and Lorsch, 1967).
Of further relevance to an examination of methods of interorganisational integration are the study by Van de Ven, Delbecq et al., (1976), of the work-task environment and methods of coordination and Argote's (1982) study of the relationship between work-task environment and performance. Van de Ven, Delbecq et al., (1976) found that uncertainty in work tasks was related to the use of less formalised approaches to coordination. That is, as uncertainty in the work task increased work groups used more horizontal channels of communication. More informal means of coordination replaced coordination by rules, plans and the hierarchy. Argote (1982) found hospital emergency departments which employed less formalised approaches to coordination in situations of high task-uncertainty were more effective. These studies of integration alert the researcher to the substantial impact that situational factors may have on a study of alliance maintenance within regional health care delivery networks.

Integration can be viewed as a management strategy, in which case we may speak of either vertical or horizontal integration. Vertical integration refers to the development of closer working relationships between different types of organisation "that share input-output relationships with each other along the production chain" (Luke and Begun, 1994: 372). Vertical integration aptly describes strategies to improve cooperation among generalist and specialist health providers contributing to a regional health care network. Horizontal integration refers to the development of closer relationships among different organisations in the same business, such as a group of nursing homes (Luke and Begun, 1994: 372).

Differentiation can also be viewed as a management strategy. For example, organisations may be horizontally differentiated or vertically differentiated. One form of horizontal differentiation is exemplified by the concept of task specialisation. The complexity of the technology required to complete tasks has a large influence on the extent to which a work force becomes horizontally differentiated. The more technologically complex the tasks, the more an organisation needs to hire people with special skills. Pfeffer (1978: 33), argues that specialisation may also lead to
differentiation in power. For example, if specialisation of tasks means that there are few people with the expertise to perform the task, then the person in that position acquires additional control and influence within the organisation. Pfeffer (1978) cites the example of the medical specialist trained to treat a particular illness where "the greater division of labour has created a situation in which persons doing very non routine and complex tasks have relatively few competitors" (p 38). Vertical differentiation usually refers to the number of levels in the organisational hierarchy. Hence, organisational position differs not only by task but also by the amount of authority and control attached to a particular position. Vertical differentiation may also occur with respect to level of payment that a particular position attracts. An organisation may be highly differentiated with respect to this dimension if there is considerable disparity between the highest paid worker and the lowest paid worker. These two dimensions of differentiation help to explain status and power differentials between generalists and specialists within regional health care networks. Medical specialists in comparison with general practitioners and health professionals hold additional control and influence based on their special expertise and their higher rate of remuneration.

Turner (1991) reasons that within society there is tension between forces that hold social units together and forces that drive them apart. Potentiating forces of differentiation include "competition, exchange and mobilisation of power in ways that produce subcategories, subgroups, subcultures, and sub ranks" (p 627). He identifies three sets of disintegrative processes, namely, "problems of coordination", "problems of symbolic unification" and "problems of political consolidation". Problems of coordination are associated with increasing differentiation among subgroups of populations. In the health industry, increasing differentiation is most frequently associated with increasing specialisation. Problems of symbolic unification refer to differentiation in language, values, beliefs, and institutional norms, while, problems of political consolidation are associated with the use of power by subgroups of a population to further their own interests and, in the process, increase differentiation. Hence, just as power may be used
to integrate a population through the establishment of hierarchies, it may also be used to divide groups (Turner, 1991: 616-618).

For each of the above three sets of disintegrative problems, Turner, (1991: 620-627) employs three corresponding response patterns, namely, integration through “structural coordination”, integration through “symbolic unification” and integration through “political consolidation”. Three important theoretical streams flow from structural coordination, namely, “structural interdependence”, “structural inclusion” and “structural overlap”. The first of these streams is of major interest in this thesis because of its relevance to the type of linkage which exists between members of regional networks. However, structural inclusion and structural overlap are also referred to because they have a place in recent multi-perspective, interorganisational literature.

Structural interdependence is associated with the “creation of interdependencies among sub-groupings” (Turner, 1991: 620). Exchange theories emphasize that differentiation leads to specialisation, which in turn leads to interdependence. As a result, subunits “must exchange resources with other units in order to sustain themselves” (p 620). In addition, exchange theorists note that, inherent in exchanges between groups are “power dynamics, since those units with scarce and valued resources are often in a position to extract compliance from other units” (p 620). An important corollary to structural interdependence, is that “networks and chains of interdependence (and varying degrees of dependence) can emerge to resolve problems of coordination” (Turner, 1991: 620).

Luhmann (1982) is identified as the founder of structural inclusion theory. His basic premise is that “coordination revolves around the process of inclusion, in which one unit is lodged inside a more inclusive unit, with the latter lodged inside an even more inclusive unit” (Turner, 1991: 620) and so on. A large bureaucracy, described in terms of structural inclusion, locates groups within departments and departments within an organisational structure. The structure facilitates distribution of resources and delimits the exchanges which can occur. Furthermore, structural inclusion facilitates the development of strong cultural cohesion with commitment by the group to shared values.
and norms. Structural overlap is a pattern of coordination described by network theorists which has its foundations in “structural theorising” (p 121). This view of coordination emphasises the overlaps that occur between units with some units “partially part of another, either through networks of interdependence or through incomplete inclusion” (p 121).

Each of the above patterns of structural coordination is facilitated by integration through symbolic unification and integration through consolidation of power. The presence of shared values, “norms of fair exchange, justice and media of exchange” (Turner, 1991: 621) are recognised by many theorists, from various streams of thought, to facilitate coordination through structural interdependence in exchanges, structural inclusion and structural overlap. Similarly, many theorists have argued that political consolidation through regulation and centralised authority also facilitates coordination (Turner, 1991: 621).

Through all theoretical approaches used to explore issues of integration and differentiation, the message is clear that as organisational environments become more uncertain, successful adaptation requires both differentiation and effective integration through the management of interdependence.

**INTERDEPENDENCE AND COORDINATION**

“Under conditions of rationality, organisations group positions to minimise coordination costs” (Thompson, 1967: 57).

Organisational interdependence refers to the extent to which organisations depend upon one another. Alexander and Morlock (1994: 219) maintain that “interdependence exists whenever one actor does not entirely control all the conditions necessary for the achievement of an action or for obtaining outcomes desired from the action” (p 219). In situations of interdependence, organisations must develop the capacity to influence other organisations on which they depend (Alexander and Morlock, 1994: 219). Hence,
interdependence implies a need to negotiate in order to gain the resources required for survival.

Interorganisational exchanges become necessary because, in situations of scarcity, organisations must restrict the activities they perform to specific functions (Levine and White, 1961). As a result, organisations become dependent on other organisations for necessary elements and as a consequence must enter into exchanges with them. Interdependence implies that “each one has some power over the other which places limits on the extent to which each may with impunity exercise power over his/her colleague. The pattern of interdependence which characterises a relationship may also affect the kinds of process agreements the pair must achieve if their relationship is to be maximally satisfactory” (Thibaut and Kelley, 1969: 100-125). Thus to achieve maximum rewards from an exchange relationship partners will develop rules governing the way their exchanges are carried out. These 'norms' governing exchange relations provide opportunity for both parties to “gain from the introduction of mutually acceptable rules which introduce regularity and control into the relationship without recourse to the direct interpersonal application of power” (p 134). This thesis proposes that some exchange relations, namely, alliances among small business organisations, whose owners place a high value on freedom from bureaucratic interference and organisational autonomy, are governed by a set of informal norms.

This type of coordination is “organic” rather than “mechanistic” (Victor and Blackburn, 1987: 493). Thompson (1967) proposes that as interdependence increases, coordination measures become increasingly informal, localised, and collaborative. Furthermore, Thompson maintains that the nature of task interdependence affects organisational structures, specifically, he proposes that “organisations seek to place reciprocally interdependent positions tangent to one another, in a common group or team which is 1) local, and 2) conditionally autonomous” (p 58). This action makes coordination between reciprocal units easier. However, this strategy is not always possible. In regional health care networks, while there is a high degree of interdependence between
the parties, it is frequently impractical for them to be located together. Hence, other cost-effective approaches to coordination must be devised.

Methods of coordination can be either formal or informal. Thompson (1967: 51-65) described three approaches to coordination, namely, "contracting", "co-opting", and "coalescing". Contracts or negotiated agreements may be formal, as in the case of a legal agreement, or informal. In the latter case, the agreement may rest on an understanding that each party will deliver as expected. Co-opting refers to a practice in which one organisation absorbs elements from the other organisation into its leadership. With coalescing the parties combine or coalesce their efforts in some way. Hence, coalescing places greater constraints on individual organisational autonomy and independent functioning than the other two approaches to managing interdependence.

Thompson (1967) describes three "types of interdependence stemming from technological requirements within organisations" (p 64), namely, "pooled", "sequential" and "reciprocal". Pooled interdependence occurs under conditions in which units separately contribute to a larger whole in the interest of mutual gain, but, they may have very little functional contact. Sequential interdependence refers to situations in which the outputs of one unit become the inputs of another part of the organisation. Both parts contribute to the whole and both are sustained by the whole organisation. Hence, while their interdependence is serial in nature, it also has a pooled dimension. Reciprocal interdependence is more complex in that the outputs of each unit become the inputs for the others. That is, each unit provides "contingency for the other" (Thompson, 1967: 55). Units that are reciprocally interdependent may also have elements of pooled and sequential dependence.

"Under norms of rationality" (Thompson, 1967: 54-55), organisations seek to minimise the costs of coordination by selecting mechanisms appropriate to the technological requirements of the task. For example, work units with pooled interdependence require little coordination because the actions of each unit can proceed with little reference to the
other units as long as the overall organisation remains viable. Whereas, with sequential interdependence, improper action by any member unit of the set affects all other units. With reciprocal interdependence, constant adjustment of member units is required as each unit responds to the actions of the others. In this type of work situation, substantial coordination is required because attention must be directed to social structures and technical systems which support timely communications about non-routine events between the relevant parties. Coordination of units which are reciprocally interdependent is a particular interest of this thesis.

Mintzberg (1983) and Galbraith (1974), working independently, proposed that coordination techniques are largely determined by the complexity of the task. For example, where the tasks to be addressed are routine, relatively simple approaches to coordination are effective, including, mutual adjustment, the standardisation of work processes, and the use of rules and procedures. However, in non-routine situations which require complex problem-solving, other approaches to coordination are required, including, the appointment by one unit of a liaison person, the use of committees, the appointment of an independent coordinator, standardisation of outputs through the development of target and outcome measures, and the standardisation of skills and knowledge (Dessler, 1986: 148-162). The recent trend towards the use of benchmarking is a good example of coordination by standardisation of outputs. Of particular interest to this thesis is coordination by mutual adjustment. Mintzberg (1983) observed that mutual adjustment was not only used in routine problem-solving but also in the most complex situations. That is, where the problem to be addressed is unpredictable and complex. This is frequently the case in exchanges between generalist and specialist firms within regional health care networks.

While organisational goals and strategies are important determinants of interdependence, the goals of people critical to the survival of the organisation need to be considered (White, Levine and Vlasak, 1980: 185-191). Pfeffer (1978: 56) supports this hypothesis. He proposes that decisions about organisational goals and design are made
by the people who hold power in the organisation. Furthermore, these decisions may not be fully rational or based solely on criteria designed to meet the best interests of the organisation. Rather, the people with power will make decisions that meet the minimal requirements of the organisation and that enhance their own ability to control. In other words, politics is one way that organisations seek to manage interdependence.

Pfeffer (1978: 57-61) addresses the use of interpersonal approaches to managing interdependence. Organisational control is achieved through ensuring that people “will act in the way desired by the authorities, either because they have been selected for their willingness and ability to do so, or because they have been trained to act in conformity with the authorities’ preferences” (p 57-58). With respect to the regional health care network, discussion of the factors influencing the recruitment of new workers is particularly relevant. Pfeffer (1978) proposes that “much of the recruitment and hiring that takes place tends to differentially favour persons at different points in a social network, and often rewards loyalty and conformity above performance or other such standards” (p 58). Furthermore, he refers to the operation of “old boy” networks and the important part that having the right social contacts plays in decisions about the hiring of people. Decisions about hiring on the basis of social similarity are likely to be influenced by feelings of attraction and perceptions of the extent that the appointment of a particular person will further the referent power of the person in authority (Pfeffer, 1978). If we apply these propositions to the regional health care network we should find shared values within particular groups and differentiation in values across groups. For example, medical specialists within a particular specialty are likely to be drawn from a particular stratum of society and, having shared a similar and lengthy education, can be expected to hold similar values. Some of these values will be shared with general practitioners because of their common undergraduate education and professional socialisation. However, allied health professionals tend to be drawn from a different stratum of society and hold a different set of values. Hence, managing interdependence between doctors is likely to be based on shared values and norms of practice applying to
the medical profession. Whereas exchanges between doctors and health professionals may be characterised by differences in values and norms of practice.

**SUMMARY**

This Chapter has introduced exchange theory, network analysis, coordination theory and concepts arising from the growing body of knowledge pertaining to interorganisational cooperation. The purpose of introducing these concepts is to facilitate the process of developing an integrated theoretical and methodological framework for the study of alliances within regional networks. Among the forces driving organisations to enter cooperative arrangements are powerful environmental forces and the primitive biological desire to acquire, maintain and enhance control over territory or domain. As the environment of an industry becomes more turbulent organisations need to adapt to survive. Organisations most likely to survive are those which are successfully differentiated and integrated. One differentiation strategy is the establishment of cooperative arrangements with other organisations. Cooperative relationships result in growing interorganisational interdependence and require effective integration through the employment of cost-efficient methods of coordination. Coordination theory maintains that in situations involving high differentiation, complex problem-solving and reciprocal interdependence, coordination through mutual adjustment based on feedback is an appropriate method.
3. LITERATURE REVIEW

The literature review is in five sections. The first section is titled “Networks and alliances” and the objectives are to explore the two bodies of literature in order to identify concepts and measures useful to an analysis of alliances within regional networks.

The second section is titled “Motivators for interorganisational cooperation” with an emphasis on forces for cooperation in the Australian health industry while the third section addresses the main theme of this thesis, namely, “continuity in interorganisational cooperation”. The objectives of sections two and three are to describe situational factors that influence the development, configuration and management of alliances, identify the expected rewards of alliances and describe factors known to maintain and destroy alliances. Figure 2 summarises the motivating forces for interorganisational cooperation and Figure 3 draws together the important findings from the literature concerning the costs and benefits of interorganisational cooperation and the factors known to influence this calculus.

In the fourth section, the health care literature provides insights into regional health care networks within the Australian context. The purpose of this review is to identify situational factors pertaining to regional health care networks, to describe organisational characteristics, including the people involved, and to outline the nature of exchange relations. The fifth section of the literature review addresses the practice of shared care and compares shared care in the health industry with alliances in other industries. It is proposed that the practice of shared care in the Australian health industry is a form of interorganisational cooperation which can be accurately described as an alliance.

The purpose of the final section of the review is to explore research methodologies appropriate to the study of alliances within a network of business exchange relationships. Of particular interest is case study research applied to the study of
organisational networks, survey research and the use of multiple sources and methods of data collection.

**NETWORKS AND ALLIANCES**

"Actors in network models are not seen as atoms locked in a crystalline grid, their every action determined by their structural location. They are......active, purposeful agents who are constantly trying to wrest control for themselves or blocking others from taking control" (Nohria and Eccles (1992: 7).

The interorganisational literature reveals that studies in this area cross ideological and disciplinary boundaries. For example, Grandori and Soda (1995), in a review of the relevant literature, discuss the contributions of organisational economic theory, organisational theory, negotiation analysis, resource dependency theory, the neo-institutional approach, organisational sociology, sociology and economics, social psychology, general management and population ecology. Hence, it is hardly surprising to find that there are marked ideological differences between groups of researchers with an interest in interorganisational cooperation. Those who employ a “network” approach tend to favour a “normative” perspective while those who study and write about “alliances” are associated with an “atomistic” or “individual differences” viewpoint.

Burt, (1982) proposes that these approaches imply two different sets of criteria which are in use to “evaluate the marginal utility of alternative actions” (p 4). The atomistic perspective is defined by “separate actors having exogenously formed interests, one actor's interests, or preferences, being analytically independent of another's” (p 5). The assumptions associated with this view of the world underpin liberal democratic theory which supports “possessive individualism” (p 5) and economic theory based on supply and demand. Interorganisational researchers who define networks and alliances as intermediary forms of organisation (Thorelli, 1986; Williamson, 1991) between hierarchies and markets, are associated with this orientation (Grandori and Soda, 1995) as are researchers who employ social exchange theory. Burt (1982) argues that actors
do not exist as social atoms, but, rather as members of society. "An actor exists within a system of actors and evaluates alternative actions within that context" (p 5). This is a "normative" approach and assumes that "actions are evaluated interdependently by separate actors as a function of socialising processes that integrate them within a system of actors" (p 5), a stance having its origins in Aristotle's De Anima, and influential in symbolic interactionism, ethno-methodology and social psychology (which uses a social definition). Burt concludes that action theory supports a normative "perspective for descriptive work while an atomistic perspective is assumed for deductive work" (Burt, 1982: 7). Furthermore, he endorses Ekeh's (1974: 5) warning that the two perspectives "exist in non-marriageable terms only joined by the virulence of the polemics against each other's tradition of thought" (Burt, 1982: 8). However, the literature suggests that in the complex arena of interorganisational cooperation the benefits of eclecticism outweigh the joys of paradigmatic conflict and that a marriage is well underway.

**Toward networks**

In support of a more eclectic approach, Kanter and Eccles (1992: 524) conclude that most studies of networks have examined structural characteristics. They propose that further research is needed into network characteristics which facilitate the effective flow of information and network characteristics associated with organisational outcome and process measures, such as, profitability, job satisfaction, sense of participation, and felt autonomy. In other words, having considered the structural attributes of networks, Kanter and Eccles call for studies which combine structure and process to derive information of utility to managers. Similarly, Nohria and Eccles (1992: 11) propose that researchers who use a transaction-cost perspective to explain interorganisational alliances "pay scant attention to how these alliances interconnect to bind the firms into a network of relationships. They also ignore how the network of relationships that emerges over time as a result of alliances between firms shapes and constrains the strategic conduct of firms involved in them" (p 11). These writers argue that strategic decisions about entering an alliance are made within the context of an overall network of relationships.
Mayntz (1993) argues that most organisational research has focused on the individual organisation and the relations it develops with other organisations. He holds that a network approach to the study of organisations "poses very different questions from those asked of organisational research" (p 5); the significant difference being the level of analysis. For example, he proposes that the theoretical relevance of the study of networks of organisations "lies on the macro-level of society, not the meso-level" (p 5). Similarly, Scott (1995: 38-39) proposes that it is time to take a more macro-level approach to the study of organisations than that usually employed in the study of strategic alliances. Taking a long-range perspective, Scott asks the question "could it be that the recent growth of strategic alliances represents an attempt by existing organisations to transcend the limits of their current structure and to move in the direction of becoming 'network' forms: new types of organisations?" (p 38). This question, in part, expresses the interest of this study. It is further recognition that alliance formation is not only an interesting sociological phenomenon of the '90s', but may signal a powerful, proactive strategy to extend organisational domain.

Limerick and Cunnington (1993: 60-68) note that networks may occur at the global or international level as well as the regional level. These global networks involve cooperation among multi-national organisations which have the potential to exert considerable influence across nations. Grandori and Soda (1995) propose that the management of external "inter-firm" networks is particularly relevant in contemporary Europe, given the move toward European integration. These researchers maintain that networks lie at the very core of economic activity and organisational theory given that the major emphases concern "modes of organising economic activities through inter-firm coordination and cooperation" and "striking the right balance between differentiation and integration" (p 184).

Grandori and Soda (1995) draw attention to the many approaches to defining network. For example, they note that organisational economists, such as Williamson (1991) and Thorelli (1986), define network as "an 'intermediate' or 'hybrid' form of organisation of
economic activities with respect to markets and firms”. This approach is contrasted with that taken by Powell (1990) and Johanisson (1987a) who “maintain that a network is a ‘third type’ organisational arrangement with its own characteristics and properties, qualitatively different from both markets and firms” (p 185). Grandori and Soda (1995) provide a further definition of a network which they claim is “more operational and more balanced”. These researchers define a network as “a mode of regulating interdependence between firms which is different from aggregation of these units within a single firm and from coordination through market signals (prices, strategic moves, tacit collusion, etc.) and which is based on a cooperative game with partner-specific communication” (p 185). Of major interest to these researchers are the approaches employed to manage various types of interdependence. They recognise that approaches to coordination may take many forms “from lateral informal communication, to inter-firm information and planning systems, to complex integration structures; in addition to, or in substitution for, market mechanism” (p 184). Measures useful to the study of inter-firm networks are identified and discussed with respect to the discipline most associated with it.

Grandori and Soda (1995) propose that historical and evolutionary disciplines have addressed the issue of technology related costs and learning problems associated with the formation of networks (Nelson, 1993). Economic theorists, such as Williamson (1985) and Powell (1987) added the dimension of the cost of governance of transactions. The researchers note that while these theorists have concentrated on market failure they have paid little attention to networks in response to the failure of bureaucracies. Organisational theorists, including Schermerhorn (1975), Van de Ven, Walker et al., (1979) and Gadde and Mattson (1987) have focused on contract negotiations, the distribution of power, the types of arrangement governing networks (eg franchising), differentiation, complementarity of resources between firms, intensity of interdependence, the number of organisations to be coordinated, the complexity of the interdependent activities and the flexibility of the network. Those favouring a negotiation analysis (Schmidt and Kochan, 1977; O'Toole and O'Toole, 1981; and
Weiss, 1987) have highlighted "the structure of the games as a predictor of both network foundation and shape" (Grandori and Soda 1995: 189). Sociological studies have emphasised resource dependence and the nature of the dependence which exists between organisations (Pfeffer and Salancik, 1978; Aldrich, 1979, and Benson, 1975). In addition, this group of researchers has described various forms of interorganisational arrangements, including joint ventures, interlocking directorates, associations and cartels, and social and personal networks. Dependence is also of central concern to those adopting a neo-institutional approach (Baum and Oliver, 1991). In this case, dependence not only includes material resource transactions but also the resource of legitimation. Hence, this approach emphasises the importance of institutional embeddedness within the pillars of society; for example, the legal system and the banking system (Whitely, 1990 and Grabher, 1993). Embeddedness is also of interest to organisational sociology. However, in this case embeddedness is associated with social and cultural embeddedness and the institutionalisation of social norms and values among participating organisations (Granovetter, 1985; Ring, 1993). Those adopting a Marxist approach have explored network strategies designed to increase power for purposes of reinforcing elites and class dominance (Whitt, 1980). Social psychologists have employed network analysis to explore changes in network structure and boundaries (Burt and Minor, 1983), the patterns of relations (Lomi and Grandi, 1993) and to study the position of individual firms within networks (Gerlach, 1992). Grandori and Soda (1995) maintain that the most eclectic group is general management. Researchers favouring this perspective have drawn on all of the conceptual paradigms. In particular, business administration is said to have focussed on strategic alliances (Ohmae, 1989; Contractor and Lorange, 1988), while Swedish scholars of industrial marketing have employed exchange theory to explore the dynamics of long-term buyer-seller relationships (Hakansson, 1982; Ford, 1980; and Forsgren and Johnson, 1992). This thesis contributes to research that employs a general management approach.
In a recently reported study, Anderson, Hakansson et al., (1994) combine network analysis and exchange theory to explore dyadic business relationships within two business networks. These researchers recognise the importance of examining relationships between organisations in the context of the network in which they are embedded. They define a business network “as a set of two or more connected business relationships, in which each exchange relation is between business firms that are conceptualised as collective actors” (p 2). In operationalizing this definition, managers of focal organisations are considered to be the appropriate people to define the network. Of particular interest to Anderson, Hakansson et al., (1994) are the direct and indirect connections which a focal dyad has with other organisations. Drawing on the work of Cook and Emerson (1978), organisations are considered to be connected to the extent to which “exchange in one relation is contingent upon exchange (or non-exchange) in the other relation” (p 725). However, in applying Cook and Emerson's (1978) proposition of how organisations are connected, these researchers found that organisations can be both positively and negatively connected with another relationship at the same time and that some connections are easy to estimate, while others are a matter of perceptual judgement. These researchers conclude that cooperation is a “pivotal construct” (p 9) and that interdependence is an essential consideration with respect to the need for cooperation.

Orton and Weick (1990) used interdependence as a basis for describing the degree to which departments or organisations are coupled. The term “loosely coupled” suggests that any location in an organisation or system may contain elements which are interdependent and that the level of interdependence may vary (Orton and Weick, 1990). The term “coupled” implies that the elements are not only connected in some way but that they have some choice in being linked. Coupling is seen as producing stability, while the term “loosely” implies that the coupled elements recognise that each is subject to spontaneous change; hence, requires a degree of independence and flexibility. A network can be described as being loosely coupled, however, it may have some elements
which are more tightly or loosely coupled than others, implying that interdependence between some organisations within the network is greater than among others.

Grandori and Soda (1995) identify ten broad approaches to managing interdependence among members of networks, namely, negotiation and horizontal communication, social coordination and control, linking-pin roles and units, the appointment of common, dedicated staff to manage coordination, hierarchical and authoritarian relations between organisations, planning and control systems, incentive systems, careful selection of partners with concern for commitment to cooperate and the establishment of appropriate information systems. A complex interorganisational network, such as a joint venture, is said to employ most of these approaches to coordination, while a social network may rely on personal communication and negotiation (Grandori and Soda, 1995).

In a study of entrepreneurial “network dyads” (p 76), Larson (1992) considers networks to be an alternative form of organisation to hierarchies and markets with their own unique form of organisation. Using Powell's (1990) definition Larson (1992) describes networks as characterised by a “heavy reliance on reciprocity, collaboration, complementary interdependence, a reputation and relationship basis for communication, and an informal climate oriented toward mutual gain” (p 77). Her findings suggest that economic transactions “cannot be isolated from the social world in which they take place” (p 97). In other words she proposes that exchange relations are governed by both economic considerations and social considerations and that “a middle ground must be found” (p 97). Organisations engaged in relatively stable relationships were characterised by “multiple transactions and a high degree of cooperation and collaboration. They were governed in important ways by social controls arising from norms of trust and reciprocity. Governance was explained in large part by understanding the subtle control of interdependent and self-regulated players engaged in and committed to mutual gains” (Larson, 1992: 98). Larson (1992) concludes that her findings match Powell's characteristics of networks, namely, that they are “long-term and recurrent exchanges that create interdependencies that rest on the entangling of
obligations, expectations, reputations, and mutual interests. The initial transactions become embedded, not only in a larger set of economic exchanges but also in a rich and active network of social relationships that couple the two organisations strategically and administratively” (p 98). Furthermore, she found few exchanges were governed by formal contracts and that little importance was placed on contracts when they did exist. Predominantly, the contracts could be described as “informal and implicit social contracts” (p 98). Much greater importance was placed on trust and reciprocity by the alliance partners.

Powell (1990) observed that firms most likely to engage in network arrangements were those with a need to exchange complex, knowledge-intensive skills that require collaboration and firms engaged in fast-moving industries with short product cycles. The first situation is consistent with the proposition that mutual adjustment is frequently the preferred approach to coordination when the task requires complex problem solving (Mintzberg, 1983; and Galbraith, 1974). While the second situation, is consistent with resource dependence theory and the findings of Lawrence and Lorsch (1967), Van de Ven, Delbecq et al., (1976) and Argote (1982), namely, that in situations of high uncertainty organisations become highly differentiated and rely on more informal approaches to coordination.

Van de Ven, Walker et al., (1979), in a study of health and welfare agencies in the United States, defined “the interagency network as the pattern of interrelationships among organisations that are meshed together as a social system to attain collective and self-interest goals or to resolve specific problems for a target population” (p 21). They place emphasis on the patterns of relations among agencies rather than the exchanges between agencies or the way in which exchanges are managed. In so doing they are following in the tradition of Emerson (1972) in which an actor may be defined as a collective (organisation) or an individual. This conception of “actor” allows the theory of exchange to be applied at different levels of analysis. Furthermore, Emerson (1972) proposed that his definition of structures as enduring exchange relations among specified
actors allowed the researcher to explore the distribution of power and dependence among actors in various network structures.

Van de Ven, Walker et al., (1979), describe three levels for examining interorganisational relationships among members of industry networks, namely, "pair-wise inter-agency relationships," "inter-agency set," and "interagency network" (Figure 1). The "interagency set" provides for analysis of exchange activities between two agencies, including the volume of exchange and the reasons for exchange. The second level of observation selects a focal organisation and examines the exchanges which that organisation has with other organisations. Studies of this kind are able to explore how the focal organisation is affected by, or affects, other organisations. At the level of the "interagency network" the full range, or pattern of exchanges among a network of agencies is able to be observed.
Figure 1: Levels for examining interorganisational relationships

A. Pair-Wise Inter-Agency Relationship

A1 ↔ n ↔ A2

B. Inter-Agency Set

MA1 ↔ n ↔ MA2 ↔ n ↔ MA3 ↔ n ↔ MA4

MA1 ↔ n ↔ MA2 ↔ n ↔ MA3 ↔ n ↔ MA4

C. Inter-Agency Network

A1 ↔ n ↔ A2 ↔ n ↔ A3 ↔ n ↔ A4 ↔ n ↔ A5

A1 ↔ n ↔ A2 ↔ n ↔ A3 ↔ n ↔ A5

Morissey (1992) indicates that level of cooperation between organisations within a network can be influenced by several situational factors, including, the extent to which members are aware of each other's existence, the degree to which they depend upon one another for needed resources, such as clients, information and funds, the similarity of their roles or domain and the extent to which there is agreement over role demarcation and the number of organisations within the network. Other factors influencing the level of cooperation include the level of formality governing exchanges between members of the network and differences between members with respect to level of autonomy and ability to control and influence (Pfeffer and Salancik, 1978; Brass and Burkhardt, 1992).

Properties commonly associated with an analysis of network structure are “density, connectivity, and hierarchy” (Ibarra, 1992: 170). Density refers to the actual number of ties between members of the network over the number of potential ties and connectivity refers to the degree to which members are connected either directly or indirectly (Burt, 1982). A combination of high density and high connectivity implies a high degree of interdependence among organisations (Ibarra, 1992: 170). Hierarchy, has several dimensions, including the extent to which relations involve a single actor or are centralised, and whether the structure can be described as mechanistic or organic (Shrader, Lincoln et al., 1989: 45). The latter are usually distinguished on the basis of the extent to which there is a high or low incidence of clustering or cliquing (Shrader, Lincoln et al., 1989). Mayntz (1993) identifies several further measures used to describe networks, including size as defined by number of organisations, stability, level of articulation (whether at the macro-level or sectoral level), location, changes over time, characteristics of the organisations involved in terms of sociotechnical variables and functions. Hence, Mayntz, like Morissey, (1992) addresses the issue of organisational domain.
From networks to alliances

Hage (1995), uses the terms networks and alliances to refer to “nonhierarchical collectives that are distinguished by joint decision making across organisational boundaries” in which cooperating groups “have approximately equal power” (p 193). He distinguishes between networks and alliances according to the number of organisations involved which may vary “between three or four, to a hundred or more” (p 193). Situations involving a few organisations are defined as alliances, while configurations with larger numbers of participants are referred to as networks. Hage (1995: 193) suggests three basic dimensions for describing networks and alliances in the public and private sectors. The first is the number of organisations involved, the second is the type and level of cooperative exchanges that occur, and the third is whether the organisations have competitive or symbiotic relationships with each other. Using these three dimensions, Alter and Hage (1993: 44-80), develop a typology of 12 distinct kinds of network.

Zajac and D'Aunno (1994: 276-279), propose that alliances involve formal arrangements between two or more members and that they can have up to 100 members, inferring that size does not act as a determinant of whether the configuration should be referred to as a network or alliance. These researchers observe that size substantially affects the governance structure. Hence, as with networks, governance structure is a way by which alliances can be defined (Zajac and D'Aunno, 1994: 280). Yet another way of describing an alliance is whether it is mandated or voluntary (Zajac and D'Aunno, 1994: 280). Most alliances are described as voluntary. However, in industries such as health, where governments have a substantial investment in service integration, cooperation between organisations may occur in response to the actions of powerful external players (Zajac and D'Aunno, 1994: 280).

Kanter (1989b) defines three types of alliance based on the intent of the alliance formation. Hence, Kanter moves away from a structural approach to exploring
relationships between modes of administering alliances and the reasons for alliance formation. Kanter's three types are “multi-organisational service alliances”, “opportunistic alliances”, and “stakeholder alliances”. In service alliances two or more organisations decide to pool resources to establish a new organisation which provides them with necessary services, such as research and development, and which they jointly control. Trade associations are a further form of this type of alliance in which agencies in the same industry form a new organisation for some specific purpose, for example, to take political or advocacy action on behalf of the contributing organisations. The opportunistic alliance, is, as its name implies, usually of short duration. It comes into existence when two or more companies perceive the possibility of jointly undertaking a new, profitable, business venture. The perceived competence of the partner, plus the opportunity to share risks, are among the motivating forces for cooperation in this type of alliance. Kanter (1989b) proposes that pre-existing interdependence distinguishes the stakeholder alliance.

Zajac and D'Aunno (1994: 281), also describe alliances based on the reason for their formation. They define alliances according to the type of resources contributed by each partner, the expected outcomes of the alliance, the degree to which the alliance seeks to enhance outcomes such as innovation, organisational learning, and quality and whether the alliance has been formed to increase influence or reduce uncertainty. Alliances based on type of resources include “pooling” alliances and “trading” alliances. With pooling alliances, organisations may pool similar resources in an attempt to gain purchasing power over a powerful supplier or group of suppliers (Zajac and D'Aunno, 1994: 281). With trading alliances, each partner contributes something different, and each partner may be known and respected for their particular expertise. Pooling alliances tend to be characterised by larger numbers and may take the form of federations or coalitions. Trading alliances on the other hand, may have only two members (Zajac and D'Aunno, 1994: 281). Of all the expected outcomes of an alliance, financial performance is paramount. Zajac and D'Aunno (1994: 281) propose that financial expectations can be
based on either “cost reduction” or “revenue enhancement” (p 281), and while these are not mutually exclusive, the predominant expectation is important. For example, if the expectation of an alliance is to increase revenue through increasing the volume of patients treated, then success will be measured according to this indicator. If, on the other hand, the expectation of the alliance is to share the costs of providing care to a given population, then the indicator of success will be cost reduction.

A third type of alliance is defined by the nature of the interdependence between cooperating organisations. For example, Kanter (1989b: 186) describes stakeholder alliances as “complementary coalitions among a number of stakeholders in a business process who are involved in different stages of the value-creation chain” (p 186). Partners in this type of alliance are suppliers, customers and employee organisations. While none of these definitions neatly describes cooperative relationships developing between general practitioners and specialists in the Australian health industry, the supplier-customer partnership is the type that most closely matches. In one way, general practitioners can be seen as customers of specialist firms, and specialist firms can be seen as suppliers of services to general practitioners. Kanter observes that this type of alliance often results in empowering the purchasers.

Like Kanter, Zajac and D'Aunno (1994: 282) observe that the approach to coordination in an alliance is likely to vary according to the reason for cooperating and the type of interdependence which exists. For example, where organisations cooperate to achieve revenue enhancement, interdependence is reciprocal. Hence, interdependence theory indicates that substantial coordination is required. Where cost reduction is the expected outcome, the interdependence is pooled, hence, less coordination is likely to be required.

Similarly, Zajac and D'Aunno (1994: 282) distinguish between alliances according to the desire to increase power and reduce uncertainty, and the desire to share risks. In the first instance, one organisation is seen as being motivated by a desire to gain influence over some aspect of its environment on which it depends. An alliance may reduce the
uncertainty of maintaining access to a needed element. Hence, the alliance is a means of gaining influence over a partner. However, with respect to the latter type of alliance, organisations have the expectation of pooling their resources “to reduce common risks” (Zajac and D’Aunno, 1994: 282).

A further intent of an alliance may be performance and reputation enhancement due to improved quality, innovation and learning (Zajac and D’Aunno, 1994: 282). However, in this case the organisations may have to wait sometime before the expected benefits emerge. Hence, these alliances may suffer challenges in continuity because the expected benefits are not rapidly forthcoming. Furthermore, alliances based on these expectations require a more substantial flow of personnel between alliance partners.

Dowling (1995) uses a further approach to describing alliances based on level of autonomy and control. He reflects that the term “strategic alliance” has been used to describe a wide range of interorganisational arrangements from “non-binding agreements to work together” based on a handshake, to “complete consolidations into a single organisation (perhaps through acquisition, merger, or employment)” (Dowling, 1995: 144). This approach to classifying interorganisational arrangements is similar to that of DeVries (1978) who developed a continuum, based on level of organisational autonomy and control, along which alliance arrangements could be located. Zajac and D’Aunno suggest that this approach to describing alliances has sometimes reflected the degree of ownership maintained by an organisation and that this can be misleading. They propose that the degree to which one organisation exercises control over the alliance, may have little to do with ownership. Rather, it may be a matter of power associated with organisational size and wealth, or it may be directed by the values and traditions underpinning the alliance which have been established in the interests of the long-term relationship.

Longest (1990) provides a useful classification of a range of interorganisational relationships relevant to the health industry based on the type of interdependence which
exists between organisations. These are grouped into three sets, namely, market transactions, voluntary interorganisational transactions, and involuntary transactions. Market transactions are the most prevalent form of transaction. These involve buying and selling transactions by which organisations gain and distribute goods. Negotiated contracts are mechanisms widely used for managing linkage. In simple contracts, on the other hand, each party believes that the other will behave as agreed. Negotiating skills are the most important skills for managing market transactions. Issues which need resolution by negotiation include the division of tangible resources and decisions about intangible goods. The latter include “the resolution of problems of psychological dynamics and the satisfaction of personal preferences of the leaders of the organisations” (p 19). These intangible elements incorporate factors such as appearing to win or lose, perceptions of fairness, and ability to compete effectively.

Voluntary interorganisational transactions are summarised as “co-opting” and “coalescing”, “quasi-firm” and “consumption” or ownership (Longest, 1990: 20). Co-opting usually involves linkage at the management level with the focal organisation “co-opting” elements of leadership from the other organisation (Starkweather, 1981: 61). Coalescing is defined as “the partial pooling of resources by two or more organisations to pursue defined goals” (p 21). Longest draws on the concept of “loose coupling” to describe the type of interorganisational linkage (Longest, 1990: 21) in which “interdependent and mutually responsive organisations are linked in ways that preserve their legal identities and most of their functional autonomies” (p 21). These relationships are stronger than market transactions and less binding than “consumption” or ownership (Longest, 1990: 20). Longest (1990) indicates that these cooperative arrangements may differ according to several dimensions, including the importance given to them by the respective organisations. Secondly, they may differ in terms of their permanence, and, thirdly, they may differ with respect to the direction of the linkage. For example, as already indicated in Chapter 2, some organisations may be linked vertically while others may be linked horizontally. In addition, in situations in which “organisations
complement each other in the provision of services to customers/or achieve joint competitive advantage in other areas” the relationship may be described as symbiotic (Longest, 1990: 21). This situation may apply with vertically integrated systems, where one organisation depends on another for referrals, and the other organisation depends on the return of patients for ongoing care. With vertically integrated systems, interdependence is most likely to be reciprocal (Thompson, 1967). It is this latter type of loosely coupled, symbiotic, linkage arrangement between legally distinct organisations which most closely resembles the emerging alliances or “shared care” arrangements among private sector generalist and specialist firms and among private sector firms and public sector agencies. Furthermore, the literature suggests that the governance of exchanges between these organisations will be characterised by “seller-customer” type contracts and a heavy reliance on reciprocity, collaboration and a relationship basis for communication.

Starkweather (1981: 35-42), in a study of hospital mergers, introduces the concept of change over time. He observes a tendency for organisations to move from the “co-opting” end of the continuum toward “consumption”. Zajac and D’Aunno (1994: 284), also observe that alliances change over time. They describe alliances as having four phases, namely, “emergence” (or “finding partners”), “transition” “maturity” and “critical crossroads”. Important at the time of transition is the investment of resources by alliance partners for managing their increasing interdependence. Maturity in the relationship is characterised by the development of trust and the management of conflict. Furthermore, trust and conflict management systems are seen as subsets of a range of norms governing alliance exchanges which include “shared expectations of reciprocity between alliance partners and a growing sense of the value of preserving the relationship” (p 285). The final stage is the critical crossroad which involves judgements by the partners as to whether to continue in-alliance. Zajac and D’Aunno (1994: 284) note that alliance partners may move between phases, not necessarily in one direction, and that each phase tends to raise a set of critical issues.
Measures to describe alliances are numerous and include, the number of organisations involved in the arrangement, the degree of formality underpinning the alliance, the level of individual autonomy which each organisation maintains, the nature of the independence, the type of linkage and the direction of the linkage, the values underpinning the agreement to cooperate, the degree to which each partner has the ability to influence the arrangement, the scope of alliance, namely, whether it is narrow in scope to broad ranging, and the changes which occur in the nature of the relationship over time (Starkweather, 1981; Longest, 1990; Zajac and D'Anno, 1994; Smith, Carroll et al., 1995; Dowling, 1995: 144).

Summary

There are many disciplines and conceptual approaches which inform the interorganisational literature with researchers drawing from this rich fount according to their preferences and interest. In general, the literature related to networks emphasises the situational and structural aspects of the “net”, the density and centrality of exchanges, differences in social strata of actors, and explores relations between actors and the distribution of power and conflict. The alliance literature, on the other hand, is concerned with describing the nature of the interdependence which exists between alliance partners, the cost of transactions, the nature of the contractual arrangements, the intent of the alliance and the changes which occur in relationships over time. Table 1 draws on this review of literature to summarise measures useful to an analysis of alliances within health care networks.
Table 1: Measures useful to an analysis of alliances within regional networks

<table>
<thead>
<tr>
<th>Networks</th>
<th>Alliances</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Level of analysis</strong></td>
<td>• <strong>Level of analysis</strong></td>
</tr>
<tr>
<td>- patterns of exchange relationships</td>
<td>- exchanges between dyads, triads etc.</td>
</tr>
<tr>
<td>- level of articulation: macro; sector etc.</td>
<td></td>
</tr>
<tr>
<td>• <strong>Location</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>• <strong>Importance and intent</strong></td>
<td>• <strong>Environmental forces</strong></td>
</tr>
<tr>
<td>- importance economically and socially</td>
<td>- antecedents to cooperation</td>
</tr>
<tr>
<td>- purpose of the network: obligations; promotional; policy; infrastructure</td>
<td></td>
</tr>
<tr>
<td>• <strong>Actors and structures</strong></td>
<td>• <strong>Actors and structures</strong></td>
</tr>
<tr>
<td>- number of actors</td>
<td>- number of actors</td>
</tr>
<tr>
<td>- characteristics of the actors involved: functions; socio-technical etc.</td>
<td>- goals and functions of the actors</td>
</tr>
<tr>
<td>- patterns of interdependence</td>
<td>- ownership</td>
</tr>
<tr>
<td>- changes over time</td>
<td>- type of resources contributed; task-technology</td>
</tr>
<tr>
<td>- nature of coupling</td>
<td>- nature of interdependence; competitive; symbiotic; sequential; pooled; reciprocal</td>
</tr>
<tr>
<td>- degree of stability</td>
<td>- degree of domain consensus</td>
</tr>
<tr>
<td>- consensus over domain/ level of conflict</td>
<td>- stage of the alliance life-cycle</td>
</tr>
<tr>
<td>- similarity of roles/domain</td>
<td>- type and direction of linkage</td>
</tr>
<tr>
<td>- awareness of each others existence</td>
<td>- permanence of the alliance</td>
</tr>
<tr>
<td>- level of autonomy/ability to control</td>
<td>- governance structure: contract; cooptation; coalescence</td>
</tr>
<tr>
<td>• <strong>Interactions/exchange relations</strong></td>
<td>• <strong>Interactions</strong></td>
</tr>
<tr>
<td>- modes of coordinating activities</td>
<td>- mandated or voluntary</td>
</tr>
<tr>
<td>- density/centrality/connectivity/ hierarchy: degree of interdependence; form of organisation (mechanistic-organic)</td>
<td>- degree of formality/informality</td>
</tr>
<tr>
<td></td>
<td>- scope: narrow to broad ranging</td>
</tr>
<tr>
<td></td>
<td>- type and level of exchanges: voluntary; involuntary; market</td>
</tr>
<tr>
<td></td>
<td>- costs of transactions</td>
</tr>
<tr>
<td></td>
<td>- individual autonomy and control</td>
</tr>
<tr>
<td></td>
<td>- ability of partners to influence the alliance</td>
</tr>
<tr>
<td></td>
<td>- importance ascribed to the alliance</td>
</tr>
<tr>
<td></td>
<td>- experiences over time/trust</td>
</tr>
<tr>
<td></td>
<td>- perceptions of fairness</td>
</tr>
<tr>
<td>• <strong>Expected outcomes</strong></td>
<td>• <strong>Expected outcomes</strong></td>
</tr>
<tr>
<td>- reduction in uncertainty: extension of influence; changes in resource dependence</td>
<td>- adaptive efficiency: revenue generation; cost reduction</td>
</tr>
</tbody>
</table>

Measures used to study interorganisational cooperation by researchers favouring a network approach overlap measures used by researchers favouring the alliance approach. This demonstrates that the interorganisational field is eclectic and that researchers frequently employ theories and concepts from more than one paradigm (Smith, Carrol et al., 1995). Furthermore, there is growing support for a multi-level approach to
analysing interorganisational cooperation. It appears that both multiple levels of data are required to capture the complexities of interorganisational cooperation.

The following section of the literature review explores situational factors which influence organisations to enter cooperative arrangements.

**MOTIVATORS FOR INTERORGANISATIONAL COOPERATION**

"In health care, much of the development of alliances can be traced to changes in the environment. As access to needed resources is threatened and new challenges are presented to health services providers, organisations seek to reduce their dependence on and their uncertainty about the environment by banding together" (Zuckerman and Kaluzny, 1991).

Powerful world wide “megatrends” (Limerick and Cunnington, 1993: 3) are driving change in all industries together with national and state level initiatives to promote productivity and economic growth while controlling expenditure in the public sector (Kanter, 1991). Researchers agree that the major driving force for alliance formation in the 1990’s is environmental turbulence (Ohmae, 1989; Kanter, 1989b & 1989c; Alter and Hage, 1993; Zuckerman, Kaluzny et al., 1995). In many instances governments are key protagonists of turbulence (Boyle, 1994).

In an early review of the literature, Schermerhorn (1975) proposed that three conditions influence interorganisational cooperation. The first is “resource scarcity or performance distress” (p 848). For example, interorganisational cooperation is more likely to occur between organisations facing increasing costs, shortages in labour supplies, and a need for more highly trained staff (Levine and White, 1961; Black and Kase, 1963). Similarly, Aldrich (1979) observed that a major motivating force for interorganisational cooperation was the need to gain additional resources in order to survive. More recently, Zuckerman and Kaluzny (1991) and Kaluzny, Zuckerman et al., (1995) have confirmed that resource scarcity, environmental volatility and environmental complexity continue to be major motivating forces for interorganisational cooperation.
Much of the non-health related literature reiterates these propositions. For example, Kanter (1989b) proposes that the enormity of the challenge of competing for customers and resources in today’s “global Olympics” (p 183) is sufficient to overcome traditional, organisational rivalries. Secondly, Schermerhorn (1975) reports that organisations which perceive “cooperation” to be a “good thing to be doing” (p 848) are more likely to enter a collaborative arrangement (Guetzkow, 1966). Health and welfare organisations place a high value on cooperation in the interest of preventing gaps and overlaps in the provision of services to clients. Thirdly, Schermerhorn indicates that organisations will seek partners when a “powerful external force (such as government), demands this activity” (p 849).

**Scarcity, volatility and complexity in the Australian health industry**

The Australian federal government is faced with increasing competition for overseas markets, an ageing population, high unemployment, a current account deficit, and a population accustomed to a welfare safety-net which ensures that everyone has a basic income and universal access to health care. These powerful socio-economic and political forces are having a substantial impact on organisations within all industries. When governments drive change, those industries heavily dependent on government funding are frontline organisations which need to respond rapidly and effectively to survive. The health industry in Australia is such an industry with an annual expenditure of approximately $US24 billion. Cost control and measures designed to improve quality and productivity are, inevitably, high on the agenda (Council of Australian Governments, 1995).

Like organisations in the manufacturing sector, Australian and international health care organisations are confronted with resource scarcity, uncertainty concerning funding arrangements and increasing demands for health care associated with changes in consumer expectations, the ageing of the population and rapid developments in medical
and informational technology. In 1983, Australia's expenditure on health care as a proportion of Gross Domestic Product was 7.7 percent. This level of expenditure fell in the mid-range of OECD countries (Australian Institute of Health and Welfare 1992). However, in 1994, this figure increased to 8.5 per cent (Australian Institute of Health and Welfare 1995) resulting in mounting concern over the country's ability to control rising health care costs.

Funding arrangements for health care organisations change rapidly as state governments change and as new ministers take up the health portfolio (Health Cover, 1995: 15). Under Australia's Medicare system, State and Territory governments are responsible for the provision of public hospital and community based health services for which they receive a fixed payment from the Commonwealth Government (Duckett, 1992). These payments are negotiated on a five yearly basis. Within the guidelines of the Medicare agreement, State governments are free to allocate resources to public hospitals and health services. There is wide variation across the country in the funding of hospitals with the trend toward implementing market based incentives with prospective funding based on Diagnostic Related Groups and the separation of purchasers and providers (Duckett, 1994). In 1995, five of six State governments are led by the Liberal Party which favours small government and micro economic reform through market incentives.

Most medical and dental services are provided on a fee-for-service basis by private practitioners. However, governments have been taking an increasing role in the financing and control of health services over the past decade. Furthermore, harsh economic times have led to change in the behaviour of doctors. Under Medicare, the majority of doctors receive payment on a fee-for-service basis from the Commonwealth government. In 1993, private, for-fees medical services accounted for approximately 90 per cent of payments to general practitioners and 83 per cent of payments to specialists (Australian Institute of Health and Welfare, 1992). In 1984/85, when Medicare was first introduced, only 45 per cent of doctors were prepared to “direct bill” the Health Insurance Commission for the services they provided to the citizens of the country.
Under “direct-billing”, the patient receives no account; the only action required of the patient is to verify (by signing) that they have received a particular service. By 1990/91 the proportion of all doctors direct-billing the Commission had risen to 60 per cent with most of the rise occurring among general practitioners (Australian Institute of Health and Welfare, 1992). During the same period of time the number of general practitioners had increased by almost 27.4 per cent and the number of specialists by 20 per cent (Deeble, 1991). Furthermore, the number of Australians choosing to be privately insured fell substantially from 68 per cent in 1982 to 38 per cent in 1993, placing considerable stress on public hospitals which experienced increases in their waiting lists (Australian Institute of Health and Welfare, 1994: 136). Hence, pressure has mounted for rapid throughput, namely, shorter length of stay, with people being discharged into the community “quicker and sicker”.

Seventy three per cent of acute hospital beds are within the public sector with a total of 4.5 beds per thousand population (Australian Institute of Health and Welfare, 1994: 155). The total number of acute hospital beds has been steadily declining since 1985 when there were 5.4 beds per thousand. In addition to public and private acute hospitals, Australia has approximately 45 public psychiatric hospitals. As in the acute sector, the number of psychiatric beds has been declining from 12,741 beds in 1985 to 7,266 beds in 1991 (Australian Institute of Health and Welfare, 1994: 155). These trends are continuing with the result that more and more people require care in the community. Much of this burden of care is falling on general practitioners, community based health professionals, families and informal carers.

Despite the growing need for community based services, most health workers are to be found in hospitals. Of the approximately 500,000 persons employed in the health industry, 45 per cent are employed in hospitals and 16 per cent in nursing homes. Fourteen per cent are doctors, some of whom are community based and some of whom are institutionally based (Australian Institute of Health and Welfare, 1994: 148). Only four per cent of the workforce are identified as being employed in community health
centres. The remaining health workers are spread across a range of occupations including dentistry and ambulance services (Australian Institute of Health and Welfare, 1994: 149).

Furthermore, the problems needing to be addressed by the industry are growing more complex demanding innovative approaches for their solution and the re-skilling of the workforce (Council of Australian Governments, 1995). For example, the elderly and the disadvantaged are among the highest users of health care services (Australian Institute of Health and Welfare, 1994) and their health problems tend to have both a physical and a social component. In addition, rapid changes in technology and economic recession have resulted in high levels of unemployment which impacts unevenly on age and ethnic group. For example, the unemployment rate for Aborigines in 1991 exceeded 30 per cent while for non-Aborigines it was less than 10 per cent (Thomson, 1991). Loss of traditional overseas markets for agricultural products has resulted in a decline in income for many rural families with indigent young people moving to the cities in search of work (Harris, 1992b). The de-institutionalised mentally ill are among those most socially disadvantaged (Palmer and Short, 1994: Burdekin, 1993). These differentials in access to employment and economic security place substantial pressure on the Federal government, publicly committed to principles of social justice and equity, and on the health care system.

In addition to funding changes, change has also occurred in the mix of the workforce. For example, some occupations experienced high growth and others experienced low growth. Low growth occupations included nurses, dentists, and pharmacists, while high growth areas included medical practitioners and a range of allied health professionals such as physiotherapists, occupational therapists and speech pathologists (Australian Institute of Health and Welfare, 1994: 149). The health industry employs 7.6 per cent of all employed persons (580,000 people): one doctor for every 524 persons or approximately 230 per 100,000 persons; 24,000 general practitioners, one for every 700 persons; 9,000 specialists, one for every 1,300 - 1,500 persons; 173,440 registered and
enrolled nurses, one for every 100 persons; 10,640 pharmacists, one for every 1,624 persons; and 6,310 dentists, one for every 2,739 persons (Australian Institute of Health and Welfare, 1992). Over the past decade the total number of doctors has increased from 27,807 in 1984/85 to 34,731 in 1989/90 with a substantial percentage increase in the number of doctors who are general practitioners (GPs). In 1984/85 and 1989/90, GPs represented 64 per cent and 66 per cent respectively of the medical workforce (Deeble, 1991). The more restrained growth of specialist doctors reflects the influence of the medical colleges in Australia to limit the number of accredited training positions (Commonwealth Department of Health, Housing and Community Services, 1992).

The resulting picture is one of resource constraint in the public sector and increasing competition among a growing group of health occupations in both the public and private sector for resources and patients. Workforce issues of concern to governments in 1994 include productivity, maldistribution, gender imbalance (eg. less than 10 per cent of medical specialists in rural areas are women), cultural sensitivity, improving cooperation between general practitioners and other health professionals caring for people in the community, and the alignment of workforce numbers with educational preparation. Strategies being employed include multi-skilling, enterprise agreements, incentives for increased productivity, involving clinicians more in management, and an emphasis on customer responsiveness (Australian Health Ministers’ Forum, 1994).

Organisational willingness to cooperate

Sofaer and Myrtle (1991), in their review of the interorganisational relations literature, identify three sets of motivating factors, namely, the need to acquire additional resources, such as funds, clients, raw materials, information, political support and legitimacy, the desire to reduce uncertainty, and technical considerations such as the pursuit of operational efficiencies and joint goals and projects. Van de Ven and Walker (1984) observe that perceptions of resource dependency act as a powerful motivating force for interorganisational cooperation among child care and health organisations, resulting in
increased communication between organisations, exchange of dollars and clients, and the development of consensus regarding the terms of relating. Furthermore, these researchers found that client referrals occurred at the technical, or operational, level and were transacted on a less formal basis than were monetary exchanges which occurred at the managerial level.

In this thesis, the focus is predominantly exchanges that occur at the operational level. Sofaer and Myrtle (1991) note that early studies of interorganisational relations, such as those conducted by Levine and White (1961) and others (Dill, 1958; Evan, 1966), paid particular attention to the managers of the focal organisation, or the people at the "strategic apex" or "institutional level" Sofaer and Myrtle (1991: 374). These early studies alert the researcher to the possibility that the players at the operational level may have limited discretion in choice to cooperate. This is particularly pertinent in the Australian health care environment in which approximately 70 per cent of organisations depend on government funding, hence, the players at the strategic apex are likely to exert considerable influence. It is interesting to note that at the level of the regional health care network, many of the generalist and specialist firms are small and "institutional", "managerial" and "technical" functions (Thompson, 1967) rely on one or two people. This is particularly the case with general practitioners and medical specialists in the small business sector. Specialist health professionals, on the other hand, tend to work within community based agencies administered by state health authorities where levels of authority are clearly demarcated and those at the technical or operational level of these organisations may have little discretion in regards to developing cooperative relationships. However, it would appear from recent publications (Commonwealth Department of Health, Housing and Community Services, 1991; Council of Australian Governments, 1995: 14-19) that cooperation does not readily occur at the operational level within these public sector organisations even when health authorities mandate that it should. In a recent policy document, improved continuity of care is to be encouraged through the introduction of different funding arrangements (Council of Australian
Governments, 1995: 14-19), an apt example of a powerful external force (Guetzkow, 1966).

Galaskiewicz (1985) notes that, in situations of uncertainty, organisations tend to seek partners with backgrounds similar to their own. Similarly, Alter and Hage (1993: 37-39), in an extensive review of the interorganisational literature, conclude that willingness to cooperate arises from an understanding that the needs and ways of another organisation are “sympatico” with one’s own. Furthermore, these researchers maintain that the decision to cooperate is based on a belief that interorganisational cooperation will result in “adaptive efficiency” (p 39). In other words, an understanding must emerge that small, lean, flexible, customer focused organisations, working together, are better able to develop new products rapidly and efficiently than are large organisations seeking to go it alone (Kanter, 1989b). Alter and Hage (1993: 38 & 39) emphasise that strategic decisions about interorganisational cooperation have both a “hard” technical and competitive edge, and a “soft” human edge. In addition, they note two important forces “tilting” organisations towards cooperation, namely, the need for financial resources and sharing of risks, and the need for further expertise. These researchers found that the business literature, which addressed alliances involving large companies, emphasised the need for funds and the need to share risks. Acquiring additional money had the implied benefit of gaining greater influence over domain while sharing of risks applied to the sharing of costs in the development of new products and/or services. On the other hand, the literature examining successful ventures, stressed the need for expertise. Among the benefits of acquiring additional expertise was the ability to “penetrate new markets, manage uncertainty, and to have rapid responses to changing market demands and technological opportunities” (p 39).

Zuckerman, Kaluzny et al., (1995), also refer to “hard” and “soft” forces associated with the formation of alliances in health care. Cooperation emerges “out of mutual need and a willingness between organisations to share risks and costs, to share knowledge and capabilities, and to take advantage of interdependencies to reach common objectives” (p
55). Adamek and Lavin (1980: 206) propose that, in their dealings with one another, organisations frequently act like individuals. These researchers found that organisations with resources to spare were more likely to engage in cooperative arrangements with other organisations than organisations with scarce resources. Using social exchange theory to explain their unexpected findings, these researchers concluded that organisations with an abundance of resources were in a better position to reciprocate or honour their exchange obligations than were less well endowed organisations. On the other hand, for the less well endowed organisation, cooperation with other organisations had the potential to lead to a further loss of “prestige, encroachment by other agencies and loss of community support” (pp 207).

Williamson (1975) proposes that organisations move toward more administrative modes of transacting exchanges when the costs of “market” exchanges become unacceptably high. Furthermore, he maintains that “environmental” and “human factors” influence decisions about when “to bypass the market and resort to hierarchical modes of organisation” (p 9). Among the environmental factors influencing transaction costs are “uncertainty/complexity and small-numbers” (p 254). Human factors influencing choice of organisational form are “bounded rationality” (defined as the inability to address complex problems), and “opportunism” (p 9). Confronted with increasing transaction-costs and with the limits of “bounded rationality”, firms are likely to move towards more formal modes of exchange. Similarly, in situations involving small numbers of exchanges combined with a high risk of being exploited due to the self interested, opportunistic behaviour of another firm, Williamson (1975: 254) argues that a firm will move away from market exchanges towards more formalised modes of exchange. According to the markets and hierarchies paradigm, the factors motivating firms to move towards alliances and networks can be summarised as environmental uncertainty, the need to gain additional expertise due to the complexity of problems confronting the firm, and the wish to decrease risk and uncertainty due to opportunism.
Alter and Hage (1993: 285) argue that Williamson places too great an emphasis on transaction-costs as the basis for organisational decisions about which type of cooperative arrangement best suits them. They propose that, in the 1990s, production costs play an equally important role in decisions about whether to move “away from vertical integration and toward systemic production networks” (p 285). From their research of interorganisational networks, they conclude that “opportunities for learning overcome fears of opportunism” (pp 286) and that there is currently a movement away from reliance on formal contracts towards a greater reliance on social contracts based on trust.

Kogut, Shan et al., (1992: 348-349) consider that the most important decisions facing an organisation are decisions about which activities should be carried out internally, which activities should be purchased, and which activities should involve cooperation with one or more other organisations. Adopting a dyadic approach to interorganisational cooperation, these researchers propose that such decisions are made in the context of an existing and evolving network of structural relations rather than as responses to an abstract competitive market. Over time it is “the structure of the network, rather than the attributes of the firm, that plays an increasingly important role in the choice to cooperate” (p 364). Established relationships among members of the network were found to have a substantial influence on decisions to cooperate. These findings are consistent with those of Alter and Hage (1993), who observed that decisions about cooperation are influenced by beliefs about other organisations in the network.

From a study of human service organisations in the United States, Van de Ven, Walker et al., (1979) conclude that organisations relate for very different reasons and that these reasons, in turn, influence the approach to cooperation. These researchers found that network clusters based on the need to transact resources had a higher level of formalised agreements than did networks based on the direct provision of services to clients. These differences were partially explained by the fact that considerable public accountability is required in the transaction of funds. Hence, it is to be expected that formal contracts tend
to govern financial exchanges between organisations. With respect to networks with dependency based on the need to achieve effective planning and coordination, cooperation was mainly achieved through “boundary spanners”, that is, people with designated responsibility for achieving cooperation between organisations. Patterns of relations between networks of agencies providing direct services to clients were mainly based on personal communications, involving face-to-face contact and telephone calls, with a low frequency of written reports and letters between agencies. This type of network, is similar to regional health care delivery networks in Australia.

Summary

There is consensus in the literature on the factors that influence organisational decisions about cooperation. These factors include, environmental forces leading to resource scarcity and performance distress, both of which significantly impact on organisational needs and wants, and the beliefs and values which predominate within the organisation. In addition, the literature suggests that the factors which motivate organisations to cooperate have a substantial impact on the modes of cooperation selected. Furthermore, while environmental resource scarcity is consistently associated with the decision to cooperate, scarcity of selected elements has a differential effect on the reasons for cooperation. For example, in situations of resource scarcity, driven by a limited number of clients, organisational uncertainty is likely to be high due to the high level of competition, and, possibly, the opportunistic behaviour of some organisations. Under these conditions, interorganisational cooperation is a means of reducing the risk of losing clients to competitors. However, in situations in which there is no scarcity of clients, but there is scarcity of other necessary elements, such as funds, personnel with relevant expertise, information, and political support, then interorganisational cooperation may be seen as a means of gaining the funds and expertise needed to "produce" adequate services for clients and, thereby, to survive. Where competition for clients is the major driving force for cooperation, approaches to managing cooperation are likely to be more formalised than in situations in which there is no scarcity of clients, but there is
considerable scarcity of expertise. In the latter case, exchanges may be governed by informal, social means. Different scenarios for interorganisational cooperation may emerge depending on the type of resources in scarce supply and the readiness of organisations to enter cooperative arrangements which in turn is influenced by needs, beliefs, values, funding arrangements and location. Figure 2 summarises the main factors motivating organisations to cooperate.
Figure 2: Motivating forces for interorganisational cooperation

Environmental Forces

Scarcity of Resources:
Performance Distress

- Funds
- Clients
- Political support
- Personnel
- Raw materials
- Legitimacy
- Information

Uncertainty
- Markets
- Sources of revenue
- Actions of competitors
- Legislation and policies

Organisational Needs

- Financial resources
- To share risks
- To gain expertise
- To acquire influence
- To extend influence over domain
- To reduce transaction costs

Organisational Willingness to Cooperate

- Organisational beliefs:
  - to cooperate is good
  - cooperation will result in adaptive efficiency
  - other firms share values and ways of doing things
  - cooperation will not lead to a loss of: influence over domain; community support; or autonomy
- Willingness to pursue shared goals/projects/operational efficiency
- Organisation has sufficient resources to reciprocate appropriately

Competitors
- Cooperative
- Opportunistic

Complexity
- Technology
- Consumer needs/expectations
- Problems

Powerful Players
- Governments
- Third Party Payers
"In practice, success is often couched in terms of meeting objectives set for the collaboration and usually covers whether the product was developed as planned and according to time and cost estimates" (Bruce, Leverick et al., 1995: 35).

The expected benefits of cooperation

The benefits of interorganisational cooperation for manufacturing organisations, are usually associated with profit (Kanter, 1989b; Bruce, Leverick et al., 1995). Profit is stimulated by the ability to 1) respond faster to changes in customer needs, 2) respond faster to market opportunities, 3) reduce the risks and costs of product development, and 4) shorten the lead time to develop new products (Bruce, Leverick et al., 1995). These attributes are aptly described by Alter and Hage (1993) as “adaptive efficiency” (p 285).

Revenue generation is also important in private sector health care. For example, with respect to “hospital-physician” alliances in the United States, Mackesy and Mulligan (1990) expect that establishing a “referring physician network” would increase the number of referrals to the hospital. Similarly, in relation to mental health care in the United States, Tropp, Gershon et al., (1994) report that increases in market share have been won by organisations who enter partnerships. These researchers conclude that, given the current trend, there will be fewer players in the future, each with a larger share of the market. Such expected gains reflect the way many hospitals and provider organisations are funded in the United States. For most Australian hospitals, the scenario is very different. For example, most hospitals in New South Wales currently receive a prospective, negotiated budget which remains constant irrespective of the number of activities performed. In other words, funding provided to hospitals is capped. In Australia, therefore, the expected benefits for public hospitals of alliances with referring doctors have to do with reducing hospital activity, thereby, reducing costs.
In addition to revenue generation, other benefits are frequently said to follow cooperation in health care. For example, Tropp, Gershon et al., (1994), report that interorganisational cooperation resulted in more rewarding relationships, shared objectives, a more comprehensive complement of delivery settings, and improved efficiencies through the better utilisation of facilities and personnel. Improvements in relationships between organisations occurred as a result of greater clarity about one another's expectations and less redundant activity. Shared objectives have developed in treatment outcomes and activities to aggressively contain internal and external costs have been stimulated (Tropp, Gershon et al., 1994).

Improved efficiencies through better coordination of services is also espoused as a benefit of interorganisational cooperation by several researchers, including Aiken, Dewar et al. (1975), Hall, Clark et al., (1977), Rogers, Whetten et al., (1982) and Alter and Hage (1993). Some researchers have, however, questioned the benefits of tightly coordinated services for people with mental illness (Scott, 1985). These criticisms have been based on the benefits ascribed to multiple, “loosely-coupled” systems, with a range of organisations providing similar services (Bendor, 1985; Weick, 1976). Protagonists of these systems argue against coordinated systems on the basis that they restrict variety, healthy competition and result in a lack of responsiveness. Glisson and James (1992) found that, with respect to services for children in custody, the benefits ascribed to “loosely coupled” competing systems were not forthcoming. These researchers concluded that competition actually “worked to create gaps through non-redundancy” (p 78). In their efforts to avoid redundancies, providers of competing service systems were found to maintain their traditional client group and their traditional modes of operating. As a result, they paid little attention to the coordination of the range of services required by any one child with multiple problems. Lehman, Postrado et al., (1994), found no support for their thesis that mental health systems would be most effective if funding and the coordination of primary care service delivery were consolidated. On the other hand, Provan and Milward (1995), in a study of networks for care of the severely mentally ill,
found a positive association between network effectiveness and network integration, “but only when integration is achieved through centralisation of the network” (p 6). In addition, they found a positive association between network effectiveness and general system stability. These findings suggest that, with respect to the severely mentally ill, network integration achieved through centralisation, is likely to have beneficial outcomes for clients. However, centralisation is frequently associated with the employment of external, regulatory methods of control, something which Alter and Hage (1993: 257) conclude only makes things worse.

Potential barriers to continuity: the costs of cooperation

“One of the persistent nightmares in the minds of those who enter external networks is that the transfer of technology and know-how will create a potential competitor” (Limerick and Cunningham, 1993: 87).

Fear of opportunistic behaviour by an alliance partner is among the factors that may lead to failure. While there is extensive literature on the benefits of alliances and networks, the news is not all good. In fact, several articles indicate that the failure rate could be quite high (Kanter, 1989b; Zajac and D’Aunno, 1994: 278). In 1975, Schermerhorn summarised the potential costs associated with interorganisational cooperation as 1) loss of decision-making autonomy, 2) loss of organisational prestige or identity, and 3) the need to expend scarce organisational resources on coordination activities, including, information exchange and transport.

Autonomy is challenged because interorganisational cooperation requires “a commitment for joint decisions on future activities and thus places limits on unilateral or arbitrary decisions” (Thompson and McEwan, 1958: 28). Loss of autonomy and ability to unilaterally control decisions have been recognised by other researchers as a cost of interorganisational cooperation (Gouldner, 1959; Hladik, 1988; Moxon, Roehl et al., 1988; Tropp, Gershon et al., 1994; Zuckerman, Kaluzny et al., 1995). Autonomy in decision making is highly valued by most health professionals, particularly doctors accustomed to working outside the public health system. They value working conditions
in which they are able to exercise considerable professional, organisational and personal self-direction (Friedson, 1970). Professional autonomy may be challenged in cooperative arrangements with non-medical health specialists; organisational and professional autonomy may be challenged in a cooperative arrangement involving another medical organisation. Hence, an alliance which is perceived to threaten organisational or professional autonomy is likely to be regarded negatively by doctors unless other benefits clearly outweigh these costs. Tropp, Gershon et al., (1994), conclude that sometimes doctor groups are driven to enter alliances by the fear that if they do not collaborate, their ability to control their future will be diminished.

Loss of organisational prestige may be a further cost of collaboration. Forming an alliance with an organisation which fails to deliver a quality product or service, may lead to loss of reputation, status and financial position for both organisations (Alter and Hage, 1993: 33-38). As indicated by Tropp, Gershon et al., (1994), each party should have knowledge and respect for the quality of care provided by the other.

Lack of resources, or failure to commit resources to maintaining the relationship are further potential barriers to continuity. Resources are needed to develop and maintain effective communication and coordination activities (Kanter, 1989b) between “sovereign independent units” (Limerick and Cunnington, 1993: 87). The extent to which independent organisations commit resources to maintaining the alliance will depend on its relative importance to each (Limerick and Cunnington, 1993: 87). Klonglan, Dillman et al., (1969) and Litwak and Rothman (1970) observed that organisations with “extra” resources were in a better position to form alliances. Similarly, Adamek and Lavin (1980: 207-208) found that organisations with the “greatest abundance of elements” were most likely to engage in exchanges with other organisations. Schermerhorn (1975) suggests that alliances may require participants to expend “slack or discretionary resources to pursue the benefits of interorganisational cooperation” (p 850). Stein (1995: 32) observes that most alliances are poorly organised and “undermanaged”. He makes the interesting comment that approximately 50 per cent of the time that top management
put into an “average joint venture goes into creating it. Another quarter goes into developing the plan, and less than 8 per cent into setting up the management systems” (p 32-33).

Alter and Hage (1993), Schmidt and Kochan (1972), Pfeffer and Salancik (1978), DiStefano (1984), Hladik (1988) and Limerick and Cunnington (1993) all identify the potential for conflict over domain, goals and methods as further barriers to continuity. Such conflict may arise when organisations fail to articulate clearly the obligations and responsibilities of each (Limerick and Cunnington, 1993: 87). To these barriers, Zuckerman, Kaluzny et al., (1995) add loss of stability and certainty, and delays in problem solving due to coordination problems. Limerick and Cunnington (1993: 86) propose that relationship problems arise because there is “no common hierarchy” to hold organisations together. The organisations must “rely on each partner to direct his or her own efforts towards the common purpose” (p 86). In situations where this does not happen the alliance is likely to fail. Hence, these researchers reflect the observations of Stein (1995) concerning the paucity of organisational and management infrastructure to promote continuity in alliance.

Asymmetry in flow of benefits, or costs, is a further potential pitfall identified by Limerick and Cunnington (1993: 87) and Kanter (1989b). Where one organisation appears to be more advantaged by the alliance than another organisation, a sense of inequity is likely to arise. Furthermore, there is the potential for one organisation to exploit the alliance. In such circumstances, “trust relationships deteriorate” (Limerick and Cunnington, 1993: 87). Trust is a key element in the success of interorganisational relationships, together with “a carefully negotiated mutuality in the relationship” (Limerick and Cunnington, 1993: 87). Sometimes, organisations, in their enthusiasm to enter a cooperative arrangement, give away too much, which, in hindsight, they regret; hence the need for a solid legal foundation on which the relationship can be built (Stein, 1995: 32). Fear of takeover is a further barrier driven by mistrust (Limerick and Cunnington, 1993: 87). An organisation may fear that, by entering a cooperative
arrangement with another organisation, it may spawn a competitor. This scenario is well described by Starkweather (1981: 35-42) as “consumption” or “consolidation” with respect to hospital mergers.

Stein (1995) also identifies asymmetry in commitment to alliance as a potential barrier to success. For one partner, the alliance may be “central to its business, but, for the other, it may be peripheral” (p 31). Furthermore, these differences can lead to imbalances in power associated with resources and access to information. Two types of information are necessary; “technical knowledge that permits contributions to decision-making, and ‘relationship’ knowledge-understanding of the partner, knowledge of partnership activities and political intelligence that provides the background for successful negotiations” (Stein, 1995: 31).

Cultural differences may be exacerbated and problematic when combined with perceptions of inequity in flow of benefits or costs. Limerick and Cunnington (1993: 89) propose that one of the main reasons for entering an alliance is to make use of the diverse capabilities of the other organisation. However, this very diversity may act as a barrier to continuity. Similarly, Stein (1995: 33) identifies insufficient integration and the absence of a common framework as reasons why alliances fail to live up to expectations. Elements which need to be integrated include organisational structures, processes, procedures and style. Failure to adjust these systems has both short term and long term consequences. In the short term, it affects the efficiency and effectiveness of exchanges and, in the long term, it demonstrates a lack of commitment to the alliance (Stein, 1995: 33). Internal politics are a further factor which may threaten the continuity of an alliance. For example, individuals may perceive that the alliance threatens their territory and power base (Kanter, 1989b). Hence, like all organisational change strategies, alliances may be sabotaged by people opposed to change.

Shortell (1995) suggests that perverse incentives at the macro and micro level hinder the success of alliances in the United States. At the macro level, he suggests there is a “need
to align the economic incentives of payers, physicians, hospitals, and all components of the system" (p 189). At the micro level, behaviour directed towards the overall success of an alliance needs to be rewarded. This is difficult in health care alliances, because most of the expected benefits “have a long run rather than a short run” (p 189). Furthermore, the alliances that pose the greatest challenges are those “that involve fundamental changes in the way in which patient care is delivered or what we have called clinical integration of services in local markets” (Shortell, 1995: 189).

Bruce, Leverick et al., (1995) found that when asked to weight factors associated with failure of alliances, experienced collaborators cited “failure of the partners to contribute as expected, a lack of consultation between partners, low levels of trust between collaborating parties, and the lack of a collaborating ‘champion’” (p 39). A person prepared to put time and effort into managing the relationship is pivotal, given the voluntary nature of alliances (Bruce, Leverick et al., 1995).

Choice of alliance partner is addressed in the next section of this report. This issue figures so prominently in all the literature on factors influencing the success of an alliance that it precedes the review of literature on requirements for continuity in interorganisational cooperation.

**Choice of alliance partner**

“Relationships between companies begin, grow, and develop - or fail - in ways similar to relationships between people. No two relationships travel the same path, but successful alliances generally unfold in five overlapping phases” (Kanter, 1994; 98-99).

Schermerhorn (1975) reminds us that, in decisions about interorganisational cooperation, key people decide whether there is a good reason to cooperate. In this way, individuals act as “mediators of the organisation's interorganisational roles” (p 852). Similarly, Kanter (1994), in the above quotation, affirms the human side of decisions concerning interorganisational cooperation. Kanter raises two further important issues, namely, that each interorganisational arrangement is, to some extent, unique, and, like any
relationship, cooperation between organisations evolves over time. Similarly, Dowling (1995: 172) emphasises the importance of hospitals taking due care in the selection of doctors in the formation of hospital-physician alliances in the United States.

D'Aunno and Zuckerman (1987) identify the critical phases of any relationship as emergence, transition, maturity and critical crossroads, while Kanter (1994) likens the various stages of cooperation between organisations to a personal relationship, namely, “selection and courtship”, “getting engaged”, and “setting up housekeeping” (p 99). In the first stage, two companies discover that they are attracted to one another. This usually means that the senior executives have a comfortable personal relationship and develop shared “dreams” about the potential benefits of future cooperation. Kanter proposes three criteria for choosing an alliance partner, namely, careful “self-analysis” of the organisation’s financial situation and its future prospects, personal “chemistry”, or the degree to which key people like one another, and “compatibility” of philosophies, values, and objectives. Kanter notes that, unless due attention is given in the early stages of the relationship to the possibility of longer-term projects, then it may die at the end of the first cooperative project.

In their study of 100 companies, Bruce, Leverick et al., (1995) found that “compatibility of culture” which included management style and operation, was regarded by experienced collaborators as very important. These researchers conclude that potential collaborators should invest early in the relationship in “developing an appreciation of each other” (p 40).

Similarly, Limerick and Cunnington (1993: 99) place great importance on choice of partner and the need for compatibility between the partners. In particular, these researchers propose a need for symmetry in contribution to the alliance and in the strength of the partners. For example, while some companies may fear joining with a strong partner, it is considered unwise to choose a weak partner. They make the point that both partners must have power, and, together, enhanced ability to make “things
happen” (p 99). Central to an empowering relationship is choice of partner on the basis of their technical and functional complementarity and compatibility. In addition, Limerick and Cunnington, (1993: 99-100) propose that there needs to be compatibility in decision systems, decision styles, and core values which assist in the development of trust. Choosing a partner with a reputation for integrity and fair dealing is wise because such a partner has a reputation to protect (Jarillo, 1988: 37).

The second important stage involves institutionalising the partnership, or, “going public” by informing other important organisations with which the relevant parties have ties, and finalising the agreement (Kanter, 1994). Kanter proposes that there are three essential elements to a successful agreement. The first is that it should incorporate a “first-step venture” (p 103) or joint activity, the second is that there should be a commitment to expand the cooperative activities, and thirdly, the agreement should clearly demonstrate the continuing independence of each partner.

“Setting up housekeeping” is the most difficult stage as it involves players other than those originally committed to the cooperative arrangement, some of whom may not like the idea. As more people become involved, differences in values, attitudes, and measures for accountability may emerge with the potential for conflict and mistrust. These aspects of the on-going relationship require managing.

Requirements for continuity in interorganisational cooperation

“The key to success in any collaboration must be to give added benefits to both parties on an equitable basis. At the end of the project you must have two winners not one” (Bruce, Leverick et al., 1995: 35).

Kanter (1989b) identifies flexibility as a major determinant of success in alliance maintenance. Flexibility has two dimensions, namely, “letting the form of the alliance be determined by the goals, and letting the ventures evolve in form over time” (p 192). Hence, Kanter highlights the importance of the intent of the alliance as a basis for
determining the type of administrative arrangements required to coordinate the relationship and the temporal nature of organisational configurations.

Kanter (1994) also identifies “Eight I’s That Create Successful We’s” (p 100). Factors associated with successful alliances include attention to the relationship which must be regarded as important, a view to the longer term relationship which assists in equalising benefits over time, and the importance of the partners being interdependent, lest power imbalances occur. In addition, the organisations need to keep each other informed about their “plans and directions” and they need to integrate “their appropriate points of contact” as well as manage their communications (Kanter, 1989b: 192). In addition, Kanter (1994) proposes that the alliance needs to become “institutionalised” (p 100) and that the partners behave towards each other with integrity. Institutionalisation is associated with the development of a supportive infrastructure, including formal legal ties, plus informal social activities which assist to develop shared values and trust (Kanter, 1994).

Like Kanter (1994), Limerick and Cunnington (1993: 92-94) emphasise that the partners need to be kept informed. They propose that adequate, appropriate information technology is essential to the development of horizontal communications. This is particularly the case where partners are geographically dispersed. Furthermore, they propose that information systems should be capable of addressing the needs of the collaborative venture rather than the activities of individual partners alone. In addition, Limerick and Cunnington (1993: 89-113) propose that other important success factors include the “liberation of managers” (p 90), the development of boundary roles, the development of an appropriate “mindset” (p 94), careful definition of the focus of the alliance, and the management of the “soft” and “hard” issues (p 102-113). The liberation of managers at the operational unit level is essential; managers at this level are not likely to form voluntary relationships with alliance partners while they rely on the hierarchy, or, they are being “sat on” by more senior managers (p 90). Boundary roles are required to establish and maintain relationships between partners. Defining the focus of the alliance
clarifies the scope and the purpose of joint interests and, consequently, reduces potential for conflict.

Changing the “mindset” of managers is necessary, because few managers in Australia have been adequately trained for network and alliance management (Limerick and Cunnington, 1993: 94-96). With reference to Jarillo’s (1988: 35) “value-chain”, Limerick and Cunnington (1993: 94-96) view the activities of the firm as a “chain of activities that adds value between the supplier and customer” and makes it easier to change the mindset of managers: “it becomes easier to consider the transaction costs of possible arrangements, including farming out some activities to others” (p 96). Limerick and Cunnington (1993: 97-98) also raise the issue of cultural values and their influence on the manager’s mindset. For example, they suggest that Japanese managers find it easier to move into alliances than Australian and United States managers. Reasons for these differences relate to the high value placed on competition in the United States and the Australian image of the “rugged individual” (p 97-98). They propose that, in Australia, we should work towards the development of “collaborative individualism” (p 98). Two further issues requiring management are the “soft” and “hard” issues (Limerick and Cunnington, 1993).

Management of the intangibles such as trust and reciprocity are often termed “soft” issues, requiring constant reinforcement and management over the life of the alliance (Limerick and Cunnington, 1993: 103-103). The basic ground rules seem to be “focus on equity, focus on long-term relationships, and focus on leadership” (p 103). When focusing on equity, each partner acts in a way which demonstrates concern for the other. If the relationship is not perceived as equitable by one of the partners then the alliance is likely to fail. As expressed by Buono (1991) “an alliance will be effective only as long as the benefits of membership or group activity are greater than the costs of participation for the individual members” (p 97). Like Kanter (1994) these researchers also emphasise the importance of focusing on the long-term relationship. Such a focus assists perceptions of equity by lifting the actor’s eyes beyond immediate pay-offs.
Furthermore, it removes the likelihood of destructive opportunistic behaviour and aids the development of trust. As observed by Powell (1990), managers tend to trust the information that comes from people they know. One drawback to focusing on the long-term is that the partners may become locked in and find it difficult to end a relationship.

Ganesan (1994), in a study of retail-buyer relationships in the United States, concluded that creating trust is related to the actual behaviours of the partners rather than to a belief in the benevolence of the partner. These researchers defined trust as “the willingness to rely on an exchange partner in whom one has confidence” (p 40) that they will deliver as expected the “expertise, reliability, and intentionality” (p 40). Ganesan found no relationship between beliefs about partner intentions and the importance of the long-term relationship. However, delivering as expected on expertise and reliability were significantly associated with perceptions of the importance of the long-term relationship. Hence, it would seem that trust has a “hard” edge. Limerick and Cunnington, (1993: 105) support the notion that trust is closely related to negotiations about roles and obligations of the partners.

Ganesan (1994) found that environmental uncertainty, and level of contact explained 36 per cent of the variance in a retailer's dependence on the vendor and 55 per cent of the retailer's perception of the vendor's dependence on the retailer. Furthermore, Ganesan (1994) found that 75 per cent of the variance associated with a retailer's long-term orientation toward a relationship with a vendor was explained by trust related to perceptions of the credibility of the partner, the extent of a retailer's and vendor's dependence in a relationship, and the retailer's satisfaction with the outcomes of a relationship.

Bruce, Leverick et al., (1995) asked experienced collaborators to indicate the factors which most affect collaboration outcomes. In order of importance these were choice of partner, people factors, process factors, ensuring equality, establishing the rules, and environmental factors. People factors emphasised the need for conflict management,
including the need for a person to put time and effort into managing the relationship. Process factors included the need for 1) frequent communications, 2) mutual trust, 3) regular progress reviews, 4) delivering as agreed, and 5) trust and openness. Equality was associated with balance in contributions and benefits; an issue raised by many researchers. Elements about which ground rules were needed included, the objectives for collaboration, the “modus operandi”, awareness of responsibilities and milestones. The establishment of clearly defined tasks, responsibilities and targets was associated with the development of trust between the parties. Environmental factors were variables beyond the control of the partners which influenced the relationship. These included issues such as changes in customer preferences, changes in legislation, and changes in the activities of competitors. Experienced alliance partners were aware of the need to pay attention to environmental factors with new alliance partners. As stated by one of Bruce's respondents “the key to success in any collaboration must be to give added benefits to both parties on an equitable basis. At the end of the project you must have two winners not one” (p 42). Important measures of success were meeting expected targets, including deadlines and costs, and continuation of the relationship beyond the initial project (Bruce, Leverick et al., 1995).

A further hard issue identified by Limerick and Cunnington (1993: 109) is the network control system, which they propose should be based on principles of “Quality Management”. Brace, Leverick et al., (1995) found no consensus among experienced alliance partners as to methods suitable for measuring the success of an alliance. This is an area which has attracted little attention, to date, in the manufacturing sector.

Kaluzny (1991), identifies four management challenges which need to be addressed for strategic alliances in the health industry to be successful. Exchanges between participants should be mutually rewarding, protocols should be developed to guide providers and carers, equality among members of multidisciplinary teams should be emphasised, and quality and cost-effectiveness should be measured. Kaluzny applies to health care alliances many of the issues which have been identified as essential for the success of
alliances in other industries. Like Kanter (1994), Kaluzny perceives a need for flexibility or willingness to adapt to partner differences and changes over time, and the need to institutionalise transactions and experiences through mutual reinforcement. Like Limerick and Cunnington (1993), Kaluzny emphasises the need for a paradigm shift in management philosophy, from a control perspective to a commitment perspective built on a unified vision and common values with accountability achieved through the sharing of information. With Ganesan (1995) and others, Kaluzny maintains that alliance be viewed in the long term with benefits and costs accruing to each of the participants in an equitable manner over time. Kaluzny also supports an alliance control system which assesses the quality of the content and delivery of health care and the cost-effectiveness of the program. Like Limerick and Cunnington (1993), Kaluzny (1991) proposes that a Quality Management approach is needed to evaluate quality; one which incorporates the total flow of exchanges.

With respect to mental health agencies in the United States, Tropp, Gershon et al., (1994), found three factors were necessary for successful interorganisational cooperation, namely, leadership, strong relationships between partners, and strong bilateral commitment to the success of the relationship. Leadership qualities include an understanding of the broad policy context impacting on service delivery, outstanding communication skills in order to successfully argue the case for interorganisational cooperation to their own constituencies, and strong negotiating skills in order to develop partnerships which benefit their own organisation. Strong relationships emerge when organisations carefully assess their similarities and differences in values, philosophies, vision for the future, and objectives, when they share a respect for the quality of care provided by the other, and when each party is committed to the creation of a “win-win” situation in which the financial interests of each are protected. Finally, each party needs to be committed to the long-term survival of the collaborative arrangement which may involve sacrificing some autonomy and involve sharing of financial risk.
Dunbar (1994) identifies two factors critical to the success of vertically integrated health systems in the United States, namely, smooth working relationships between medical and non-medical administrators and commitment to information access. This article emphasises the central role of doctors in health care alliances and the importance of shared information in a highly professional industry in which managers need to forge partnerships and gain cooperation rather than seek to control via coercion and regulation.

Like Bruce, Leverick et al., (1995), Dowling (1995: 171-174), reports about health care alliances in the United States, which mainly target the policy and administrative levels of interorganisational cooperation. He identifies 12 success factors but ventures no weighting as to the importance of any of these factors. Success factors included commitment from top management and key doctors to “champion and manage the great amount of change required to move from today’s structures to true integration” (p 171). Shared decision making and shared control were seen as critical. This finding is similar to the conclusions of Limerick and Cunnington (1993), that managers in alliances must be prepared to share power in order to be empowered. As with Kanter (1994) and others, Dowling reports that health care managers considered education to be critical to provide the competencies required for managing change and to assist in changing attitudes. Like Dunbar (1994), Dowling reports that in any health care alliance between hospitals and doctors, managers need to involve key doctors in decision making. For example, he states that “Affirmation of the physician’s autonomy in clinical decision making is especially important” (p172). Furthermore, doctors are more open to “new ideas that come from other physicians than from nonphysicians” (p 172). Careful selection of doctors for leadership roles was also considered to be important. Important doctor characteristics included openness to change and enthusiasm for improving the delivery of care. Like Kaluzny (1991), Dowling (1995: 173) notes that managers emphasise measures that examine the full continuum of care and that focus on meeting the needs of customers. Dowling (1995) concludes that there is a “need to break away
from the acute hospital paradigm and see integrated delivery as the new 'core business''' (p 174).

The findings of Dowling (1995) and other research from the United States, suggest that in health care there is a trend away from "markets" towards "hierarchies" (Williamson, 1975). In Australia, the trend is in both directions; that is, there is a movement away from hierarchies to markets in the public sector, while in the private sector the trend is from markets to hierarchies. Networks and alliances represent the middle ground in both situations. The literature from the United Kingdom on interorganisational cooperation suggests a similar trend (Ovretveit, 1993; Boyle, 1994).

**Summary**

Figure 3, summarises the findings arising from the literature with respect to the costs and benefits of interorganisational cooperation and the factors known to enhance and destroy continuity in alliance. Of particular note are the different benefits from cooperation for private sector organisations and public sector organisations. However, despite differences in outcomes, the factors promoting and inhibiting continuity are similar.

The next section of this report examines the context within which regional health care delivery networks operate in Australia and describes the organisations, the players and the exchanges between members of the network. This prepares the way for an examination of shared care as a form of alliance involving small business medical firms and public sector specialist units and health agencies.
Figure 3: The costs and benefits of alliance and factors influencing continuity

### Costs

#### Private Sector
- Managing the relationship
- Fear of:
  - exploitation
  - loss of autonomy, control, ownership, influence, territory
- Bad feelings due to asymmetry in flow of costs and benefits

#### Public Sector
- Managing the relationship
- Fear of:
  - loss of autonomy, control, ability to influence, territory, legitimacy
- Bad feelings due to asymmetry in flow of costs and benefits

### Benefit Reducers

- Failure to commit resources to maintaining the relationship: Communication; transport
- Asymmetry in commitment
- Asymmetry in flow of costs and benefits
- Conflict over territory, objectives and technology
- Perceptions of inequity
- Short-term orientation
- Failure of partners to deliver as expected re: cost, quality, timeliness
- Low levels of trust

### Benefit Enhancers

- Choose partners with care
- Develop trust
- Frequent communications
- Ensure reciprocity over the long-term in benefits and costs
- Long-term orientation
- Credibility—quality/cost/time
- Monitor outcomes of the alliance: cost and quality
- Share environmental intelligence

### Cost Reducers

- Manage coordination
- Develop an appropriate culture
- Negotiate ground rules
- Review progress of the alliance
- Establish an effective information system which addresses the needs of the alliance

### Cost Enhancers

- Poor communication
- Lack of consultation
- Poor management attitudes and culture
- Entrenched professional attitudes and practices
- Problems of access
- Perverse incentives
- Opportunism/exploitation
- Internal politics by people opposed to change

### Benefit Enhancers

- Reduced uncertainty
- Revenue generation:
  - adaptive efficiency
  - increasing market share
- Satisfied customers
- Access to knowledge and skills
- Improved worker confidence
- More satisfying worker relationships

### Benefit Reducers

- Cost reduction: less transfers to high cost centres
- Improved patient outcomes
- Reduction in inefficiencies/improved coordination
- Improved skill transfer among workers
- More satisfying worker relationships
- Improved worker confidence
"Many of the most fateful factors affecting the operation of health care organisations are external ones. Professional occupations determine many aspects of organisation structure and functioning: the division of labour, the modes of coordination and control, the locus of discretion. Technological innovations create new occupations, shape patterns of practice and interdependence, and help drive demand. And health care rationalisers—increasingly federal officials—employ changing combinations of incentives and regulations in an attempt to improve the equity, efficiency, and effectiveness of health care services" (Scott, 1983: 112).

In the early 1980s, health care organisations were buffeted and changed by environmental forces associated with "strong institutionalised connections and a strong technical foundation" (Scott, 1983: 102). In the nineties this is the case with regional health care delivery networks in Australia. Medical and informational technology are developing at unprecedented rates, governments are seeking to contain expenditure and improve organisational performance, and traditional professions struggle to hold their ground while emerging professions fight for recognition. It is argued that forces of such magnitude are leading large public sector organisations, such as hospitals, to decentralise towards the networked organisation, and smaller business firms within regional health care delivery networks to enter collaborative alliances. In addition, organisations within rural health care delivery networks experience challenges due to contracting resources. Inequalities in resource distribution due to location are not unique to Australia. Before describing a typical regional network, differences associated with location need to be addressed as they influence the nature of interdependence between organisations.

**Location and organisational interdependence**

The Australian population, which numbers approximately 17.2 million (Australian Bureau of Statistics, 1991), is mainly clustered in capital cities and large urban locations close to the coast. However, approximately 30 per cent of the people are located in rural and remote areas (Harris, 1992b: xiii). Rural populations have a higher proportion of elderly people and hence require additional services. While people living in the seaboard
capital cities have ready access to medical and health professional services, many of their rural “cousins” experience problems of access. For example, there are approximately 97.28 medical specialists per 100,000 persons in capital cities, 79.68 in other urban areas, 28.30 in rural regions and 25.90 in remote regions. It is commonly understood that in urban locations the ratio of psychiatrists to population is approximately 1:12,000 and in rural locations it is approximately, 1:37,000. Similar distributional problems are also evident for general practitioners and allied health professionals (Harris, 1992b).

The factors motivating organisations to enter cooperative arrangements provide a basis for exploring ways in which generalist and specialist firms contribute to service delivery networks in remote, rural and urban areas of Australia. In the remote and rural situation, interorganisational cooperation is driven by scarcity of everything but clients. General practitioners have need of ready access to appropriate specialist services for patient referrals, for support with patient emergencies, for reassurance, for education, and for advice on issues likely to result in litigation if not well managed. Secondly, rural general practitioners need opportunity to update their skills on a regular basis, particularly in such areas as trauma treatment, obstetrics, surgery and chemotherapy (Harris, 1992b: 177). One way that small business general practitioner firms can survive in remote rural areas is to develop cooperative alliances with relevant specialist firms, usually located in urban areas. Specialist firms, on the other hand, could be motivated to enter alliances if they are experiencing a scarcity of clients, or if they perceive a need to extend their domain.

In closely settled urban areas there are many doctors and specialists competing for clients. Client scarcity is the main issue. General practitioners are concerned with 1) maintaining a viable patient load. Many doctors see viability threatened by the encroachment of specialists and allied health professionals (Douglas, 1993: 3-4), 2) gaining access to hospital beds since specialists control the domain of most hospitals under rules governing the delineation of clinical privileges, and 3) the opportunistic behaviour of some specialists who fail to return patients referred to them by general practitioners (Harris, 1992b: 177). In the urban environment, alliances with specialists
enable the generalist to reduce the risk of losing clients to specialists, gain access to expertise based in the hospital, and, enable him/her to maintain influence over domain. For the specialist firm the driving force toward alliance with generalists is to gain and maintain access to clients, given the “gatekeeper” role of the general practitioner in Australia. In addition, alliance with generalists enables specialist firms to reduce transaction costs, and to acquire greater influence over their specialist domain. Irrespective of location, health care delivery networks throughout Australia share some common characteristics.

The organisations of the regional health network

In New South Wales, public hospital and health services are organised regionally (Harris, 1992b). In the main, funds are allocated to regional health authorities on a population basis using a formula which is weighted for age, sex, and health status. The formula also takes into account the presence or absence of tertiary referral hospitals (New South Wales Health Department, 1991a). Each regional health authority serves a population of between 200,000 and 500,000 people and is responsible for the provision of most hospital and community based health services apart from private sector hospital, specialist and general practitioner and non-medical services (Illawarra Area Health Service, 1994a). Hence, the regional health authority is a powerful player in the regional network. Organisations of the regional health authority include hospitals, rehabilitation services, and specialist and generalist community based health agencies (Illawarra Area Health Service, 1994a). However, the organisations which see most of the people, most of the time, are the private sector, small business firms owned and run by general practitioners. Within a twelve month period, 82 per cent of Australians, visit a general practitioner (Deeble, 1991) while less than 5 per cent see an allied health professional, (Southern Community Health Research Unit, 1989).

The “major role of general practice is to provide a service to people who are sick, namely to manage the problem for which patients visit the doctor” (Commonwealth Department
of Health Housing and Community Services, 1992: 17). The domain of general practice is primary health care, that is, the "point of first contact, combining clinical skills and knowledge of the patient's wishes with referrals to specialists where necessary" (p 19). Hence, general practitioners have considerable influence over the use of other health services, including medical specialists, hospitals, and allied health professionals (Commonwealth Department of Health Housing and Community Services, 1992: 18).

Furthermore, the general practitioner may be involved in several health care delivery networks based on patient condition. For example, a general practitioner may relate with one network for care of people with mental illness and with a different network for care of people with diabetes mellitus. In addition to acting in the interests of individual patients, the role of the general practitioner may extend to health promotion activities and local community health planning and evaluation activities (Commonwealth Department of Health Housing and Community Services, 1992: 17). Hence, the role of the general practitioner is complex and demanding (Strasser, 1992).

Approximately 35 per cent of general practitioners are in solo practice, 41 per cent are in small practices comprising two or three doctors and the remaining 24 per cent are in practices with four or more doctors (Bridges-Webb, Britt et al., 1992: S14). Since Australia has a national general practitioner-population ratio of 1:700, in a region with a population of 500,000 people, there will be approximately 714 general practitioners. However, this ratio varies substantially, depending on the location of the region, with many remote, rural regions having fewer resident doctors. This has led to the conclusion that, in respect of medical services, rural regions are disadvantaged (Dickinson, 1991). Characteristically, these small firms include doctors working in partnership, or some other kind of cooperative business arrangement, supported by administrative staff and nursing staff (Bridges-Webb, Britt et al., 1992: S14). Using Mintzberg's (1983) classification of organisations, the general practitioner firm can be described as a "simple structure characterised by low complexity, low formalisation, and authority centralised in a single person" (p 159).
Private medical specialist, and non-medical specialist firms, operate in a similar manner. Based on the national, specialist-to-population ratio of 1:1,300, a region with a population of 500,000 people would have approximately 400 specialists, of whom 30 would be psychiatrists and 95 would be physicians. However, as with general practitioners, these figures vary widely according to location (Harris, 1992b: 100-128). Specialist firms are predominantly located in the larger population centres, while general practitioner firms are dispersed throughout a given region (Humphreys and Rolley, 1991). Because of the isolation of many doctors, particularly general practitioners, together with widespread professional dissatisfaction, a second type of organisation has recently developed among general practitioners.

During the past decade, the Federal Government has allocated substantial funds to assist the development of regional Divisions of General Practice (Douglas, 1993). Typically, Divisions are geographically defined and have a membership of 200-300 doctors who elect an executive to administer the business of the Division. By 1993, there were 100 Divisions of General Practice throughout Australia (Douglas, 1993). The role of the Division is to provide general practitioners with an avenue for participating in public sector health policy development and the promotion of quality patient care through education, quality assurance, and research. Hence, within regions, small, independent, general practitioner firms are “loosely coupled” within Divisions of General Practice. Begun and Lippincott (1993: 142) describe this type of organisation as “a large structural unit” which develops to give a group of professionals “the capacity to exert countervailing power” when negotiating with powerful funding bodies. These researchers are speaking about circumstances in the United States, but the underlying principle holds true for doctors in Australia. Divisions of General Practice arose as a result of pressure from general practitioners on the federal government to provide them with an avenue to participate in health policy decisions (Douglas, 1993). General practitioners were concerned with the large differential in remuneration rates between specialists and generalists and with the fact that most hospitals had become the domain of
the specialists (Douglas, 1993). In organisational terms Divisions of General Practice can be described as a trade associations supported by government funds.

At the level of the regional health care network there is potential for conflict between general practitioners and specialists over domain. Begun and Lippincott (1993) note that in such disputes, "political conflict over the encroaching profession's licensure code, a situation in which conflicting views over the sufficiency of education and training, as well as the resources of interest groups, determine the outcome of the fight" (p 95). The "political conflict" between specialist colleges and the Royal Australian College of General Practitioners has been noisy and vigorous (Fisher et al., 1990). Joint Consultative Committees have been established, involving the relevant colleges, to resolve issues of vocational training, credentialing, delineation of clinical privileges, and quality assurance and audit measures (Harris, 1992b). General practitioners are concerned that, as specialists encroach on their domain, they become deskill and, as a result, their work is less satisfying (Douglas, 1993).

The hospital is the domain of private and public sector specialists. In addition, a private specialist typically owns a private firm. The role of the specialist is defined by his/her field of specialisation and it is common knowledge that among specialties, there are substantial status differentials. Medical specialists also have access to specialist divisions of medicine at the regional level (Illawarra Area Health service, 1994a). These divisions are a long-standing tradition within the "professional bureaucracy" (Mintzberg, 1983: 194) of the hospital (Grant, 1985). Hence, at the regional level, specialists have had a means of participating in public health policy development for some time. As with divisions of general practice, specialist divisions meet regularly, and are chaired by an elected senior colleague supported by an executive. These "private sector", loosely coupled, generalist and specialist medical organisations have considerable influence within the regional network of policy makers and service providers.
In addition, general practitioners and medical specialists, have strong ties to their respective colleges and with the Australian Medical Association. Colleges tend to the welfare of the respective groups of clinicians, with particular responsibility for training, standards, accreditation, and negotiations concerning levels of reimbursement under Medicare and government policies affecting the welfare of the medical profession. However, over the last decade the medical profession in Australia has become segmented. No one body speaks on behalf of the profession. The Australian Medical Association has become closely allied with the interests of the specialist colleges. On the other hand, the Royal Australian College of General Practitioners has developed a high public profile and its activities have become more politicised (Palmer and Short, 1994: 184-186).

The second group of organisations in the network includes medical and non-medical specialist departments and agencies owned by the regional health authority and staffed by its employees. In addition, private medical consultants may contract with the department to do sessional work. They may also admit private and public patients directly to this unit. Specialist departments are to be found within major regional hospitals and the staff is predominantly medical and nursing. These departments are generally directed by a senior doctor with specialist qualifications who may also have a university appointment. This person may also have some control over relevant specialist community based health agencies. In addition, she/he may be a member of the executive of the specialist division of medicine (Illawarra Area Health Service, 1994a). This organisation is consistent with Friedson's observation that in health care there is a strongly ordered hierarchy which is dominated by the medical profession who control the activities of other occupations (Friedson, 1970).

Specialist community based health agencies are generally small and commonly referred to as teams. Each team has a designated leader who is responsible to the regional health authority for service provision and use of resources. Walker (1992), refers to these agencies as relatively small, multi-disciplinary organisations, with approximately one
third employing less than 10, effective full time (EFT) staff, another third employing 11 to 20 EFT, and the remaining third with more than 21 EFT. Of the staff employed within these agencies, approximately half are clinical health professionals, one third are clerical and administrative staff, and the remainder are social work and welfare personnel (Walker, 1992). Characteristically, these small agencies have a simple organisational design (Mintzberg, 1983: 159) and, are reasonably organic in structure. However, according to Luhmann’s (1982) structural inclusion theory they are lodged within a more inclusive unit, namely, the regional health authority.

As with the distribution of doctors, there is wide variation in the distribution of allied health professionals, with many remote rural regions being disadvantaged (Harris, 1992b: 129-140). The allied health practitioner-to-population ratio is approximately 1:773 (Grant and Lapsley, 1992: 149-151). Hence, in a region with a population of 500,000 people there will be approximately 650 allied health professionals. Three disciplines relevant to this study in which shortages have been observed are psychology, social work, and nutrition (Harris, 1992b). Like their medical colleagues, most of these non-medical health professionals prefer to practice in a large urban area and most belong to professional associations. However, apart for nursing, most of these associations are small and in comparison with the medical colleges or the Australian Medical Association, have little political influence at the National, State, or Regional level.

Scott (1983: 100-101), notes that the division of labour among occupational groups in the health industry is strongly influenced by their professional affiliations and associated awards. He further observes that managers have little control over the allocation of work and work routines, including coordination of activities. Friedson (1970: 132-133) argues that “much of the inadequate coordination said to characterise the health services, may stem more from their professional organisation than from their bureaucratic characteristics.” However, Begun and Lippincott (1993) propose that the rigid professional structures, observed by Friedson in the 1970s, are being challenged in the 1990s. The same forces that are moving organisations to cooperate are impacting on the
professions and only those that “are able to balance their own interests with the changing and intensifying demands of external stakeholders” (p 221-222) are likely to do well. Furthermore, external stakeholders are “calling for collaborative arrangements among the professions, no matter how competitive their relationships in the ‘open’ market” (Begun and Lippincott, 1993: 222).

The people in the network

For purposes of reimbursement under Australia's Medicare scheme, a general practitioner is defined as a medical practitioner who is either 1) vocationally registered under the relevant health insurance act, 2) a holder of the Fellowship of the Royal Australian College of General Practitioners, or 3) undertaking a training program approved by the Royal Australian College of General Practitioners (Commonwealth Department of Health, Housing, Local Government and Community Services, 1993:3). Gaining entry to medical school is highly competitive and registration requires five or six years of undergraduate education plus two years of postgraduate supervised clinical practice. A fellow of a specialist college undertakes a further three to six years of postgraduate education (Doherty, 1988: 292-305). Specialist status depends largely on the expertise which is assumed from more extensive education.

In the main general practitioners provide primary care level services to patients in their own rooms. Some general practitioners also have hospital visiting privileges. Most general practitioners are male (80%), aged 35-54 years (70%), who have been practising for more than 10 years (70%). Approximately, 50 per cent are members of the Australian Medical Association and fewer are members of the Royal Australian College of General Practitioners (Bridges-Webb, Britt et al., 1992: S14). Most general practitioners depend on Medicare for their gross income which they receive on a fee-for-service basis (Lawson and Forde, 1993: 354). There is no limit on the number of services that any one doctor can provide in any one year, however, claims above the norm are monitored. Payment to doctors under Medicare represented 18 per cent of all
recurrent expenditure on health in 1991-92 and amounted to $4.5 billion (Australian Institute of Health and Welfare, 1992). “Over 90 per cent of this expenditure is medical benefit expenditure through Medicare” (Lawson and Forde, 1993: 354). These figures highlight the curious fact that while most doctors (generalists and specialists) believe they are in private business, the nature of their business has become very public.

In Australia a medical specialist is a person who is registered as a medical specialist in a State or Territory and who has qualifications approved by the Health Insurance Act (1973). To be recognised as a specialist eligible for reimbursement under Medicare requires, in addition to registration, a fellowship of a specified specialist college or recognition by a Specialist Recognition Advisory Committee (Commonwealth Department of Health, Housing, Local Government and Community Services, 1993:4). Most medical specialists are men (75%) who function as small business operators. However, specialists are remunerated according to their specialty and their overall income is, on average, substantially higher than general practitioners (Lawson and Forde, 1993). Furthermore, specialists are more likely to receive payment from other sources than Medicare. For example, a specialist may contract on a sessional basis with a hospital to provide services, or may be on salary as a staff specialist and maintain the right to private practice. Hence, a specialist may be working both from his/her private office and within the public hospital system. While the majority of general practitioners and medical specialists receive incomes that put them among the top 12 per cent of income earners in Australia, many medical specialists are among the top one per cent of Australian income earners (Lawson and Forde, 1993: 360).

For purposes of this study a specialist allied health professional is defined as a person with 1) a recognised qualification in a health related discipline, 2) who has undertaken additional study in a specialised field. Such persons are usually licensed by government or certified by a professional organisation (Como, 1990: 547). Allied health professionals with specialist training are mainly employed in the public sector and are paid a salary. Many are registered nurses with specialist qualifications in mental health or...
diabetes mellitus. Relevant allied health professionals include dietitian/nutritionists, social workers and occupational therapists with expertise in mental health, psychologists, and podiatrists. Psychologists and podiatrists, generally operate within the public system while some work privately. None of these professionals receive reimbursement on a fee-for-service basis from Medicare as do general medical practitioners and medical specialists. Hence, most allied health professionals relevant to this study are employed within the public health sector on a salaried basis. Compared with their medical colleagues, there are more women than men among this segment of the workforce, and on average, their income is substantially less (Grant and Lapsley, 1992).

The culture of each group of professionals is to some extent unique, influenced by their professional membership and whether they work within the public or private sector. General practitioners and medical specialists who work mainly in the private sector have been described as a “loose collection of independent spirits” (Dawson, 1994: 10) united by their profession and the high value they place on professional and personal autonomy. Doctors consider themselves to be operating in the “market place” and they share a “free enterprise” ideology; a culture of “possessive individualism” (Burt, 1982: 5). Handy (1993) describes this type of culture as “the person culture” (p 189) in which an individual views organisations as existing “to serve and assist the individuals within it” (p 189-190). That is, the organisation has no “super-ordinate objective” (p 189-190). These provider organisations are driven by the incentives inherent in a fee-for-service payment system.

Public and private sector medical practitioners share a common set of norms, values, beliefs, and assumptions about the role of the doctor in the provision of health services. Doctors, as a group, see themselves as holding a dominant position among the health professions (Willis, 1983). Attitudes to administrative staff and managers are confused. Traditionally, in situations in which doctors have maintained “strategic autonomy”, managers have been seen as “subservient facilitators” (Dawson, 1994: 3). This still holds true for the “independent spirits” where untrained women are often employed as
receptionists, managers of patients records, and business managers. However, in the public hospital clinical and administrative accountability has become more highly valued than professional autonomy. Within the large hospital, medical specialists are finding "themselves actually becoming 'managers' as part of being 'professionals'" (Dawson, 1994: 19).

Furthermore, in the public hospital and the public sector specialist health agency, most workers receive a salary and there is little need to be customer oriented. The "superordinate objective" is defined by the regional health authority. Providers are driven by the rewards of caring for clients and by the directives from state and regional health authorities. Doctors and health professionals gain recognition and status through their position in the hierarchy, through the demonstration of technical competence to their peers, and from positive feedback from clients (Harris, R. 1992). Using Handy's (1993) typology of organisational cultures, public sector community health agencies can be described as clusters of “the task culture” within “the role culture” (p 185-189). The task culture is project oriented, while, the role culture emphasises logic, rationality and delegated authority (Handy, 1993: 187-189).

Walker (1992) concludes that two structures are important “mediators” of professional norms, values, beliefs, attitudes and practices among public sector, community health providers in Australia, namely, professional support networks which exist within and between health agencies and special interest groups of professional associations. These structures have a substantial influence on the development of a “community health worker culture” (pp 263), on the enhancement of skills, and perhaps on the willingness of specialist allied health professionals to develop alliances with general practitioners and medical specialists. Other factors influence the culture of community health agencies. In the first place, the staff are multi-disciplinary. Hence, differences in professional technical abilities tend to be highly valued. Secondly, as employees of the bureaucracy, legitimate authority is respected. Finally, these people enjoy working in the community rather than the large hospital. For these workers, "community health", is associated with
a customer or service oriented approach to planning and delivering services. Hence, people with a “community health” orientation are more open to working across professional boundaries (Walker, 1992). In the United States, one study found mental health case managers to be guided by professional “values of empowerment, individualisation, independence, normalisation, and dignity” (Ellison, Rogers et al., 1995: 110). The study concluded that as a group of workers, mental health case managers could be likened to “other female-dominated 'semi-professions' - for example, nursing, teaching - and that it is most closely linked with the discipline of social work. These findings imply case managers' low status, limited power, and inseparability from their employing agency” (Ellison, Rogers et al, 1995: 111).

Exchanges between members of the network

“Networking is the act of creating and/or maintaining a cluster of organisations for the purpose of exchanging, acting, or producing among the member organisations” (Alter and Hage, 1993: 46).

Patients in Australia generally “forage” for the services which they believe will best meet their needs. Once they decide that they require assistance beyond their informal system they usually seek help from their general practitioner (Commonwealth Department of Health, Housing and Community Services, 1992). Under Medicare legislation, the patient's right to choose a primary care doctor is preserved. The effectiveness of this model depends on the patients knowledge of the services available and the primary care service provider's knowledge of the availability of other services. Patients value their right to see a qualified general practitioner, preferably in their local community (Humphreys and Weinand, 1991). They respect the right of the general practitioner to make referrals to specialists. However, they want some say in the choice of specialist to whom they are referred. Furthermore, where a patient is referred to a specialist they want administrative efficiency, in terms of appointments and feedback about their condition (Harris, 1992b: 171). These patient criteria for a successful referral influence general practitioner and specialist satisfaction with the outcomes of an exchange based on a patient referral.
There are three major pathways (Figures 4) by which patients access specialist services in Australia, namely 1) referral by their general practitioner who acts as advocate and case manager, 2) referral by one specialist to another, and 3) referral by a doctor working in the casualty department of a regional hospital. The latter may or may not result in a referral back to the local doctor.

**Figure 4: Patient pathways to specialist medical services**

Under Australia's Medicare scheme, for purposes of reimbursement, a referral is defined as “a request to a specialist or consultant physician for investigation, opinion, treatment and/or management of a condition or problem of a patient or for the performance of a specific examination(s) or test(s)” (Commonwealth Department of Health, Housing, Local Government and Community Services, 1993:5-7). Medicare regards the general practitioner as the primary source of referral to specialists and indicates that cross referrals between specialists should usually occur in consultation with the patient's general practitioner. Hence, referrals from general practitioners to medical specialists are legitimated by government regulations concerning reimbursements to doctors (Commonwealth Department of Health, Housing, Local Government and Community Services, 1993:5).

Bridges-Webb, Britt et al., (1992) found that, on average, a general practitioner had 118 patient encounters per week, of which, 6 per cent resulted in a new referral to a medical specialist, 2.6 per cent resulted in a referral to a health professional, and 1 per cent resulted in an admission to a hospital, nursing home or other institution. Thus on average, a full-time general practitioner would refer 8 new patients to a medical specialist per week, 2 new patients to a health professional and one patient to hospital or some other institution. Carson (1982), in a study which excluded referrals for refraction errors, found that general practitioner referrals to specialists occurred at 5.2 per cent of encounters, of which, one-third were continuing referrals and two thirds were new referrals. Based on Carson's findings and including refraction error referrals of 2.1 per 100 (Bridges-Webb, Britt et al., 1992), a full-time general practitioner seeing 118 patients per week could be expected to refer approximately 8 to 9 patients per week of whom 2 to 3 would be continuing and 5 to 6 new referrals. Bridges-Webb, Britt et al., (1992) found that mental health problems, which were classified as anxiety, depression and sleep disorder, represented 6.6 per cent of all problems managed by general practitioners, or approximately, 7 patients per week. In addition, mental health problems represented 5.9
per cent of all problems managed that included a new referral to a specialist, and 7.1 per cent of problems managed at encounters that included an admission to hospital. Diabetes mellitus accounted for 1.3 per cent of all problems managed (one to two patients per week), 2.1 per cent of all new specialist referral encounters, and three per cent of all encounters involving an admission to hospital (Bridges-Webb, Britt et al., 1992). Tait (1993) observes that, in Australia, people with a major psychiatric disorder consult their general practitioner twice as often as they consult specialist mental health providers, an observation supported by Falloon (1993) in the United Kingdom.

Reasons for general practitioners to consult specialists include, the need for “specialised knowledge”, when the condition is complex or rare, the need for “technical or investigative competence” when the specialist has the competence and access to the required equipment or facility, and the need for “procedural” competence. In addition, general practitioners consult specialists for reassurance, to gain further education and skill development, and to avoid litigation (Harris, 1992b: 176). Of referrals to specialists by general practitioners, Carson (1982) found that 7.75 per cent were for diagnosis confirmation, 13.4 per cent were for reassurance, 22 per cent were to confirm or refine an existing diagnosis, 30 per cent were for general management, and 31 per cent were requests for procedures. Carson also found that younger doctors refer more patients for diagnosis and procedures than older doctors.

Several studies reveal that factors other than the patient's immediate condition may influence referral rates. For example, Cummins, Jarman et al., (1981) found no difference in referral rates by general practitioners according to years of experience in general practice. They did, however, find that patients from lower socio-economic classes were referred less frequently than were patients from higher social classes. Wilkin and Smith (1987) had similar findings, suggesting that patient social standing may influence the rate of exchange between members of the network. In Denmark, Christensen, Sorenson et al., (1989) found a correlation between referral rates to specialists by general practitioners and size of practice and the proximity of the specialist.
General practitioners in larger practices referred fewer patients, and, referral rates increased with better specialist cover and decreased with distance from the specialist. Reilly, Hermann et al., (1994) found that the high mobility of some mentally ill clients raises problems in maintaining effective linkage between service providers.

The literature on general practitioner referrals in Australia reflects concern with communications (Cooling and Walpole (1992), the need to improve the management of chronic disease through better referral practices (Mudge, 1992) and the need to improve relationships between general practitioners and health professionals (Commonwealth Department of Health, Housing and Community Services, 1992; Douglas, 1993). Of particular concern to general practitioners is the lack of feedback they receive from health professionals (Kingman, 1994).

Emmanuel and Walter (1989) concluded that outpatient referrals form the main interface between general practitioners and hospitals. However, other researchers have examined general practitioner relationships with specialist departments within hospitals. For example, Eyers, Brodaty et al., (1994) examined referrer satisfaction with the services provided by a tertiary referral mood disorder unit. They found that 74 per cent of referrers were satisfied with their contact with the unit and that the important determinants of satisfaction were technical competence, feedback, and access.

Walker (1992), in a study of community health agencies, found that most agencies had links with between 6 and 13 other organisations, of these, between one and six were seen as central to their work. An interesting finding was that while clinical staff regarded these links as vital to the organisation, they were not confident that their agency managers appreciated their importance. The reasons for inter-agency linkage in this study were described as “services to clients and potential clients, organisational support, and peer support” (p 260). With respect to services to clients, linkages with other agencies were required when an agency was unable to meet all the needs of a particular client. Agencies also accepted referrals from other organisations suggesting a “symbiotic” (Alter and
Hage, 1993: 59-68) relationship. Organisational support activities involved meeting with other organisations in the interests of groups of clients rather than individual clients. For example, agencies may work together to advocate for resources to meet unmet needs. Exchanges related to peer support had two orientations, one for professional skill and knowledge enhancement and the other for personal support.

The literature on exchanges between generalists and specialists reveals some interesting international differences in emphases. For example, in the United States there is interest in 1) the decline in the number of primary care physicians (Aiken, Lewis et al., 1979), 2) the need to reform the system around community care networks with primary care physicians playing a key role (Davidson, 1992; McManis, 1992), 3) the need to improve continuity and quality of care (Glenn, Hofmeister, et al., 1983; Sabatino, 1992) and 4) the outcomes of hospital activity directed towards developing alliances with referring physicians (Shortell, Morrison et al., 1990; Johnson, 1992; Dolan, 1992; O'Gara, 1992). The British literature reflects a high level of interest in general practitioner referral behaviour since general practitioners were provided with funds to purchase specialist services. This policy has raised interest in the volume and appropriateness of general practitioner referrals (Wilkin, Metcalfe et al., 1989), and the extent to which general practitioners are satisfied with the services they receive from specialists (Treasure, 1989). These emphases in the literature suggest that the funding environment within which generalists and specialists operate has a substantial effect on reasons for interorganisational cooperation. For example, in the United States where hospitals are seeking to establish partnerships with physicians the basis of these arrangements appears to be revenue generation and uncertainty reduction. Whereas, in the United Kingdom, there is considerable concern with cost reduction on behalf of the health authority and uncertainty reduction on behalf of the specialists.
Summary

This section of the thesis has used the literature to explore the structure of a typical Australian health care network, including, the type and culture of the organisations represented, the level and type of exchanges that occur between the players and situational factors which influence generalist-specialist exchanges. These findings are summarised in Table 2.

The next section of the literature review describes the practice of shared care and explores the question as to whether shared care is a psychological contract between individuals or a business or organisational contract between organisations. Factors associated with the formation and maintenance of shared care are compared with factors associated with alliance formation and maintenance.
### Table 2: The regional health care network

<table>
<thead>
<tr>
<th>The organisations</th>
<th>The people</th>
<th>Member exchanges</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical level</strong></td>
<td>General practitioners</td>
<td><strong>Exchanges between members of the network are characterised by:</strong></td>
</tr>
<tr>
<td>• Small business generalist medical firms with domain over primary health care</td>
<td>• Strong community support</td>
<td>• Consumer driven to some extent</td>
</tr>
<tr>
<td>• Small business specialist medical firms with domain over their area of expertise</td>
<td>• High status</td>
<td>• The centrality of the general practitioner</td>
</tr>
<tr>
<td>including relevant hospital departments</td>
<td>• Less well paid than medical consultants</td>
<td>• Exchanges between doctors clearly legitimated by law and funding regulations</td>
</tr>
<tr>
<td>• Small business non-medical firms (very few in number)</td>
<td>• Dissatisfied with loss of territory and associated de-skilling</td>
<td>• More exchanges between general practitioners and medical consultants than</td>
</tr>
<tr>
<td>• Non-medical specialist agencies of the regional health authority with domain</td>
<td>• Little influence over hospitals</td>
<td>between general practitioners and health professionals</td>
</tr>
<tr>
<td>over their particular area of specialty</td>
<td>• Primary source of referral for medical consultants</td>
<td>• Communication problems between general practitioners and health professionals</td>
</tr>
<tr>
<td>• Specialist hospital departments staffed by doctors and nurses</td>
<td>• Paid on a fee-for-service basis</td>
<td></td>
</tr>
<tr>
<td><strong>Administrative level</strong></td>
<td>Medical consultants</td>
<td></td>
</tr>
<tr>
<td>• Divisions of General Practice</td>
<td>• High status</td>
<td></td>
</tr>
<tr>
<td>• Specialist Divisions of Medicine</td>
<td>• Well paid on a fee-for-service basis plus other types of remuneration</td>
<td></td>
</tr>
<tr>
<td>• Regional Health Authority</td>
<td>• Strong community support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Able to influence relevant hospital departments and regional health</td>
<td></td>
</tr>
<tr>
<td></td>
<td>authority</td>
<td></td>
</tr>
<tr>
<td><strong>Status differentials</strong></td>
<td>Allied health professionals</td>
<td></td>
</tr>
<tr>
<td>• Reflect the traditional hierarchical structures of the professional health</td>
<td>• Lower status than doctors</td>
<td></td>
</tr>
<tr>
<td>bureaucracy - but under pressure to change</td>
<td>• Salaried professionals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Role less well understood by the community</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Culture: empowerment of clients in their own environment</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other relevant findings**

- General practitioners in larger practices refer less patients to consultants
- Social background of the patient influences referral patterns
- Funding arrangements influence reasons for interorganisational exchange
SHARED CARE

Shared care is a term which has recently emerged in the British and Australian health literature. Being a recent concept it is poorly defined, particularly, with respect to mental illness. The concept has a longer association with physical conditions, such as obstetrics and diabetes mellitus (Beelaerts, 1994). Shared care is most frequently used to describe formally developed collaborative arrangements between general practitioners and specialist hospital departments and/or specialist community health agencies. It is clear from the literature that these formal models of shared care constitute business contracts involving, in some instances, individuals (general practitioners in the main) and specialist organisations such as hospital units and health professional agencies and in other instances small business group practices and individual specialists (Rosen, 1993).

However, the term shared care is also used to describe informal collaborative arrangements between generalist and specialist medical small business firms (Brown and Tower, 1990; Thomas and Corney, 1993). Informal arrangements are central to this study but little has been written about the structure or dynamics of this organisation.

Motivators for shared care

In mental health, changes in treatment methods and scarcity of resources have been identified as a motivators of shared care. Of significance are increases in the number of ambulatory patients with complex mental illness, a shortage of psychiatrists, and cuts in public health expenditure (Adams, 1990; Michel and Valech, 1992; Muraski, 1994; Eyers, Brodaty et al., 1994). Like other parts of the world (Kendrik, Sibbald et al., 1993), rural Australia has a serious shortage of psychiatrists and mental health professionals (Harris, 1992b; Jorm, Rosenman et al., 1993). The mal-distribution of specialists creates problems for patients wishing to access specialist services and problems for general practitioners in need of clinical support and training. Yellowlees and Hemming (1992) propose that shared care, using a “comprehensive, integrated”
approach supported by effective communication systems, could assist in addressing some of the problems raised by the mal-distribution of psychiatrists in rural areas.

Government policies to “mainstream” and “integrate” mental health services act as powerful external forces impacting on public and private sector organisations (Australian Health Minister' Conference, 1992; Singh, 1992). These policies are directed towards ensuring that mental health services become part of the mainstream health system and that within this system a full range of mental health services continues to be provided. Furthermore, the integration policy states that within each region, the services provided to clients will be well coordinated (Australian Health Minister' Conference, 1992). In a subsequent policy document (Commonwealth Department of Health Housing and Community Services, 1993) the federal government endorsed the need for shared care involving public and private generalists and specialists and several State government policy documents have followed suit (New South Wales Health Department, 1992b; South Australian Health Commission, 1993). Shared care increases the number of patients seen by general practitioners. Policy makers see shared care, therefore, as a means to reducing hospital admissions (Tyrer, Ferguson et al., 1990; Falloon, 1993) and referrals to psychiatrists.

At the organisational level, Rosen (1993) proposes that for general practitioners in marginal practices, shared care provides an opportunity to maintain and capture new client markets. Other researchers observe that many general practitioners are dissatisfied with current service arrangements which tend to cut them out of the market (Berry, 1993; Michel and Valech, 1992; Llewellyn-Jones, 1993; Douglas, 1993). Llewellyn-Jones, (1993) concludes that shared care has developed to overcome the problems of general practitioners, significantly, their inability to access specialist support. In addition, general practitioners are under pressure from consumers to provide care as close as possible to the client's home. Hambridge and Rosen (1994) argue that most general practitioners do not wish to manage seriously mentally ill clients without assistance from specialist mental health services. This view is supported by Tait (1993), who states that
general practitioners are less comfortable dealing with psychiatric disorders than physical disorders. He cites data from a study by Coulter, Noone et al., (1989) which indicated that 47 per cent of all patients referred to psychiatrists were for the psychiatrist to take over patient management as opposed to 4-18 per cent of requests for specialists to take over care of physical disorders.

Andrew and Parkes (1985) propose that shared care is needed to address the skills deficit of general practitioners and mental health professionals caring for seriously mentally ill people in the community. Huxley and Goldberg (1980) found that among the patients of general practitioners there was a substantial group who had a diagnosable mental illness which the general practitioner had failed to recognise. Tait (1993) suggests that the reason for the high level of unrecognised psychiatric morbidity in general practice is because patients "somatise" mental illness. In other words, they present with somatic symptoms and are treated for this rather than for a mental illness. Tait considers that improved cooperation between general practitioners and psychiatrists is needed to assist general practitioners recognise and refer appropriately and to manage depression, anxiety, and sleep disorders.

Brown and Towers (1990) support Tait's conclusion, but add the qualifying statement that closer collaboration with psychiatrists will only be supported by general practitioners if they have the opportunity to actively share in patient assessment and treatment. Thomas and Corney (1993) found that among general practitioners there was some support for closer collaboration with mental health professionals. Berry (1993) also found that general practitioners favoured receiving additional support from mental health professionals. However, only 50 per cent of general practitioners knew of the existence of the mental health services in the region and of those who knew about the service, one third never used them. Berry concluded that there was a need for mental health professionals to market themselves more effectively and to be more user-friendly. It is interesting to note that much of the literature on shared care in Australia appears to be
written from the perspective of the public sector specialist hospital department or health agency. The motive for these organisations to form alliances is cost reduction.

Andrew and Parkes (1985) observe that many mental health professionals lack adequate training in physical illness and that this poses a substantial problem given the high incidence of organic disorders among people with mental illness. Shared care involving general practitioners and health professionals is seen as an efficient and effective approach to addressing this deficit in skills. Saltman, Sengoz et al., (1993) evaluated a pilot program designed to improve the integration of general practitioner firms and salaried community health agencies. Participant assessment indicated the benefits of the project to be increased communication between providers, and improved access for patients. As a result of the project the dietitians decided to continue working with the general practitioners, but the mental health workers did not. It seems that some health professionals may work more readily with general practitioners than others.

There is some evidence to suggest that consumers favour shared care. Essex, Doig et al., (1990) found that patients using a south east London mental health service supported shared care. In particular, patients valued carrying their own shared care card and being able to monitor their own progress. However, while their providers (general practitioners, psychiatrists, and mental health professionals) found that the shared care record substantially improved communication between them, they did not like patients holding their own record cards.

**Expected benefits of shared care**

Several writers have observed that there are a number of non-financial rewards for participants of shared care in mental health. Professional rewards include increased access to psychiatric knowledge and expertise for general practitioners, increased general practitioner confidence to detect and manage mental illness, and more satisfying communications between general practitioners, psychiatrists and mental health professionals (Tait, 1993; Michel and Valech, 1992; Carr, 1993; Falloon, 1993; Warner, 113
Gater et al., 1993). Llewellyn-Jones (1993) identifies improvements in client access, quality and continuity of care as among the expected outcomes of shared care. For general practitioners, he perceives the benefits to be increased knowledge and skills and improved access to specialist support for client assessment and management, including, crisis care (Llewellyn-Jones, 1993). The advantages for health professionals and specialist hospital departments include better background information about clients and increased job satisfaction (Llewellyn-Jones, 1993). For the health authority, the benefits are the care of patients through the combined expertise of hospital specialist and general practice service, improved efficiency through less duplication (Consortium, 1994: 11) and reduction in the burden on public hospitals (Hoskins, Fowler et al., 1993).

Table 3 summarises and compares the expected benefits of interorganisational alliances and shared care. Of note is the high level of consistency between the two bodies of literature. Of further note are the differences in expected benefits of interorganisational cooperation associated with funding arrangements. It is obvious that the type of funding arrangement influences the intent of the alliance and the nature of the interdependence. Hence, according to interdependence theory, different approaches to managing interdependence can be anticipated in shared care arrangements involving public sector organisations than apply in the private sector (Thompson, 1967; Zajac and D'Aunno, 1994).
Table: 3 The expected benefits of shared care compared with the expected benefits of interorganisational alliances

<table>
<thead>
<tr>
<th>Private sector/ manufacturing</th>
<th>Expected benefits of shared care</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Revenue generation</td>
<td>• Revenue generation</td>
</tr>
<tr>
<td>• Profit through adaptive efficiency:</td>
<td>• Opportunity to maintain and capture new client markets</td>
</tr>
<tr>
<td>- ability to respond faster to changing customer needs</td>
<td>• Access to specialist support</td>
</tr>
<tr>
<td>- ability to respond faster to market opportunities</td>
<td>• Better able to meet the expectations and needs of customers</td>
</tr>
<tr>
<td>- reduction in risks and costs of product development</td>
<td>• Increased access to specialised knowledge and expertise for generalists</td>
</tr>
<tr>
<td>- shorter lead time for new product development</td>
<td>• Increased confidence in managing complex problems for generalists</td>
</tr>
<tr>
<td>Private sector/health care literature</td>
<td>• More satisfying working relationships among multi-disciplinary providers</td>
</tr>
<tr>
<td>• Increase the number of referrals to hospitals</td>
<td>Public sector health care</td>
</tr>
<tr>
<td>• Increase in market share</td>
<td>• Cost reduction through reduced hospital admissions and reduced referrals to specialists</td>
</tr>
<tr>
<td>• Improved efficiencies: through better utilisation of facilities and personnel/through shared objectives to rigorously contain internal and external costs</td>
<td>• Improved patient care: access; continuity; quality; outcomes</td>
</tr>
<tr>
<td>• Improved coordination</td>
<td>• Improved efficiencies</td>
</tr>
<tr>
<td>• More comprehensive complement of service delivery settings</td>
<td>• Address the skills deficit of health professionals re: general physical health problems and of general practitioners re: complex chronic conditions</td>
</tr>
<tr>
<td>• More rewarding work relationships through greater clarity and less redundancies</td>
<td>• Improve the confidence of generalists to manage complex problems</td>
</tr>
<tr>
<td>Public sector</td>
<td>• Improved background information for medical and non-medical specialist about the needs and backgrounds of patients</td>
</tr>
<tr>
<td>• Reduction in costs</td>
<td>• More satisfying working relationships among multi-disciplinary providers</td>
</tr>
<tr>
<td>• Increased efficiency/more with less</td>
<td>• Improved job satisfaction</td>
</tr>
</tbody>
</table>

**Barriers to shared care**

Barriers to shared care include general practitioner attitudes to people with mental illness, general practitioner referral habits, entrenched professional attitudes and practices, competition over territory, poor communication between providers, and a lack of incentives supporting shared care. Tait (1993) and Hambridge and Rosen (1994) observe that many general practitioners have negative attitudes to mentally ill clients and prefer to have them totally managed by a psychiatrist. Other researchers observed that
some general practitioners are in the habit of using hospital admission in preference to using mental health professionals for difficult clients (Berry, 1993; Stansfeld, Leek et al., 1992; Armstrong, Bird et al., 1992). Kendrick, Sibbald et al., (1993), and Jorm, Rosenman et al., (1993) found that there was a tendency for mental health specialists of all types to cluster in large training institutions, thereby, denying smaller general practice firms opportunity to participate in shared care. Similarly, Andrews (1993) observed a lack of collaborative activity among provider groups, while Brown and Towers (1990) and Llewellyn-Jones (1993) found providers to be ambivalent about the roles of other health professionals involved in shared care. Other researchers observed competition between professional groups over territory and treatment paradigms (Greenley, 1992; Huxley, 1993), and resources (Rosen, 1992; Sheppard, 1992). Jones and Jordan (1993) reported that general practitioners receive relatively poorer feedback from hospital inpatient child psychiatric departments than they receive from community based psychiatrists. They concluded that the two exist in different systems with different cultures and ethical expectations regarding feedback.

Rosen (1993) and Brodaty, Howarth et al., (1994) consider that the fee-for-service payment system in Australia has inhibited general practitioner-psychiatrist shared care. While Schneider (1993) in the United Kingdom proposes that where general practitioners become budget holders, the “small business” culture of their practices may discriminate against unattractive, time-consuming, mentally ill clients. Hence, shared care may not be perceived as a desirable option. On the other hand, Rosen (1993), and Carr and Donovan (1992), suggest that the introduction of general practitioner budget holders has supported the development of shared care in the United Kingdom.

Huxley (1993) and Essex, Doig et al., (1991) suggest clinicians faced with threats of financial rationing become committed to existing practice models and are therefore unlikely to enter new collaborative arrangements at such times. A similar point is made by Greenley (1992) in the United States who observes that management tends to perceive
innovative approaches to patient care as an opportunity to achieve resource savings and that this attitude is counter-productive.

Table 4 summarises environmental forces associated with the practice of shared care, organisational needs which shared care has the potential to meet, organisational beliefs and values influencing readiness to cooperate and barriers to the adoption of shared care. The forces leading to the development of shared care have much in common with the forces leading to the formation of interorganisational alliances. Indeed, similarity between environmental influences and organisational motivators pressing towards shared care and alliances suggests that shared care is a form of interorganisational alliance.
Table 4: Forces for and against shared care

<table>
<thead>
<tr>
<th>Motivators and readiness to share care</th>
<th>Barriers to shared care</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental forces motivating organisations towards shared care</strong></td>
<td><strong>Barriers to shared care</strong></td>
</tr>
<tr>
<td>• Resource scarcity in the public sector with a need to reduce expenditure</td>
<td>• Entrenched professional attitudes and practices</td>
</tr>
<tr>
<td>• Competition for clients in the private sector and a desire to reduce uncertainty</td>
<td>• Competition over territory and treatment paradigms</td>
</tr>
<tr>
<td>• Rapidly changing medical technology</td>
<td>• Entrenched attitudes to mental illness</td>
</tr>
<tr>
<td>• Complexity of client problems</td>
<td>• Traditional referral practices</td>
</tr>
<tr>
<td>• Shortage and mal-distribution of specialists</td>
<td>• Poor communication practices</td>
</tr>
<tr>
<td>• Government policies to mainstream and integrate services</td>
<td>• A tendency for specialists to cluster in large institutions</td>
</tr>
<tr>
<td>• Public sector managers ambivalent about cooperation with the private sector</td>
<td>• Perverse financial incentives</td>
</tr>
<tr>
<td><strong>Organisational needs</strong></td>
<td>• Poor management attitudes and practices</td>
</tr>
<tr>
<td>• General practitioners:</td>
<td></td>
</tr>
<tr>
<td>- need clients</td>
<td></td>
</tr>
<tr>
<td>- dissatisfied with current arrangements</td>
<td></td>
</tr>
<tr>
<td>- lack the expertise to care for people with complex chronic conditions in the community</td>
<td></td>
</tr>
<tr>
<td>- need the support of specialists</td>
<td></td>
</tr>
<tr>
<td>• Health professionals</td>
<td></td>
</tr>
<tr>
<td>- lack adequate training in physical illness</td>
<td></td>
</tr>
<tr>
<td>- health authority policy directives support integration of service delivery</td>
<td></td>
</tr>
<tr>
<td>• Medical specialists</td>
<td></td>
</tr>
<tr>
<td>- need clients but shortage not evident</td>
<td></td>
</tr>
<tr>
<td>• Public hospital departments</td>
<td></td>
</tr>
<tr>
<td>- need to reduce costs through reducing client load</td>
<td></td>
</tr>
<tr>
<td><strong>Organisational readiness to cooperate</strong></td>
<td></td>
</tr>
<tr>
<td>• General practitioner support for shared care with medical specialists</td>
<td></td>
</tr>
<tr>
<td>• Strong public hospital support</td>
<td></td>
</tr>
<tr>
<td>• Ambivalence between general practitioners and health professionals to collaborate</td>
<td></td>
</tr>
<tr>
<td>• Consumer support for shared care which actively involves them</td>
<td></td>
</tr>
</tbody>
</table>
Requirements for successful shared care

The literature suggests that successful shared care arrangements require attention to definition of policies, the development of goals and realistic time frames, the provision of financial incentives, attention to communication and management of conflict, the recruitment and training of relevant providers, and the assessment of relevant outcomes.

Tait (1993) emphasises the importance of clarifying the objectives and expected time frames for implementation of shared care. These activities are considered essential antecedents to the successful recruitment of busy clinicians. Tait (1993) and Iles and Auluck (1990) comment on the need to develop ground rules between collaborators about roles and communication processes which are necessary for the development of trust.

Several articles refer to the important role that management plays in either inhibiting or progressing shared care (Greenley, 1992; Essex and Doig, 1992; Huxley, 1993), particularly a need for managers to be sensitive to the cultures of the various provider groups. They propose that managers should seek to encourage formal as well as informal contact between member organisations. Brodaty, Howarth et al., (1994) recommend the use of financial incentives to encourage shared care. Rosen (1993) suggests managers assist in the development and assessment of measurable outcome standards.

Summary

Table 5 summarises the requirements for successful shared care and compares this set of criteria with the requirements for successful interorganisational cooperation. Table 5 indicates that, compared with the general management and health alliance literature, shared care literature has paid little attention to the requirements for successful shared care implying that shared care is in an early stage of development (Stein, 1995; 32-33).
Overall, the review of the interorganisational literature has revealed a rich body of knowledge concerning the forces for and against the development of alliances and the factors associated with continuity in interorganisational cooperation. The shared care literature indicates that similar environmental and organisational forces drive this phenomenon as motivate interorganisational alliance activity. Furthermore, similar factors appear to influence the success of shared care and alliances. These findings support the notion that shared care represents a form of interorganisational cooperation which can be appropriately referred to as an alliance. Hence, from this point, the term alliance will be used.

The following section of the literature review explores issues in researching alliance maintenance using a multi-theoretical and a multi-modal approach.
Table 5: Requirements for successful interorganisational cooperation compared with requirements for successful shared care

<table>
<thead>
<tr>
<th>Requirements for successful interorganisational cooperation</th>
<th>Requirements for successful shared care</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Choice of partner</strong></td>
<td></td>
</tr>
<tr>
<td>• Careful analysis of organisations financial situation and future prospects</td>
<td>• Attention to recruitment and training</td>
</tr>
<tr>
<td>• Understand the critical phases of the relationship</td>
<td></td>
</tr>
<tr>
<td>• Personal chemistry between key players</td>
<td></td>
</tr>
<tr>
<td>• Compatibility of philosophies/values/objectives</td>
<td></td>
</tr>
<tr>
<td>• Develop appreciation of each other</td>
<td></td>
</tr>
<tr>
<td>• Symmetry in contribution and in strength of partners</td>
<td></td>
</tr>
<tr>
<td>• Choose a partner with a good reputation to protect</td>
<td></td>
</tr>
<tr>
<td>• Institutionalise the alliance-go public</td>
<td></td>
</tr>
<tr>
<td>• Bring others along</td>
<td></td>
</tr>
<tr>
<td><strong>Methods of coordination</strong></td>
<td></td>
</tr>
<tr>
<td>• Be flexible: allow the methods to evolve</td>
<td>• Articulation of policies, objectives, over time and to be determined by objectives ground rules and time frames</td>
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<td><strong>Psycho/social factors</strong></td>
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<td>• Attend to the relationship: equalise the benefits over time</td>
<td>• Attention to communication and the management of conflict</td>
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<td>• Frequent communications</td>
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<td>• Awareness of changes in customer preferences, changes in legislation, changes in activities of competitors</td>
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ISSUES IN RESEARCHING ALLIANCES AND NETWORKS

"Case studies provide one of the chief arenas in which quantitative and qualitative research can be combined" (Bryman, 1989: 175).

The literature on networks and alliances strongly supports a research approach which examines exchanges among organisations within the context of a network of business relationships. The most frequent design to study organisational networks is the case study (Levine and White, 1961; Galaskiewicz, 1989; Alter and Hage, 1993; Provan and Milward, 1995) and there is a need for studies of networks to move beyond a single case to the employment of multiple case study designs (Galaskiewicz, 1989). This approach was adopted by Alter and Hage (1993) to explore variations in forms of coordination, structure and operation of systemic networks using quantitative and qualitative approaches to data collection. Similarly, Provan and Milward (1995) examined four network systems and employed multiple methods of data collection to address the question "What, if any, is the relationship between the structure and context of mental health networks and their effectiveness?" (p 4). Larson (1992) also employed the case study design to explore social control factors governing alliances between small entrepreneurial firms. Using an ethnographic approach to data collection she found that rewarding dyadic relationships operated within a network of business exchange relationships. This researcher's unit of analysis was the alliance and she began by identifying existing alliances and thereafter discovered the network. Informal alliances in the health industry involving generalists and specialists are not obvious, but the network for care of patients with a particular condition is easily identified.

The study of alliances within networks of exchange raises the question as to the appropriate level of analysis. Should the unit of analysis be the alliance or should it be the network or should it be both the alliance and the network? Alter and Hage (1993: 307) maintain that problems of data analysis are experienced when the network is taken as the unit of analysis because data collected at the individual level has to be aggregated
to provide either an organisational measure or a network measure. These researchers observe that most network studies involving microstructural analysis do not aggregate data twice, tending to leave the analysis at the organisational level. However, despite the challenges involved these researchers found it useful to undertake across-network data analysis. Similarly, Provan and Milward (1995) employed multiple levels of analysis (individual, agency and network) to gain an understanding of each of their cases which were defined as four community mental health systems. These researchers followed the case study design described by Yin (1989).

**Case study research**

Yin (1989: 23) defines a case study as “an empirical research that: investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used” (p 23). Hence, Yin emphasises the utility of the case study approach for studying social phenomena which are not readily amenable to experimental research. Furthermore, case study research involves the collection of data from multiple sources and may involve the collection of both qualitative and quantitative data (Bryman, 1989: 172). Bryman proposes that in case study research, the emphasis should be on context, interconnections and processes with the researcher gaining a feeling for what it is to be part of the particular organisation or network. Thus, case study involves detailed investigation of phenomena; when a study involves more than one case it is necessary to preserve the distinctiveness of each case.

1. **Single case or multiple cases**

Nevertheless, observations involving more than one case can yield invaluable information. Bryman (1989: 171) maintains that two reasons support multiple cases in a single study, namely, “the generalizability of the research may be enhanced, and comparisons allow the special features of cases to be identified much more readily” (p 171). He cites Barley’s (1986) study of the implementation of CT scanners in two
radiology departments as a good example of how the use of multiple cases allowed features applying to each department to be explored. In multiple case studies the investigator needs to “show the reader that all the single cases have been treated fairly and that the cross-conclusions have not been biased by undue attention to one or a few of the entire array of cases” (Yin, 1989: 150). It is obvious that case study research involving more than one case needs to be approached with care. In particular, the researcher needs to ensure that each case receives fair attention through the use of multiple sources and methods of data collection.

In a study involving more than one case, “appropriate analysis of the embedded unit of analysis should first be conducted within each case. The results should be interpreted at the single-case level and may be treated as but one of several factors in pattern-matching .... at the single case level” (Yin, 1989: 121). Patterns or explanations for each single case may then be compared across cases. This is the approach adopted by Alter and Hage (1993: 307). However, in addition to employing pattern-matching and replication logic as the basis for comparing cases, these researchers applied quantitative analysis to compare networks. Quantitative analysis was possible because of the number of cases (n = 15) involved in their study of health and welfare networks.

2. Case selection

Case study research provides opportunity for detailed study of particular phenomena. Like qualitative approaches to research, case study emphasises the context in which the phenomena occur (Bryman, 1989: 167). Reasons for case selection require careful definition with theoretical considerations as the guide. Cases may be selected on the basis of expected similarities in patterns or because they are expected to provide new or diverse evidence (Yin, 1989: 58). Unlike survey research, case study research does not rely on randomisation for its validity (Bryman, 1989: 167). Bryman maintains that the aim with case study research is to gain insights from people with experience with the
phenomena and to elaborate patterns and themes which can be extended to a wider theoretical domain.

Both quantitative and qualitative approaches to data collection begin with some understanding or theory about given phenomena. However, the aim of case study sampling is to maximise the “information richness” of the data, while quantitative sampling aims to maximise the representativeness of the data (Patton, 1990: 169). With each approach, theory development and verification influences the sampling process. For example, with conventional quantitative research a relatively rigid theoretical model is developed. The theory is then “tested in the context of a random sample (to avoid investigator bias), using large enough numbers of subjects to demonstrate statistical significance” (Crabtree and Miller, 1992: 33). With qualitative inquiry, the researcher starts with a theoretical base that is more flexible and seeks to progressively gain data which adds new insight. In qualitative inquiry, initial sampling questions may include “Which data sources are information rich? Whom should I talk to, or what should I look at first? As theory develops, additional questions arise: Which data sources may confirm my understanding? Challenge my understanding? Enrich my understanding?” (Crabtree and Miller, 1992: 33). Qualitative inquiry is sometimes described as employing inductive logic in that it "generally begins with theory or understanding that is to be modified and confirmed in the context of the study" (Crabtree and Miller, 1992: 33). As a result the choice of subjects may change as the study progresses.

Crabtree and Miller (1992: 37-44) describe several approaches to qualitative sampling, including, “critical case sampling”, “theory-based sampling” and “confirming and disconfirming cases” (39-41). In critical case sampling the researcher looks for the particularly good case that can be used as a basis for “logical generalisation and maximum application of information to all other cases, because, if it is true of this one case, it is likely to be true of all other 'similar' cases” (Patton, 1992: 182). With theory based sampling the researcher systematically looks for information that will confirm or disconfirm the a priori theory or understanding (Crabtree and Miller (1992: 40). This
approach to sampling is different to theoretical sampling as described by Glaser and Strauss (1967) whereby “data is gathered to generate theory and the process of data collection is controlled by the emerging theory” (p 44). Confirming and disconfirming sampling strategies involve the selection of cases on the basis that they are likely to support or challenge the researcher's current understanding of the phenomena (Crabtree and Miller, 1992: 40). The appropriate number of respondents in this situation is determined by the “diminishing marginal contribution of each additional case; the researcher will have no need to continue with further cases when the marginal utility of an additional case approaches zero” (Gummesson, 1991: 85). However, when the case is defined as a network of organisations, the issue of identifying and delimiting the network becomes important (Burt, 1983; Morrissey, 1992).

3. Defining the network of organisations that constitute the case

The approach used to delimit a network depends on the researcher's definition of a network. Axelsson (1992: 242) identifies three clusters of definitions of network, two of which are relevant to this thesis. The first approach defines networks as “the total pattern of relationships within a group of organisations acting in order to achieve a common goal” (Van De Ven and Ferry, 1980; quoted in Axelsson and Easton, 1992: 242). Hence, appropriate research questions might include how to improve the overall effectiveness of the network through improved organisation and it would be important that all dyadic relationships pertaining to the network are identified. Cook and Emerson (1978), on the other hand, define network as “sets of two or more connected exchange relationships” (p 725). With this definition, the focus for research is the exchange or activities which link the members of the network. If one adopts this approach, then a focal organisation may serve to define the network of relevant exchanges.

In similar vein, Alter and Hage (1993: 298) describe two approaches to defining the network of organisations for inclusion in a study of networks, namely, the macrostructural approach and the microstructural approach. Many researchers employ
the macro structural approach, including Galaskiewicz (1989) and Morrisey, Tausig et al. (1985). This method requires the identification of “all pairwise relationships within a geographic area, using one medium or more of exchange (or type of relationship) as the inclusion criteria” (Alter and Hage, 1993: 299). With the microstructural approach “the inclusion criteria are set more narrowly.....This approach allows us to locate network patterns that fit a priori criteria, detect similar sub-systems, and thereby compare their structures and operations” (Alter and Hage, 1993). The microstructural approach involves collecting “information from target organisations in order to set boundaries of all sub-systems within a selected group of organisations (without ever describing the entire network), and then setting exclusion criteria in order to decrease the number of sub-systems to be studied” (p 299). These researchers followed a four step process which included defining the type and location of organisations to be studied, the development of exclusion criteria, a survey of all the organisations that had survived step one and two, and the development of inclusion criteria. Alter and Hage (1993: 299) warn that the researcher of interorganisational community systems faces considerable challenges when confronted with “myriad political subdivisions and jurisdictional boundaries” (p 298).

4. Strategies for enhancing validity and reliability

Case study challenges the researcher to address issues of construct validity, external validity, internal validity and reliability. Construct validity refers to “the way a measure relates to other variables within a system of theoretical relationships” (Babbie, 1986: 113). Validation is therefore linked with theoretical deductions concerning the phenomena of interest. Problems with construct validity in relation to case study research can be attributed to two factors, namely, the researcher failing to develop a systematic set of operational variables that address the phenomena of interest, and the researcher failing to justify the measures selected to measure the particular phenomena (Yin, 1989: 41-42). Using theory to predict relationships between variables is one approach to demonstrating that a measure has construct validity. However, Bryman
(1989: 63) notes that on this basis "a huge amount of research could be interpreted as construct validation" (p 63). It is sometimes difficult to distinguish between an exercise in construct validation and the generation of a set of research findings.

Construct validation can be addressed by the development of a systematic set of operational variables together with justification for using the measures selected (Yin, 1989: 97). Three further strategies involve the use of multiple sources of evidence, the establishment of a 'chain of evidence' and having draft reports reviewed by participants. By drawing on several sources of data the researcher is able to develop converging lines of inquiry, "a process of triangulation.....Thus, any finding or conclusion in a case study is likely to be much more convincing and accurate if it is based on several different sources of information, following a corroboratory mode" (p 97). With respect to employing both quantitative and qualitative methods of data collection, Bryman (1989: 175-176) proposes that "one of the most obvious advantages of deploying the two in tandem is to check the validity of findings using very different approaches to data collection" (p 175). This approach is favoured also by Campbell and Fiske (1959) and by Crabtree and Miller (1992: 177) who maintain that the use of multiple data sources concerning given phenomena is growing in popularity among health scientists who favour "increased humility about the indubitability of any proposition and seek truth instead more pragmatically in the coherence among a wide variety of elements of reasoning" (p 177).

External validity is concerned with the researcher's ability to generalise the findings of the entire study to other samples and settings. However, "no-one believes that a single case can be representative of a wider population" (Bryman, 1989: 172). Hence, case study research does not seek to "infer findings from a sample to a population, but to engender patterns and linkages of theoretical importance" (p 172). Similarly, Yin (1989: 43) proposes that case study research relies on analytic generalisation rather that statistical generalisation as applies with surveys. Hence, case study research "should be evaluated in terms of the adequacy of the theoretical inferences that are generated" (p
By drawing on information arising from more than one case to examine similarities and variance with predicted patterns the researcher can address, to some extent, the issue of external validity.

Internal validity is concerned with establishing causal links, whereby certain conditions are shown to lead to other conditions (Yin, 1989: 50). A study that is internally valid means that “any effects/changes or lack thereof in the dependent variable can be directly attributed to the manipulation of the independent variable” (Yin, 1989: 50). This type of analysis is rarely possible in case study research.

Veney and Kaluzny (1989) define pattern matching as a process in which “empirically based patterns are compared with predicted patterns, and data from each case are assessed to determine if they support a set of theoretical propositions that are formulated as questions. If the case information matches the conceptualisation, then internal validity is enhanced; the greater the number that match the conceptualisation, the greater the external validity” (p 139). Living with some concerns about the external validity of findings may be “a necessary cost of providing new insight in as yet incompletely documented management processes in complex organisations” (Burgelman, 1985: 142).

Reliability refers to the consistency of a measure (Bryman, 1989: 55) and it has two elements, namely, external reliability and internal reliability. The first element concerns the extent to which a measure is consistent over time. The second element concerns the internal consistency of a measure and is particularly important when using multiple-item measures which are aggregated to produce a single measure such as may apply when measuring job satisfaction (Bryman, 1989: 56-57). Strategies useful in case study research for addressing issues of external reliability include the development of an overall study protocol, the systematic management of data collected from multiple sources and the generation of reports at critical stages of the data gathering process (Yin, 1989: 27-60). The case study protocol should include the procedures and general rules to be
followed, together with the data collection instruments to be used. Yin considers the use of a protocol essential when more than one case is involved.

Because case study research requires “continuous interaction between the theoretical issues being studied and the data being collected” (Yin, 1989: 62), this approach to research is more demanding than the experiment and the survey. For these reasons Yin maintains that data collection benefits from an experienced researcher since only the experienced researcher is able to recognise opportunities for gaining new insights while avoiding the pitfalls of potentially biased procedures when following new opportunities.

**Variance analysis using survey research**

Kaluzny and Zuckerman (1992) describe two approaches for researching alliances, namely, variance analysis and process analysis. The variance analysis “focuses on performance and identifies variables that account for variations in performance” (p 479). With this approach the challenge is to describe as much variation as possible with respect to the selected performance indicators with little need to examine the sequencing of events. Process analysis, on the other hand, places emphasis on the sequencing of events by assessing the “conditions, events, or stages in the overall development or adoption process rather than simply assessing change in some measure of performance” (p 479).

Alliances can be studied at the level of the alliance, or at the level of the organisations involved in alliance, or at the level of the individuals in alliance. Issues suitable for analysis using a variance approach include the governance and reward structures that characterise relationships between organisations, such as hospitals and medical firms (Kaluzny and Zuckerman, 1992). These researchers predict that alliance outcomes and implementation are associated with compliance with institutionalised “beliefs, norms, and rules within which organisations are embedded” (p 481).
Survey research provides opportunity to add objectivity to case study research through the inclusion of probability sampling and quantitative analysis (Bryman, 1989: 175-177). The survey is useful for describing the “incidence and prevalence of phenomena” (Yin, 1989: 18) or when a researcher wishes to make a predictive statement about certain outcomes. Survey is an appropriate method of data collection in combination with qualitative methods for the present study.

1. Sample selection

Survey research requires a sample which is representative of the population of interest. To gain a representative sample the researcher usually employs a probability (or random) sampling strategy, “wherein each unit of the population has a known chance of inclusion in the sample” (Bryman, 1989: 107). Random sampling helps in overcoming problems associated with selection bias, though the researcher can never totally avoid sampling error. An acceptable approach to random sample generation is the stratified random sample, in which “the population is divided into strata, and simple random samples are taken from each stratum” (Bryman, 1989: 108).

Mitchell (1985), observes that only 17 per cent of published articles concerning organisational research were based on random samples, hence, most organisational survey research uses convenience samples, that is, one which "was available to the researcher" (Bryman, 1989: 113). As a result, significance testing in organisational research is often inappropriate since it is based on observations arising from convenience samples. Bryman (1989: 114) proposes that tests of significance should only be employed where random sampling has been conducted.

2. Sample size

Determining sample size needed to achieve specific research objectives is one of the most important procedures of research design. The usual steps to reach an estimation of the appropriate sample size with respect to testing hypotheses are 1) clearly state the
research objective which involves the testing of an hypothesis about a parameter or set of parameters, 2) estimate the variability of the response variable, 3) define the null hypothesis and the alternative hypothesis, 4) determine a suitable significance level and power for the statistical test, and 5) compute the sample size required (Marks, 1982). In organisational research there are few guidelines for estimating the appropriate sample size. Each organisation is likely to differ in important respects from all others and measures are frequently qualitative rather than quantitative. In addition, the focus constantly moves between the organisation and the organisation members who are the source of data. However, the ground rules for research provide a departure point. For instance, it is generally accepted that the bigger the estimated difference in \( m_1 - m_2 \) the smaller the required sample size, conversely the smaller the estimated variance the larger the sample required and the more heterogeneous the population the larger the sample required. Additionally, it is generally agreed that a larger sample is more likely to be representative. On the other hand, Bryman (1989) cautions that “there is a tendency for larger samples to yield increasingly small increments in accuracy” (p 111). Sample size is also dependent, to some extent, on the type of statistical calculation to be performed. Cross-tabulations, for instance, may require a larger sample to avoid unacceptably small cell numbers. Sample size estimation also depends to some extent on estimated response rate. If there are grounds for believing the response rate will be poor, then selection of a larger sample would be wise (Bryman, 1989: 111).

3. Addressing issues of selection bias

Even with random sampling, bias may still occur due to inaccuracies in the sampling frame and failure of sufficient units to respond. Sampling frame bias can be largely overcome by having access to an accurate list of all possible units in the population. However, such records may be beyond the control of the researcher.

Non-response bias concerns the extent to which the respective units choose to participate in the study. Bryman (1989: 112) and Babbie (1986: 223) observe that interviews tend
to produce lower levels of non-response bias than self-administered questionnaires. Babbie (1986) maintains that a "properly designed interview survey ought to achieve a completion rate of at least 80 to 85 per cent" (p 223). On the other hand, Babbie (1986: 221) accepts a response rate of 50 per cent as adequate for a mailed survey, a response of 60 per cent is good while a response of 70 per cent or more is very good. Following an analysis of techniques to increase questionnaire return rates, Dillman (1978) recommends attention to all aspects of survey administration. Included among his recommendations are attention to the form of the questions, attention to instrument presentation, and a letter informing participants of the purpose of the study, the people involved, how participants have been selected, why it is important for them to participate, and assuring that responses will remain confidential to the researchers. In addition, he recommends the provision of means for the easy return of the completed questionnaire, the efficient administration of the mailing procedures, and the systematic mailing of reminder postcards or letters (Dillman, 1978). As a result Dillman reports response rates from mailed surveys between 50 per cent and 70 per cent.

4. Enhancing validity and reliability

The reliability of survey measures can be tested statistically. For example, the external reliability of the instrument can be assessed using the test-retest method with participants asked to complete the same questionnaire on two separate occasions involving an interval of several weeks to several months (Bryman, 1989: 55). Spearman's rank-order correlation coefficient or the Pearson Product Moment Correlation Coefficient are usually employed to estimate the external reliability of the study instrument. Bryman (1989) maintains that a correlation of between 0.53 and 0.63 is "basically indicative of a questionnaire with fairly good external reliability" (p 55). The internal reliability or consistency of a study measure can be examined using Cronbach's Alpha in which the "average of all possible split-half correlation coefficients is computed" (Bryman, 1989: 55) for all items of an index.
The issue of validity concerns whether a measure “relates to the concept that it is claimed to measure” (Bryman, 1989: 57). External validity has several dimensions, among which is “face validity”. Face validity concerns the match between the measure, or question being asked, and the concept it addresses. Because the researcher defines the variables for inclusion in the survey there is the possibility that the variables will be of little relevance to respondents, or even to the social phenomena of interest. One approach to improving face validity is to have a panel of experts check the content and comprehensibility of the measures (Bryman, 1989: 58). A further dimension of validity is criterion validity, which involves the researcher making connections between a given measure and a relevant criterion. For example, one would expect a high correlation between the score a driver achieves in a written driving test and how well they drive (Babbie, 1986: 112).

Internal validity requires consideration in survey research because data tends to be collected at a single point in time. Experimental designs, on the other hand, frequently involve repeated measures over time to observe whether a particular cause precedes an effect of some kind. That is to say, in an experiment, the researcher manipulates the variables of interest. By contrast, the survey researcher describes relationships in a cross-sectional design that throws light on associations between variables. Internal validity of data may be important in terms of determining whether an observed relationship is a real one (Bryman, 1989: 119). For example, a spurious association may emerge between two variables as a result of them being associated with a third, intervening variable. One way of dealing with the problem is to impose a “post hoc” measure of control. However, this process can become endless and fruitless and in the final analysis the post hoc “imposition of control is a poor approximation” (Bryman, 1989: 122). Threats to internal validity arising from survey design are therefore best managed by multiple data gathering by various approaches to ensure that reported relationships are supported, wherever possible, by more than one source of information.
5. Measuring satisfaction

Satisfaction as a unit of analysis has received considerable attention from social researchers in recent times (Wilkin, Hallam et al., 1992: 230). Satisfaction is a complex concept - a mixture of perceived need, expectations concerning a particular phenomenon and experience (Wilkin, Hallam et al., 1992: 230). The concept of satisfaction is examined more fully in Chapter 4. At this point the issue to be addressed is the measurement of satisfaction.

Satisfaction is frequently measured in organisational research by the use of the Likert (1952) scale, a visual analogue “in which the rater expresses an opinion by rating his/her agreement with a series of statements” (Streiner and Norman, 1991: 26). The Likert Scale usually labels each interval within the scale and aims to provide balance between options (e.g. strongly agree - strongly disagree). Likert scales may employ between five and ten categories along the scale. Number of categories within a given scale is a matter of importance since reliability of the instrument is related to number of scale options, with greater reliability associated with more categories. For example, the loss in reliability from 10 categories to 7 categories is marginal. However, there is a 12 per cent loss in using a 5 point scale and a 35 per cent loss in using a 2 category scale. Other considerations are whether the scale should contain an even or odd number of categories and whether the order of successive question responses should change. The choice is obviously up to the researcher. However, the researcher may wish to force the respondent to make a choice by using an even number of categories, thereby, denying the respondent choice of the middle category. Concerning changing the order of successive questions, some respondents may not realise the order has changed, and they may provide inaccurate data (Streiner and Norman (1991: 28).

Likert scales are frequently the device by which multiple measures are obtained which can then be aggregated to provide an overall score. It seems that the measurement of job satisfaction “is one of those rare instances in which simplicity wins out over
complexity”, (p 184) since there is strong evidence that a global measure of satisfaction is more valid than detailed measures using a range of indicators (Robbins, 1993: 184). Of further relevance to this thesis is the analysis of data gained from Likert scales. Considerable debate surrounds this issue with arguments ranging from two extreme positions. One position holds that Likert scales represent ordinal data and should be analysed accordingly while others maintain that “the numbers themselves are interval (eg. 1,2,.....,7) and can be manipulated as interval data regardless of their relationship to the underlying property being assessed” (p 28). Streiner and Norman (1991: 29) conclude that “under most circumstances, unless the distribution of scores is severely skewed, one can analyse data from rating scales as if they were interval without introducing severe bias” (p 29).

6. Common criticisms of surveys

Surveys are frequently criticised for being superficial, even artificial, because they place restrictions on respondents. This situation arises because it is the researcher who sets the parameters of interest rather than the respondent. Furthermore, it is argued that survey research gives little attention to contextual matters or to how the variables of interest relate to other organisational phenomena (Bryman, 1989: 135). Surveys are certainly of little use in addressing “why” questions, for which qualitative approaches to data collection are superior (Gummesson, 1991). On the other hand, survey can provide invaluable information on “how” questions in an economical fashion.

Qualitative approaches to data collection

Data collection methods associated with case study research include “documentation, archival records, interviews, direct observations, participant-observation, and physical artefacts” (Yin, 1989: 85). To this list Bryman (1989: 170-187) adds the collection of data by survey. The use of both quantitative and qualitative data collection methods in a single study has several advantages (Bryman, 1898: 176). First, it provides for the cross-checking of data gained through the use of different methods and, secondly, it has
the potential to “allow access to different levels of reality” (Bryman, 1989: 176). The planning process in research which uses both approaches should give consideration to the type of data best gained by each approach. Having explored the strengths and weaknesses of case study design and survey research, attention is now focused on the collection of qualitative data.

1. Changing paradigms: from positivism to hermeneutics

Organisational researchers are confronted with three challenges. The first is gaining access to real world data. Without good access, no matter how rigorous the statistical calculations, the researcher is in danger of reporting inaccurately. The second challenge, concerns “pre-understanding”, that is, the researcher needs to have a good understanding of the specific problem and the social environment before starting a study in order to gain relevant data and make sound judgements when interpreting the findings. Thirdly, the researcher needs to be aware of the value system underpinning their approach to research. For example, researchers supporting a quantitative approach to research tend to favour positivistic values while those favouring a qualitative approach lean towards a hermeneutic perspective. Gummesson (1991) maintains that “hermeneutics represents a reaction against the awkward rigidity’s of positivism in relation to certain types of problems in the social field. Instead of trying to explain causal relationships by means of objective 'facts' and statistical analyses, hermeneutics uses a more personal interpretive process in order to 'understand reality’” (p 152). Consistent with these values, qualitative researchers have developed approaches to data collection which are more personal than surveys and the collection of data from documents and archives. Of particular relevance to this thesis are the use of semi-structured and structured interviews.
2. Interviewing

Type of interview is distinguished by three questions to which answers are sought, namely, “Who?”, “How?” and “About what?” “Who” questions, will determine whether the interviewing involves individuals or groups. Interviews with individuals frequently provide greater depth about a topic whereas interviews with groups “frequently generate greater breadth of information” (Crabtree and Miller, 1992: 16). “How” questions, determine the degree to which the interview is structured. For example, the interviewer may need to get information on one or more broad topics from busy senior executives with no opportunity for re-visit. Under such conditions an unstructured interview may be most appropriate in which the interviewer determines the topic area but the person being interviewed largely directs the “conversation” (Crabtree and Miller, 1992: 16). Structured interviews, on the other hand, tend to be more like “spoken questionnaires” and may involve the use of paired comparisons and questionnaires (Crabtree and Miller (1992: 16). The semi-structured interview contains elements of both these approaches to interviewing and usually involves the use of a protocol. A consideration in choosing interview structure is the culture of the group being interviewed and the way “the topic in question is usually shared in the culture or group of interest” (Crabtree and Miller, 1992: 17). For example, nurses and family physicians may share information in the form of “explanatory talk” (p 17) while surgeons may share information more readily in the operating room in an apprentice-style interview (Crabtree and Miller, 1992: 17). Psychiatrists and endocrinologists share much in common with family physicians in that they provide care to people living at home with long-term illness. Interviews of the explanatory type are therefore likely to work well. However, because medical education is heavily positivistic in ideology, it is assumed that doctors will respond well to an interview approach which is relatively structured. The “what” question concerns the type of information that is being sought, whether the researcher is seeking to “intensively plumb a particular topic” or whether the researcher is seeking to understand “cognitive decision-making activity underlying human choices” (Crabtree and Miller (1992: 16). In
the case of the latter, Weller and Romney (1988) suggest that the researcher consider using a 'rank order method' or a 'pile sort' within the framework of the interview.

3. Focus groups

The focus group approach to gaining data usually involves “eight to twelve participants who are led by a moderator in an in-depth discussion on a particular topic or concept” (McDaniel and Gates, 1993: 192). The goal of the focus group is to discover what people have to say and why they feel the way they do about a particular issue. Group interaction is an essential component of focus group research in which the comments of one person stimulate a response from another. Three types of focus groups are described by McDaniel and Gates, (1993: 194), namely, “exploratory”, “clinical” and “experiencing”. Exploratory focus groups are employed in the early stages of a research project to test wording on a questionnaire or to assist in hypothesis generation for later testing by empirical research. Clinical focus groups, on the other hand, seek to explore the underlying motivations which people have about a particular issue while “experiencing focus groups” seek to establish how people think and feel about a particular phenomenon.

The focus group may stimulate new ideas and thoughts about an issue which would not be gained from interviews or surveys of individuals. Furthermore, the group interaction assists to keep the thoughts and verbal responses of individuals realistic and focus group provides a great deal of information fast (McDaniel and Gates, 1993: 194). However, it is possible for the inexperienced researcher to falsely believe that they have gained a full understanding of an issue by focus group. Hence, it is important that information arising from focus group be used in combination with other, more representative, approaches to gaining information.
4. Data management and analysis

Because of the large amount of data generated by qualitative research, effective data management is vital. Hence, word processing programs are among the useful tools for the management of qualitative data. The first step is to record the data. Coding and sort functions can then be applied to assist in identifying similarities and dissimilarities (Crabtree and Miller, 1992: 133). Of particular interest are behaviour patterns that all the participants share (ie. the norms of behaviour), those participants who deviate from the norm, the reasons for compliance and non-compliance with norms, and the functions that the respective behavioural norms serve (Babbie, 1986: 253). Furthermore, with field research "the formulation of theoretical propositions, the observation of empirical events, and the evaluation of theory are typically all part of the on-going process' (p 254).

5. Some pitfalls of qualitative research

Pitfalls associated with qualitative research include “provincialism”, the drawing of “hasty conclusions”, the “suppression of evidence” and the “false dilemma” (Babbie, 1986: 257). “Provincialism” occurs when the researcher interprets observations according to the researcher’s own point of view. Because of the small numbers involved in qualitative research, the researcher may fall into the trap of drawing hasty conclusions concerning given phenomena. Because the researcher works so closely with the data, he/she may inadvertently select data which supports their theoretical position and ignore data which challenges that perspective. “False dilemma” concerns the selection of a particular position from a range of options. That is, the researcher may inadvertently draw a false conclusion because he/she has not considered all possible alternatives.

Summary

The research literature supports the study of alliance maintenance within the context of a network of interorganisational business exchange. The case study design is a suitable vehicle for a study of alliances within an interorganisational exchange network. The case study design accommodates multiple levels of analysis and gains validity through
establishing a chain of converging evidence. Consistent with the development of a chain of evidence, the case study design provides for the collection of data from multiple sources using quantitative and qualitative methods, both obtrusive and unobtrusive. Case study research requires prior decisions concerning the number of cases to be studied, the selection of cases, defining the boundary of the network of organisations that constitute the case and strategies for enhancing validity and reliability.

Variance analysis based on survey research provides a suitable design for the examination of factors maintaining alliances because it allows for quantitative analysis of relationships between variables. The survey method has been described together with some of the challenges applying to this method of data collection, including issues in selecting a sample, in determining appropriate sample size, strategies for minimising selection bias and enhancing the reliability and validity of the survey instrument and the measurement of satisfaction. Surveys are frequently criticised for sacrificing quality and richness of data for reliability. To overcome this potential difficulty two qualitative approaches to data collection have been described together with research management issues associated with undertaking qualitative research, including the adoption of a research paradigm appropriate to qualitative approaches and the management and analysis of data.
4. THEORETICAL FRAMEWORK FOR ANALYSING ALLIANCES WITHIN REGIONAL NETWORKS

"The key to success in any collaboration must be to give added benefits to both parties on an equitable basis" (Bruce, Leverick et al., 1995: 42).

The principle that any activity is maintained by its rewarding consequences, first formulated by Thorndike (1935) and Skinner (1938), has become so ingrained in our understanding of what determines continuity of activity as to sound obvious. Nevertheless, the application of this principle to organisational cooperation has only been explored in the last two decades. Thus Bruce, Leverick et al., (1995) reaffirm that organisations have a keen eye to “benefits”, or perceived rewarding outcomes from collaboration. Smith, Carroll et al., (1995) maintain that “cooperation will not continue if its benefits do not equal or exceed its costs” (p 17). This principle underpins exchange theory and, therefore, the conceptual foundation of this thesis. Furthermore, according to exchange theory, benefits may be measured either in terms of increased “reward” or reduced “costs”. Hence, “organisations seek to form that type of exchange relationship which involves the least cost to the organisation in loss of autonomy and power” (Cook, 1977: 74).

In this Chapter, exchange theory, network analysis, coordination theory and interorganisational knowledge are used to develop a theoretical framework for a study of alliance maintenance. Nine assumptions underpin the framework and four propositions are developed. In addition, seven operational hypotheses are formulated to facilitate the collection and analysis of quantitative data and four questions are outlined to guide the collection of qualitative data. The research design and methodology is presented in Chapter 5.
This Chapter first introduces the theoretical framework and then defines the key variables and four propositions and argues their importance to the framework. Finally, the practical and theoretical contribution of the framework is discussed.

**A SYSTEMS FRAMEWORK FOR ANALYSIS OF ALLIANCE MAINTENANCE**

The literature provides insights into the costs and benefits of interorganisational cooperation and the factors that influence the cost-benefit ratio for participants. Whatever the discipline examining the issue, whatever the industry involved, whatever the size of the alliance or network, a common set of factors emerges. Among the expected benefits of interorganisational cooperation are reduction in uncertainty, economic gain, improved customer satisfaction, access to additional expertise and improved worker confidence and satisfaction. Costs associated with interorganisational cooperation include redirecting resources to manage the relationship, fear of exploitation, and loss of autonomy and control. While the two sectors have much in common, Figure 3 (p 89) indicates that public sector and private sector organisations have different expectations as to the benefits of alliance. For example, among the important expected benefits of alliances for private sector organisations is reduction in uncertainty and revenue generation through adaptive efficiency and increased market share (Alter and Hage, 1993). Public sector organisations, on the other hand, expect alliances to result in cost reduction through the pooling of resources and improved coordination.

Figure 3 also identifies actions that the partners can take to enhance the benefits and reduce the costs of interorganisational cooperation. Among the important factors enhancing the benefits of cooperation are careful choice of partner, the development of trust based on the partners delivering as expected and not seeking to exploit the relationship, frequent communications and a long term orientation with respect to judging the fairness of the distribution of costs and benefits among alliance partners. However, having a set of guidelines is one thing; taking action to maintain the alliance is another.
There is unequivocal evidence in the literature that the environment in which an industry operates has a significant influence on an organisation's decision to enter a cooperative arrangement with other organisations. The more uncertain the environment the more likely that organisations must depend upon others for essential resources (Robbins, 1993; Turner, 1991; Starkweather and Cook, 1988; Argote, 1982; Van de Ven, Delbecq, and Koenig, 1976; Aldrich, 1974; Thompson, 1967; Levine and White, 1961). In addition, differentiation within an industry increases the need for exchange among organisations (Pfeffer, 1978). Because the health industry in Australia faces substantial resource constraints and it has a high degree of specialisation this thesis is based on the assumption that alliances among private sector organisations in this industry emerge because of a need to reduce uncertainty associated with resource dependency and increasing differentiation associated with increases in the complexity of the tasks to be addressed. On the other hand, public sector driven alliances emerge because of the need to reduce costs and the desire to improve coordination (Thompson, 1967; Zajac and D'Aunno, 1994).

The review of the literature emphasises the temporal nature of interorganisational cooperation. Kanter (1989b) and Zajac and D'Dunno (1994) have described the stages of interorganisational cooperation from early negotiations to mature relationship and, possibly, termination. Ring and Van de Ven (1994) have developed an interpersonal, process model for analysing how interorganisational relationships develop over time, based on the assumption that cooperation leads to commitment. They argue that the maintenance of an interorganisational relationship is guided by a "simple set of heuristic's .... based on assumptions that if parties can negotiate minimal, congruent expectations for a cooperative relationship, they will make commitments to an initial course of action. If these commitments are executed in an efficient and equitable manner, they will continue with or expand their mutual commitments. If these commitments are not executed in an efficient and equitable manner, the parties will initiate corrective measures by either renegotiating or reducing their commitments to cooperate.
Underlying these adjustments is a more complicated set of informal, social-psychological dynamics which explain how and why cooperative interorganisational relationships evolve through repetitive sequences of formal negotiation, commitment, and execution stages or events” (p 99).

Anderson, Hakansson et al., (1994) go further and propose that cooperation causes commitment. This thesis maintains that this is not necessarily the case in situations in which alliance partners have opportunity to change partners as it does not take into account the continuing autonomy of the partners. Ring and Van de Ven (1994) claim that interorganisational relationships are maintained “not because they achieve stability, but because they maintain balance: balance between formal and informal processes” (p 112). These formal and informal processes involve negotiations and the development of trust, grounded in experiences which meet the respective partners' expectations of "norms of equity and efficiency" (p 99). These researchers contend that in the early stage of an alliance, perceptions of equity and fair dealing are closely associated with expectations about how people should behave in a given role. However, over time, as the relationship develops personal liking and interactions become important and the nature of the contract binding, the partners move from an emphasis on the legal contract to a reliance on a psychological contract. The proposition that maintenance of interorganisational cooperation involves trust and judgements about fair dealing seems unassailable. This is the very "nuts and bolts" of exchange theory.

The systems framework developed as part of this thesis is drawn, to some extent, from Ring and Van de Ven (1994). The construct depicted in Figure 5, proposes that the actions of the various parties, in three key domains, either increase or decrease the likelihood of other components occurring. In other words, this framework depicts a system in which the key variables are interdependent; a characteristic which Parsons and Shils (1976) maintain is a fundamental property of a system. “Interdependence consists in the existence of determinate relationships among the parts or variables as contrasted with ‘randomness’ or variability. In other words, interdependence is order in the
relationship among the components which enter the system. Furthermore, this order must have a tendency to self-maintenance, which is very generally expressed in the concept of equilibrium’’ (p 107). In brief, my systems framework proposes that, within a regional network, in which the parties voluntarily choose with whom to exchange, a change in satisfaction with an exchange relationship results in a change in the degree of organisational interdependence among the actors. In turn, this has the effect of changing the actor’s compliance with norms of practice associated with the exchange relationship. As a consequence, the rewards gained from the exchange relationship rise or fall, and, if they fall, when the costs outweigh the benefits, the relationship is likely to end.
Figure 5: A systems framework for analysing alliance maintenance within a regional network

Industry Environment
- Scarcity
- Uncertainty
- Differentiation
- Incentives - methods of remuneration

Regional Network Environment
- Task technology
- Access to external resources
- Funding arrangements applying to actors
- Patterns of interdependence

P1: Within a regional network in which the actors have the opportunity to select collaborators, degree of alliance activity is positively associated with organisational interdependence.

Factors Maintaining Alliance

Compliance with norms of practice

Degree of interdependence

Satisfaction with exchange relationship

- Number of actors
- Domain consensus
- Pattern of alliance activity
- Distribution of power
- Status differentials

P2: actor satisfaction is positively associated with organisational interdependence;

P3: degree of organisational interdependence is positively associated with compliance by the partners with norms of practice;

P4: compliance with agreed norms of practice is positively associated with satisfaction with an exchange relation.

Note:
Within a regional network in which the actors have the opportunity to select collaborators:

- P2: actor satisfaction is positively associated with organisational interdependence;
- P3: degree of organisational interdependence is positively associated with compliance by the partners with norms of practice;
- P4: compliance with agreed norms of practice is positively associated with satisfaction with an exchange relation.
Essential to my theoretical framework (Figure 5), are four propositions which are summarised here while supporting evidence is provided below following a discussion of the variables. First it is proposed, that within a regional network in which the parties have the opportunity to select collaborators, degree of alliance activity is positively associated with organisational interdependence. Secondly, it is proposed that degree of organisational interdependence increases as actor satisfaction with an exchange relationship increases. Organisational interdependence is, to some extent, a perception and to some extent a set of behaviours. For example, a prime measure of interdependence is the frequency of contact, or exchanges, between individuals or organisations. Thirdly, it is proposed that degree of organisational interdependence influences compliance with norms of practice. It can be argued that perceptions of interdependence dispose individual or organisation A to make contact with B in order to access the resources or expertise or experience that B possesses. This is not primarily a friendly contact but a business interaction designed to reduce need and enhance profit. If these early exchange experiences prove rewarding, both economically and socially, the number of exchanges is likely to increase between A and B. At the same time, the number of exchanges that B has with C may decrease as a consequence of the growing interdependence that has developed between A and B. Consequently, the exchange relationship becomes increasingly important to both parties and each is likely to abide by the norms of practice that are associated with the relationship. Finally, it is proposed that strong links emerge among cooperating parties built upon compliance with expected norms of practice and positive assessments (or satisfaction).

The interorganisational literature indicates that situational factors influence the decision to collaborate, the degree to which organisations depend upon one another (Levine and White, 1961), the governance structures employed to manage transactions (Williamson, 1975 & 1992; Powell, 1990), and the type of coordination processes used to manage cooperation (Aldrich and Whetton, 1981; Alter and Hage, 1993; Zajac and D'Aunno, 1994). Because of the potential impact of situational factors on interorganisational
cooperation, this thesis is based on the assumption that alliance maintenance is most appropriately studied in the context of the network of relationships within which alliances are embedded (Cook and Whitmeyer, 1992; Emerson, 1972).

**KEY VARIABLES**

Three variables are essential to my systems framework, namely, “actor satisfaction with exchange relations”, “degree of organisational interdependence”, and “compliance with norms of practice”. Each of these variables was identified during the early stages of the research by key stakeholders as important to alliance maintenance. It was noteworthy, however, that analysis of the literature revealed little empirical evidence that collectively these variables are important in alliance maintenance. While a number of studies dealt with one or other of the variables, the literature had little to say about the ways in which these three variables are related. Three important assumptions underpin my choice of variables, namely:

1) that satisfaction is a suitable measure at a given time of an individual’s and an organisation’s judgements as to whether, and to what extent, the benefits of interorganisational cooperation outweigh the costs;

2) that volume of exchange between members of a regional network is a suitable measure of interorganisational interdependence;

3) that maintenance of successful exchange relationships between actors within industry specific networks is governed by norms of practice. Within a regional network, norms of practice incorporate behaviours unique to the members of the workforce represented. For example, in the health industry, norms of practice governing exchanges between doctors, nurses, and allied health professionals apply.

Each variable is now defined and arguments put forward as to why it should be part of the systems framework.
Actor satisfaction with exchange relations

While actions may be a far more reliable measure of an actor's response to the actions of another (Homans, 1974: 225-240), Parson and Shils (1976), maintain that “satisfaction is an affective state which is likely to manifest itself 'objectively' as well as subjectively. It is no more difficult to diagnose than anxiety or anger, and, in my opinion, should be thoroughly investigated, since it is the most refined sign that we have of whether need processes are being obstructed, advancing without friction, or attaining their aim, or after cessation of action, whether the effect did in fact appease the need” (p 456). By linking satisfaction with perceived need fulfilment, Parson and Shils (1976) indicate that satisfaction can be an early indicator of successful adaptation with respect to interorganisational cooperation.

Satisfaction has two kinds of determinants, “satisfiers” and “dissatisfiers” (Homans, 1974; Morse, 1953; Herzberg, Mausner et al., 1956). A dissatisfier is a condition which promotes dissatisfaction when it is not present (eg. a poor environment in which to work). However, when present, it does not lead to increased levels of satisfaction. Parson and Shils (1976: 457) maintain that satisfaction associated with the removal of dissatisfiers is specific to the object of dissatisfaction. For example, “a certain kind of dissatisfaction (eg. fullness of the bladder) cannot be relieved by any kind of satisfaction (eg. congenial discourse)” (p 457). The absence of a suitable referral letter could be considered to be a dissatisfier to a consultant in exchanges with a generalist medical firm.

“Satisfiers”, on the other hand, are those factors which have intrinsic rewards for the individual or organisation (Homans, 1974; Herzberg, Mausner et al., 1956). For example, an opportunity to interact with a high status person may be intrinsically rewarding and therefore measured satisfaction with the relationship is likely to be high. Furthermore, a person may be satisfied with some rewards associated with an exchange but not with others depending on the importance he/she places on particular rewards.
In measuring an actor's satisfaction with an exchange relation, Homans proposes that a person may be able to weigh different "satisfaction's together so as to reach some judgement about his/her overall satisfaction" (Homans, 1974: 227). He also maintains that in exchange relations, people assess others according to what a person "gives in social exchange - and what he/she gets from others" (p 225). Furthermore, in such situations, a person "acts, if he/she can, so as to bring his/her rank on what he/she gives at least as far as his/her rank on what he/she gets" (p 225). However, a partner to an exchange only has direct control over what he/she gives, "since what he/she gives are his/her own acts" (Homans, 1974: 225). With respect to what a person or group receives from an exchange, the person can only exert indirect influence, "since what he/she gets are the acts of others, though naturally his/her own acts may influence theirs" (p 225). It follows that in any exchange, an estimating process is going on all the time so that the actors, individual or corporate, are able to determine, via their satisfaction with the exchange, whether their giving and getting are in reasonable balance.

Simon (1956) suggests that personal satisfactions of an individual may be different from the rewards sought by an organisation. For example, an individual may satisfy his/her need for income by complying with the expectations of the organisation; the needs of which may be different to the individual. In this respect Pfeffer (1978) claims that those with most influence within an organisation determine the needs which are addressed. In addition, he contends that the priorities of influential people may not be based on the rational needs of the organisation but on the desire of these individuals to maintain power and influence. Perrow (1986: 121-122) maintains that when confronted with a choice, organisations "conduct a limited search for alternatives along familiar and well-worn paths, selecting the first satisfactory one that comes along" (p 122). In other words, faced with options and the limits of human rationality, organisations "satisfice" (Perrow, 1986: 122). Furthermore, the standard of the decisions that are made are controlled by the organisation and only to a limited extent by individuals (Perrow, 1986). Nevertheless, there is considerable evidence to suggest that "in their relationships with
one another, organisations appear to resemble individuals” (Adamek and Lavin, 1980: 208). On these bases it can be reasoned that satisfaction is both a personal sentiment, and also an organisational characteristic, whether consensually determined or the personal conclusions of powerful leaders within the group. Furthermore, satisfaction is sought by organisations as a validation that co-venturing has been successful in identifiable ways.

The convergence of theoretical concepts explaining organisational behaviour is incomplete at this time. Reasoning from individual action to group action tends to under-value the importance of group influence on decision-making and the evolution of a corporate sense of being well- or ill-served by a particular set of exchanges. Reasoning from organisational theory to the sentiments of individual “key players” under-represents the influence of personal judgement upon group activity. The concept of satisfaction, while inevitably imbued with meaning derived from individual experience, has very strong associations with group behaviour. As has been reasoned, firms or boards may delay action until "satisficing" has been achieved or maintain exchange so long as there is consensus on satisfactory outcomes derived from exchange. Furthermore, satisfaction has the great advantage that it is widely understood, though on any given measure it remains unclear to what extent an individual is responding idiosyncratically or as a team member. These factors can only be isolated by measures based on very specific instructions to the respondent, and, in the process, the risk to validity is increased.

**Degree of organisational interdependence**

There is considerable agreement that interorganisational exchanges become necessary in circumstances of resource scarcity and differentiation within the industry (Levine and White, 1961; and Pfeffer, 1978). Under such conditions, organisations restrict their activities to specific functions (Levine and White, 1961). As a result, any one organisation becomes dependent on other organisations for necessary elements. To acquire elements necessary for goal achievement, organisations enter into exchanges with other organisations (Levine and White, 1961). The extent to which organisations become
dependent on one another is largely determined by perceptions of need and perceptions of the extent to which these needs are satisfied by exchange. Parsons and Shils (1976) maintain that need provides the driving force for action, describing need as "the fundamental variable, and, degree of satisfaction (hedone) the best indicator of its state of progress" (p 457). Organisational needs likely to be influenced by interorganisational cooperation include the need to reduce uncertainty, to gain additional financial and technical resources, and the need to extend influence (Figure 2, p 65).

The power of any one organisation within a regional network increases or decreases according to the extent to which other organisations perceive that they need the resources of the organisation (Marsden, 1983). The more specialised and unique the resources controlled by a particular organisation, the more power that organisation is likely to hold (Salancik and Pfeffer, 1977). Whereas the more general, and readily available within the network the resources controlled by a particular organisation, the less likely other organisations will value what it has to offer, hence, the less power it will hold. It follows, therefore, that within a regional network of exchange relations that those organisations with the most specialised resources are likely to hold the most power. For an organisation within a network to increase its power it must either increase the extent to which other organisations depend upon it or decrease the extent to which it depends on other organisations (Emerson, 1972). However, Pfeffer (1981) notes the stability of the distribution of power among groups implying that those with power tend to maintain their advantage irrespective of the actions of others. The picture which emerges from these concepts, is a regional network of business exchanges in which the parties are constantly engaging in activities to enhance their ability to control resources vital to their survival and achievement of future ambitions. Scott (1995) suggests that alliances are a strategy used by some organisations to extend their influence over resources, in other words, to increase their “power”.

Brass and Burkhardt (1992) found that level of activity, or volume of exchange, between actors within a network was a useful measure of “centrality” or the “power” of a
particular party. These researchers conclude that level of activity “may reflect alternatives, and increasing alternatives increases one's power in exchange relationships” (p 211). It follows that those parties within a regional network with relatively greater opportunity to select alliance partners are likely to exert more power than those parties with limited options. Furthermore, these powerful players are likely to have higher levels of exchange with the parties with whom they choose to collaborate. Cook (1977) observes an association between level of organisational interdependence and increased interorganisational activity. This notion is central to my systems framework, in that to examine the dynamics of alliance maintenance, it is first necessary to disclose the presence of alliances.

Proposition 1:
Within a regional network in which the actors have the opportunity to select collaborators, degree of alliance activity is positively associated with organisational interdependence.

It follows from this proposition that higher levels of alliance activity are likely to be observed within a regional health network between generalists and specialists with a high volume of exchange. The hypothesis which can test this relationship can be expressed in the following form:

Hypothesis 1: Volume of exchange between generalists and specialists varies significantly with alliance activity.

In addition to volume of exchange, Cook proposes that other useful measures for exploring the ability to control or mediate the flow of resources within a network include the “direction” of resource exchange and the location of an actor within the flow of exchanges within a network. The research tasks are to describe the volume and direction of exchanges and the location of actors within each network.

The factors directly and indirectly contributing to interdependence require an approach to measurement which identifies core variables while respecting the limits to analysis which
apply to any measurement method. In other words, core variables in interdependence should be counted in some way, while contextual variables must be inferred to avoid an unhelpful reductionism on the one hand or a superficial generalisation on the other. My theoretical framework (Figure 5) acknowledges that situational factors need to be considered in any study concerning continuity in interorganisational cooperation. However, my intention is to develop a framework which facilitates an in-depth study into the complex dynamics of alliance maintenance. I make no pretence to seek to control for all possible situational factors.

Two situational factors of major importance with respect to their effects on interorganisational cooperation are the technology associated with the task and funding arrangements (Thompson, 1967; Zajac and D'Anunno, 1994). The technological requirements associated with caring for a specific group of patients, such as people with serious mental illness, are likely to have a substantial influence on 1) the objectives and functions of the relevant organisations (Levine and White, 1961), 2) on the degree of specialisation required to care for patients, hence are likely to influence the size of the network (Pfeffer, 1978), and 3) on the nature of workflow interdependence, hence, on the methods of coordination used to manage exchanges (Thompson, 1967). According to Thompson (1967: 51-65), the most complex form of interorganisational interdependence is based on reciprocal interdependence. In this situation, the units have a close connection and the exchange of inputs and outputs goes in both directions. My theoretical model (Figure 5) seeks to identify differences in type of interdependence associated with task technology by defining the regional network according to the type of tasks to be addressed. This allows for differences between groups to be explored on the basis of work-flow associated with medical condition. The research task to describe differences in 1) the pattern of exchange between members of a regional network, and 2) the governance of exchanges associated with medical condition.

Similarly, funding arrangements which are largely externally determined influence the reason for, and expected outcomes of, alliance formation and the nature of resource
interdependence (Zajac and D'Aunno, 1994). Two types of funding are of importance in this study, namely, organisations which are remunerated on a fee-for-service basis (private sector small business generalists and specialists) and organisations in the public sector that receive a fixed annual budget from the regional health authority (public sector organisations). Private sector organisations may hold the expectation that the alliance will result in maintenance or enhancement of revenue generation while cooperating public sector organisations may expect cooperation to result in cost savings. In the first instance, the nature of organisational interdependence is clearly reciprocal and satisfaction with the relationship will be based on the extent to which revenue is generated, together with sentiments about fairness of the distribution of costs and benefits. In the second instance, the nature of the interdependence is based on the pooling of resources and the outcomes will be judged accordingly. Similarly, the location of a regional network is likely to influence the expected outcomes of alliances. For example, member organisations of a resource-poor rural regional network may be likely to form alliances in order to pool their resources, while members of a city based network may be motivated by the uncertainty created by competition. My framework (Figure 5) provides opportunity to observe differences based on type of interdependence associated with funding arrangements and geographic location. The research task is to explore how alliances involving public sector and private sector organisations differ from alliances involving only private sector organisations. Similarly, to describe differences associated with geographic location.

**Compliance with norms of practice**

The literature provides insight into behaviours associated with enhancing the rewards of interorganisational cooperation and behaviours associated with increasing the costs (Figure 3; p 89). The consistency with which certain sets of behaviours are associated with continuity in alliance suggests that established alliances are governed by norms of practice expressed by activities to improve coordination (Kaluzny, Zuckerman et al.,
1995; Kanter, 1994; Limerick and Cunnington, 1993) and the maintenance of trust (Gulati, 1995; Ganesan, 1994; Granovetter, 1985).

Norms of practice are relatively consistent patterns of behaviour which emerge through exchange between organisations to enable the partners in alliance to achieve their own goals and meet the expectations of other organisation(s) (Larson, 1992). “Norms” implies stability and reliability of organisational activity, such that both parties know what is expected/to expect in a given exchange. Norms may be overtly expressed in agreements or protocols or may be covert. If covert, a norm can be inferred when each organisation in alliance gives a concordant account of expected activities of all partners. It can be reasoned that “norming” processes accompany, and, perhaps, precede, the emergence of trust.

Powell (1990) proposes that networks are an alternative form of organisation with a distinct approach to governance characterised by a “heavy reliance on reciprocity, collaboration, complementary interdependence, a reputation and relationship basis for communication, and an informal climate oriented toward mutual gain” (p 77). Larson (1992) found that organisations engaged in relatively stable relationships “were governed in important ways by social controls arising from norms of trust and reciprocity” (p 98). Furthermore, Larson claims that “governance was explained in large part by understanding the subtle control of interdependent and self-regulated players engaged in, and committed to, mutual gains” (p 98). Thus, Larson raises the prospect of networks being governed, to a large extent, by informal social “norms”. Achrol (1991) proposes that norms are particularly important in systems such as networks where the “goals are open-ended and long term” (p 89). Furthermore, “one of the most important norms for maintaining system compatibility is ‘sharing’ as opposed to ‘dividing’ benefits and burdens” (p 89).

The research tasks to be addressed are to 1) define the norms of practice that govern alliances involving generalists and specialists in the health industry, and 2) describe any
differences in the governance of alliances involving small business generalists and specialists and alliances involving small business generalists and public sector health agencies.

A perception of fairness in the sharing of costs and benefits is consistently identified in the literature as an essential requirement for alliance maintenance. Fairness is a perception or judgement arrived at by an individual or a group on the basis of the delivery of a set of expected behaviours, or norms. If the expected behaviour is not maintained, an organisation will conclude that the norms have been violated. Where norms of practice are violated, alliance partners are likely to distrust one-another and believe that they are being unfairly dealt with. Ganesan (1994) found that in buyer-seller partnerships, delivering as expected in terms of expertise and other measures of performance was associated with the development of trust. This should be contrasted, for instance, with perceptions of the partner's good-intentions, which do not correlate with trust. Gulati (1995) found that trust develops over time supporting the hypothesis that "familiarity breeds trust" (p 105). Furthermore, over time, "firms appear to substitute trust for contractual safeguards in their repeated alliance" (p 105), suggesting that trust influences methods of coordination. However, for trust to develop, timely feedback as to the actions of alliance partners, a frequent norm of practice, must be maintained.

According to exchange theory, feedback concerning the outcomes of an exchange is an essential element in the realisation of rewards. Furthermore, Homans (1974) proposes that "the shorter the interval of time between the action and the reward, the more likely the person is to repeat it" (p 17). Additional support concerning the importance of feedback comes from coordination theory (Mintzberg, 1983; Galbraith, 1974; Thompson, 1967). According to coordination theory, mutual adjustment is the most appropriate method of coordination for situations involving reciprocal workflow interdependence and complex problem-solving. Feedback is central to effective coordination by mutual adjustment (Thompson, 1967) and is an essential component of any self-maintaining system. It is clear that feedback by a variety of communication channels is an activity which links
interdependence, satisfaction and norms of practice. The most direct and influential feedback is information on the costs and benefits of exchange activity related to the productive goals of the organisation. In addition, verbal feedback strengthens exchange activity by providing information on alliance partner perceptions, plans and future intentions. Feedback approaches and technologies are an important aspect of alliance maintenance.

RELATIONSHIPS BETWEEN VARIABLES

Having identified the variables important to my framework, I now discuss the relationships between these variables and develop propositions against which empirical findings can be examined. In addition, operational hypotheses are developed which draw on examples from regional health care delivery networks as outlined in the relevant section in the literature review. These hypotheses provide a basis for analysing quantitative data gained by survey from two randomly selected samples of general practitioners representing two regional networks with different task-technologies within the same industry environment. While the organisations of relevance have been described in the previous chapter, they are introduced again for purposes of clarity.

Corporate actors of relevance to this thesis include small business general practitioner firms, small business medical specialist firms, and public sector specialist hospital departments and health agencies staffed in the main by allied health professionals. Small business general practitioner firms provide services at the primary care level and treat a wide range of conditions, including people with diabetes mellitus and people with mental illness. The role of the general practitioner as "gatekeeper" for specialists services is legitimated under Medicare legislation and patient reimbursement payments. The objectives of the general practitioner firm are to generate sufficient revenue to survive and thrive. Under a fee-for-service payment system, this objective assumes the maintenance of a viable patient load. The latter is perceived by general practitioners as being dependent on satisfying the customer, maintaining control over his/her domain, having
access to appropriate specialist support, and having specialists return patients (Harris, 1992b: 177). As implied by their generalist role, general practitioner firms operate within several networks as defined by patient condition; the general practitioner is sometimes described as being "all things to all people".

Most small business medical specialists receive a large part of their funding on a fee-for-service basis. Hence, like general practitioners their goal is to maintain a viable patient load through establishing good working relationships with general practitioners and through satisfying their customers (Harris, 1992b: 183). However, medical specialists may also receive referrals from hospital outpatient departments and from specialist public sector health agencies (Figure 4, p 104). Medical specialist firms of interest in this thesis are those staffed by psychiatrists, and those staffed by physicians with specialist expertise in endocrinology.

Public sector specialist hospital units and health agencies are lodged within the bureaucracy of the regional health authority. The objectives of these authorities are to stay within budget, to provide adequate and safe services for the people within their region and to attract and maintain competent staff (Harris, 1992b: 187). Hence, the objectives of the specialist units and agencies are to a large extent determined by the regional authority and reflect the broad aims of the authority. They must live within an allocated budget. Furthermore, their survival depends on being seen to provide a specialty service which the population needs and which enhances the prestige of the health authority. This thesis is based on the assumption that the extent to which public sector agencies are involved in exchange relations with small business generalist and specialist firms depends on the extent to which they are perceived as a scarce and valued resource and the extent to which key decision-makers of the health authority perceive cooperation to be important (Pfeffer, 1978).
Satisfaction and organisational interdependence

“For all actions taken by persons, the more often a particular action of a person is rewarded, the more likely the person is to perform that action” Homans, 1974: 16).

Homans’ “success proposition”, (above), states that “an increasing frequency of reward leads to an increasing frequency of action. It is obvious that such an increase cannot go on indefinitely. It has its built-in limits” (p 17). In addition, this proposition implies that the less often an action is rewarded, the less often it is repeated. Furthermore, Homans’ “stimulus proposition” holds that “if in the past the occurrence of a particular stimulus (eg request for assistance), or set of stimuli, has been the occasion on which a person’s action has been rewarded, the more similar the present stimuli are to the past ones, the more likely the person is to perform the action or some similar action, now” (p 22-23).

Hence, exchange theory predicts that continuity in interorganisational cooperation is based on the rewarding consequences of alliance exchanges. Early and ongoing data on outcomes from alliance activity form the basis of judgements by the actors as to the costs and benefits of past actions (Bruce et al., 1995; Smith, Carroll et al., 1995; Limerick and Cunningham, 1993). These researchers also emphasise the importance of having a long term perspective with respect to assessing symmetry, or fairness, in the distribution of costs and benefits. Where alliance partners rush to a conclusion about outcomes they are likely to make errors in judgement, since the rewards may only distribute equitably over the long term.

In a study of the long-term orientations of vendor-retailer partnerships, Ganesan (1994) observed that satisfaction of retailers and vendors with past outcomes was significantly related to intentions to continue the partnership. Ganesan also found differences between retailers with a short term orientation to an exchange relation and retailers with a long term perspective. While those with a short term orientation were only concerned with immediate options and outcomes, retailers with a long term orientation were concerned with current and future outcomes.
This thesis is based on the assumption that the maintenance of an interorganisational alliance within a regional network is a dynamic, on-going, cyclical process, rather than a linear process, involving exchanges between the actors with each actor monitoring the costs and benefits of the exchange relationship and making judgements about future cooperation on the basis of the consequences of past actions.

With respect to exchanges involving general practitioners and medical specialists, social exchange theory predicts that general practitioners will have more exchanges with specialists who “reward” their request for assistance and who do not play hard-to-get or exact humiliating self-abasement from the general practitioner. This thesis is based on the assumption that the general practitioner sets a higher value on gaining support from the specialist (including the costs involved) than on not getting the advice from the specialist. For general practitioners, specialist advice not only assists them to care for the patient of current interest, but also, provides them with knowledge which they can employ with similar patients in the future. In this way the knowledge and skills of the generalist are constantly being upgraded. With growing specialisation and hospital restrictions on who can admit patients many generalists have become concerned that their role is fast becoming that of specialist referral agent. Furthermore, they believe that as a result of these trends they are losing valued expertise and their work is becoming less rewarding. Specialists, on the other hand, are most likely to respond positively when a request for action is followed by social approval. This thesis is based on the assumption that the specialist sets a higher value on responses which are accompanied by approval from the general practitioner than on responses which do not elicit general practitioner approval. According to exchange theory, costs for a general practitioner in seeking assistance from a specialist are the amount of approval behaviour required to gain help, and the possibility of the specialist refusing. For the specialist, the costs of exchange may include the time required to assist the general practitioner, travel costs, and the possibility of the general practitioner communicating poorly or aggressively.
Proposition 2:
Within a regional network in which the actors have the opportunity to select collaborators, actor satisfaction is positively associated with organisational interdependence.

From this proposition, it follows that in a regional health care network involving general practitioners, medical specialists and health professionals, that general practitioner satisfaction is likely to be higher with respect to exchanges with specialists and health professionals with whom they have had a high volume of exchange during the previous six months. The hypothesis which can test this relationship can be expressed as follows:

Hypothesis 2: Generalist satisfaction with a specialist firm varies significantly with volume of exchange.

Exchange theory predicts that differences in rate of exchange will occur as a result of status differentials. In particular Homans (1974) maintains that people behave differently in relation to status differentials associated with work place exchanges and status differentials associated with personal exchange networks. With respect to work associated exchanges, people “interact often with, and express approval or respect for, others who are 'better' than they are in the services they perform” (p 317), whereas at the personal level, people interact more with and prefer the company of people “who are approximately their equals in the public sphere” (p 317-318). Furthermore, Homans proposes that, within status categories such as psychiatrists and health professionals (eg social workers and psychologists), “approximate equals tend to seek one another out” (p 318). However, this is not the case across status categories. In this situation, Homans proposes “that the persons who wanted least contact with the other group were the low status members of the high-status group (psychiatrists) and the high status members of the low status group (the psychologists and social workers)” (p 316). This proposition appears to run counter to Homans' prediction that “a person established as another's equal hesitates to take any step that might suggest his/her inferiority to the other” (p 316).
However, it seems that once superiority/inferiority has been clearly established by some external social structure, such as professional status, there is no such hesitation.

The three types of organisation of interest in this thesis are professional groups of different social status; medical specialist firms occupy the highest social status and general practitioner firms stand between allied health professionals and medical specialists. This situation provides rich soil for qualitative research. Resource dependency theory suggests medical specialist firms may seek to gain greater market security by not being overly dependent on any one referral category. Hence, medical specialists could be expected to be as dependent on hospital units and health professional agencies as they are on general practitioners. Furthermore, social exchange theory supports the notion that medical specialists and health professional agencies will have a substantial volume of exchange by maintaining that people belonging to widely separated status groups are more likely to develop exchanges than people of proximate status groups.

**Organisational interdependence and compliance with norms of practice**

Two important dimensions for the measurement of interdependence are degree of interdependence and the nature of the interdependence. Both dimensions influence the norms of practice applying to interorganisational cooperation and compliance with norms of practice by exchange partners. With respect to degree of interdependence, Homans (1974) claims that “the more valuable the result of his/her action, the more likely he/she is to perform the action” (p 25) suggesting that the more important the exchange relationship, the more likely a person is to comply with behaviours associated through prior experience with gaining rewards from the relationship. Furthermore, the more resources that an actor has invested in an exchange relationship, the more valuable it is, and the more willing the actor to comply with expected norms of practice in order to protect his/her investment. At the organisational level, this proposition is supported by the findings of Alexander and Morlock (1994: 212-236). These researchers found that in situations of high interdependence and “where the incentives to work together and
coordinate activities are tantamount to organisational success” (p 219), there is less political activity associated with exchange negotiations than in situations of high interdependence but less incentive to cooperate.

**Proposition 3:**
Within a regional network in which the actors have the opportunity to select collaborators, degree of organisational interdependence is positively associated with compliance with norms of practice regarding methods of coordination and the development of trust.

Applying this proposition to the regional health care delivery network, it is expected that degree of organisational interdependence between small business generalist and specialist firms will vary according to how exchange partners comply with norms of practice. The Medicare Benefits Book (Commonwealth Department of Health, Housing, Local Government and Community Services, 1993), a study of referral practices, and the practice of shared care give some indication of the norms governing exchanges between general practitioners and medical specialists in Australia. The Medicare document indicates that, when referring a patient “the instrument of referral must be in writing by way of a letter or note to a specialist or to a consultant physician and must be signed and dated by the referring practitioner” (p 5). Expectations include: 1) that the referring practitioner has turned his/her mind to the needs of the patient and communicates relevant information to the specialist, 2) that the instrument of referral must be in writing and must be signed and dated, and 3) that the specialist to whom the referral is made must have received the referral letter/note on or prior to the occasion of service to which the referral relates (Commonwealth Department of Health, Housing, Local Government and Community Services, 1993:5). Under law, a general practitioner can be charged with negligence if he/she “treats a patient in circumstances where he/she does not have sufficient skill or experience and fails to refer, or perceive the need to refer, the patient to another more skilful or experienced practitioner” (Dix, Errington et al., 1988: 245). Furthermore, failure to act on the advice of the other practitioner may indicate negligence. In addition, the law requires that a referring doctor, whether generalist or specialist, “give
adequate warnings and instructions to the new practitioner” (p 246). A study by Wright, Parker et al., (1993) found that 80 per cent of psychiatrists who responded to their survey, provided feedback after the initial assessment interview for at least 75 per cent of referrals. Fifty per cent of psychiatrists reported providing feedback by letter, 35 per cent by telephone and/or letter, and 4 per cent by telephone alone. With respect to the information provided as feedback, two-thirds of psychiatrists included history, diagnosis and management details, 9 per cent provided only a brief summary and 0.5 per cent noted only whether they had accepted the patient for treatment. The practice of shared care indicates that the actors have developed either a formal or informal understanding about the way in which they will manage their exchange relation. Two hypotheses which can test the relationship between organisational interdependence and compliance with norms of practice are as follows:

**Hypothesis 3:** Volume of exchange between generalist and medical specialist varies significantly with specialist compliance with norms of practice (the more the specialist - individual or firm - complies with norms of practice governing exchanges the greater the volume of exchange between generalist and specialist).

**Hypothesis 4:** The volume of exchange between generalist and health professional agency is positively associated with the provision of feedback by specialist agencies.

In the health industry, interdependence between small business general practitioner firms and medical specialist firms is reciprocal. However, with respect to interdependence between private sector providers and public sector providers, the resource interdependence is mixed. Private sector providers expect revenue generation, and the expected outcome for public sector providers is cost reduction. Medicare legislation addresses the governance of exchanges between generalist and specialist doctors but it says little about the governance of exchanges involving general practitioners and public sector specialist agencies. This observation supports coordination theory with regard to methods of coordination required to manage reciprocal interdependence and pooled interdependence. For example, Zajac and D'Aunno (1994) maintain that “one might expect that the alliance motivated by the desire to increase patient volume would require
substantial coordination, given that there is reciprocal interdependence between the partners. In the case of the cost-sharing alliance, one would likely observe a combining of similar resources requiring less active coordination, given that there is a pooled interdependence among the partners” (p 281-282).

The literature indicates that familiarity of the parties is likely to influence the nature of the norms of practice governing alliances. For example, Gulati (1995) concludes that familiarity in an exchange relationship may lead to liking (Gulati, 1995), thereby, increasing the rewards associated with the exchange relation and making negotiations easier. Like propinquity, familiarity provides a necessary condition for friendliness, or liking, to emerge. Ganesan (1994) found that retailers with a long term orientation relied on relational exchanges to maximise their gains over a series of exchanges. This finding is consistent with the proposition of Ring and Van de Ven (1994) that as an interorganisational relationship matures, the personal relationship becomes as important, or even more important, than the role relationship. The hypothesis which can test this proposition is as follows:

Hypothesis 5: Volume of exchange between generalist and specialist - individual or firm - varies significantly with familiarity of the principals (the greater the number of years the generalist has exchanged with the specialist the greater the volume of exchange).

Compliance with norms of practice and satisfaction

Ganesan (1994) observed that three factors explained 75 per cent of the variance associated with a retailer's long-term orientation toward a relationship with a vendor. These factors were perceptions of the trustworthiness of the vendor, perceptions of dependency and satisfaction with exchange outcomes. This observation is consistent with Homans' claim that while measured satisfaction is important, it must be considered in the light of what people actually do. (Homans, 1974: 227).
Trust is apparently a determinant of continuity in an alliance (Korsgaard, Schweiger et al., 1995; Gulati, 1995; Ganesan, 1994; Ring and Van de Van, 1994; Limerick and Cunnington, 1993). The findings of Ganesan (1994) are of particular interest because they distinguish between two elements of trust, namely, trust as a sentiment or belief in the good intentions of a partner, and trust as experience, specifically, whether the partner has delivered as expected in terms of “expertise and reliability” (p 40). It would seem that interorganisational trust has little to do with the first of these elements, namely, a belief in the good intentions of the other partner.

**Proposition 4:**

Within a regional network in which the actors have the opportunity to select collaborators, compliance by the partners with norms of practice is positively associated with satisfaction with an exchange relation.

Homans' “success proposition” predicts that a general practitioner will initiate requests for advice from a specialist who, in the past, has rewarded him/her in relation to such requests. Similarly, a specialist will respond favourably to requests for assistance from a general practitioner who, in the past, has made such requests in a manner rewarding to the specialist. Delivering as expected in terms of expertise rewards the purchaser and builds trust (Ganesan, 1995). Of particular concern to general practitioners is the return of patients by specialists (Harris, 1992b: 177). Under a fee-for-service system, there is a financial incentive for a specialist to “take-over” the care of a patient and a social incentive to refer-on an “interesting” patient to a high-status colleague. For the referring general practitioner, this action is interpreted as “opportunism” (Williamson, 1975: 254). One of the motivators for alliance formation is to strengthen the financial security of the organisation through ensuring access to markets. In the case of general practitioner firms, this means access to patients and the non-loss of patients. It is likely that general practitioners will establish alliances with specialists on the expectation that the specialist will return patients to them. A hypothesis which can test the proposition that satisfaction with an exchange relationship is positively associated with compliance by the partners.
with agreed norms of practice, namely the return of patients to general practitioners by medical specialists is as follows:

Hypothesis 6: The percentage of patients returned for on-going care is positively associated with generalist satisfaction with the care provided to patients by medical specialists.

According to exchange theory, feedback, about exchange outcomes is essential for organisations to keep abreast of rewards and costs. Furthermore, Homans (1974) proposes that “the shorter the interval of time between the action and the reward, the more likely the person is to repeat it” (p 17). Presumably a similar relationship exists between feedback and organisational commitment to future exchange. Additional support concerning the importance of feedback comes from coordination theory (Mintzberg, 1983; Galbraith, 1974; Thompson, 1967). Coordination by mutual adjustment, which relies on feedback, is the most appropriate method of coordination for situations involving complex problem-solving. Exchanges between general practitioners and medical specialists address issues which require complex problem-solving. Frequently, the illness has a complex social dimension and several health care providers cooperate to meet the needs of the patient. Eyers, Brodaty et al., (1994) found that among doctors referring to a tertiary referral mood disorder unit, 74 per cent were satisfied with their contact with the unit. Three sets of factors accounted for 63 per cent of the variance in satisfaction, namely, technical competence (39%), communication (provision of feedback and quality of the information) (15%), and access to care (9%). A further hypothesis which can test the proposition that satisfaction with an exchange relationship is positively associated with compliance by the partners with agreed norms of practice is as follows:

Hypothesis 7: The percentage of patients for whom the generalist receives feedback from specialists (medical firm or health professional agency) is positively associated with generalist satisfaction with communication.

Homans' (1974) rule of “distributive justice” is particularly interesting with respect to exchanges between specialist consultants and general practitioners. The principle is that
“if two people are equal, they should, in justice, receive equal rewards; if one is better than the other, the better should receive the larger reward” (p 249). In determining the measure of a person, Homans (1974) maintains it should include what a person invests and what a person contributes to an exchange. On the basis of distributive justice it is not enough for a medical consultant to be expert in his/her field. Such a person, will also be expected to “devote his/her expert knowledge to the services of others” (Homans, 1974: 346). Hence, a high level of dissatisfaction is likely to be expressed by general practitioners towards a consultant who is known to be competent, but, who responds poorly to requests for assistance.

**PRACTICAL AND THEORETICAL CONTRIBUTION**

The systems framework outlined in Figure 5, seems to be a new formulation of salient variables which are identifiable in the theoretical and applied management literature bearing upon the study of interorganisational cooperation. This framework has been developed using social exchange theory, coordination theory, the constructs of network analysis, and empirical research which addresses interorganisational cooperation. It contributes to management theory by providing a framework for research in a complex field and for predicting conditions under which alliances are likely to continue.

In addition, the model offers a testable basis for analysis of alliances within regional networks of exchange relations across a range of industries and cultures. Furthermore, because it takes into account situational factors influencing alliance maintenance, it should hold over time and does not seem to be limited to any particular location (Whetton, 1989).

Its theoretical contribution includes theory application and theory building. The framework applies social exchange theory, network analysis and coordination theory in new ways and provides opportunity to confirm or otherwise the utility of these paradigms in the field of alliance maintenance. In addition, the thesis contributes to theory building with respect to the central role played by compliance with norms of practice which govern established and mutually satisfying alliances.
In the 1990's alliance maintenance is of topical interest in all industries. It is particularly important in the health industry at a time when all providers are being asked to do more with less. Well functioning alliances provide the opportunity to achieve an effective balance between differentiation, associated with the need for specialisation, and integration without the morale problems associated with cooptation and large bureaucracies.

The systems framework presents an alternative to the traditional linear approach to the empirical study of alliances. This model requires analysis to be undertaken at the level of interorganisational alliance and at the level of the network. Furthermore, the nature of the variables entered into the model and the inter-activity of the model between variables and between levels of analysis suggest a need for the collection of both quantitative and qualitative data by the use of a multiple-methods approach. The case study method appears well suited to this task.
5. RESEARCH DESIGN AND METHODOLOGY

This research employs a case study design to address the question "Are alliances maintained by organisational interdependence, satisfaction with the exchange relationship, and compliance with 'norms of practice'?" Data gathering and analysis occurs at two levels, namely, the network and the alliance. A research design is required which accommodates both levels of analysis. The case study design has been selected in preference to an experimental design because of the complex nature of exchanges between generalist and specialist firms in the health industry. In such circumstances an experimental approach would distort reality and is likely to be strongly resisted by the relevant parties. The case study design provides a useful structure for a study of these phenomena, deriving its validity from multiple data sources using multiple modes of collection to develop a chain of evidence concerning the research question.

The study defines the network within which informal generalist-specialist alliances are embedded as the case and two patient care networks within one urban region are examined in detail. In addition, limited evidence is gained from two further service provider networks selected on the basis of location.

This Chapter describes the research design and restates the theoretical propositions and operational hypotheses. The latter relate to the analysis of quantitative data arising from a randomised survey of generalists within the two urban networks. By employing formal hypotheses the aim is to gain an in-depth perspective of the dynamics of the maintenance of informal alliances within the two regional networks under consideration by maximising the analytic power won through randomisation. There is no claim that any other control of networks has been gained, nor that the findings are generalisable in a formal, quantifiable way, to other networks.
In addition, questions are formulated to guide the analysis of qualitative data concerning industry environment and patterns of exchange within each network. The sources of data and the methods used for data collection are described within the framework of developing a chain of evidence. Methods used to manage and analyse the qualitative and quantitative data are outlined. The hypotheses are presented within the section of the Chapter that describes data analysis. Finally, strategies designed to enhance the validity and reliability of the study are outlined.

**RESEARCH DESIGN**

The systems framework developed in Chapter 4 and depicted in Figure 5 (p 147) guides the research design. This framework assumes that alliances involving generalist and specialist organisations occur within the context of a regional health network. The network of service provider organisations is reasonably visible and accessible. The research decision was therefore made to identify and access the regional network in the first instance. It was assumed that within the network some organisations would be in alliance and others would not. The challenge for the researcher was to measure interorganisational activities at the network level so as to throw light on the second level of analysis, namely, the alliance.

**Case study research**

Case study research frequently involves participant observation and the collection of a large amount of qualitative data from various sources in order to develop a chain of evidence concerning a study's theoretical propositions (Yin, 1989). Participant observation is difficult when the units of analysis are the network and organisational alliance. My research design seeks to achieve a comparable outcome through interviews with key informants, focus groups, workshops and by coopting key organisational representatives to work closely with the researcher during the twelve months of the data collection period. However, there is a trade-off in that it was apparent from the outset of the study that the cooperation of these organisational representatives demanded a research
design which accommodates the provision of feedback. The case study design meets this ethical obligation and provides opportunity for participant validation.

Quantitative data is sought by conducting a randomised controlled survey of generalists and supporting specialists within the two urban networks. The purpose of the survey is to expose alliances within networks and to gather quantitative data relevant to the propositions supporting my systems framework. The contribution of the survey is to permit the researcher to specify with considerable confidence the relationship between variables predicted to be associated with alliance maintenance.

**Theoretical propositions**

Four propositions support my systems framework. For purposes of clarity these propositions are restated in Table 6.

**Table 6: Research propositions**

| Proposition 1: | - degree of alliance activity is positively associated with organisational interdependence; |
| Proposition 2: | - level of actor satisfaction is positively associated with organisational interdependence; |
| Proposition 3: | - degree of organisational interdependence is positively associated with compliance by the partners with norms of practice governing exchanges; |
| Proposition 4: | - compliance by the partners with the norms of practice governing exchanges is positively associated with level of satisfaction with an exchange relation. |

**Situational factors requiring consideration**

According to the literature and my theoretical framework, situational factors are likely to influence relationships between the key variables arising from the propositions concerning alliance maintenance. The likely effects of these situational factors have been
discussed in Chapter 4. Among the contextual factors which may influence alliance maintenance are:

- the location of the network;
- the type of medical condition;
- organisational funding arrangements (whether fee-for-service or allocated budget);
- the size of the network;
- status differentials among network members and the distribution of power;
- established patterns of exchange among network members.

My research design does not seek to exert control over any of these situational factors. Rather it describes the network within which established alliances are discovered to explore the influence of these factors on alliance maintenance drawing on quantitative and qualitative data. A number of questions have been framed to guide the collection and analysis of data pertaining to describing each network (Table 7).

**Table 7: Questions guiding the collection and analysis of data relevant to describing each network**

<table>
<thead>
<tr>
<th>Industry environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>How does industry environment as defined by location (rural/urban/capital city) influence observed generalist-specialist alliances?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>How does medical condition (diabetes mellitus/mental illness) influence observed generalist-specialist alliances?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mediation of flow of resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within a network, do particular exchange categories mediate the flow of resources?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Funding arrangements</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do alliances involving public sector and private sector organisations differ from alliances involving only private sector firms?</td>
</tr>
</tbody>
</table>
Key variables by level of analysis

Among the challenges of case study research is the analysis of data collected from multiple levels. For example, data collected at the level of the individual is frequently aggregated to provide an organisational response and further aggregation provides network level data. In this study, the decision was taken to collect data from individual generalist doctors by questionnaire and interview. This data would be analysed at the level of the individual. In addition, this data would be aggregated to 1) explore differences between categories within a regional network, and 2) examine across-network differences. A similar process would be followed with the data collected by interview from specialists and managers.

The issue of level of analysis is particularly pertinent in this study because of the nature of the organisations represented within the regional health networks and the nature of generalist-specialist exchange relations. For example, private sector medical firms, are in the main, very small organisations. Exchanges between generalist and specialist doctors mainly occur at the level of the individual. However, these individuals are predominantly owner/managers with a very keen interest in the financial welfare of their business. Hence, in responding to questions about alliances they are likely to provide a “personal” and an “organisational” perspective. Exchanges involving small business medical firms and public sector organisations, once again, are most likely to occur at the level of the individual. However, because public sector agencies are part of a larger bureaucracy, professionals within these organisations are more likely to be influenced by the formal and informal rules governing the bureaucracy and/or agency. Hence, they may be less likely to provide a personal response. In discussing the findings emanating from these various groups, the likely impact of these factors will be considered but no attempt will be made to separate individual and organisational response. Figure 6 summarises the key variables for each level of analysis in a manner consistent with my systems framework (Figure 5, p 147).
Figure 6: Key variables for a study of alliance maintenance within a regional network

- Industry Environment
  - Location

- Regional Network
  - Medical condition/diabetes/mental illness
  - Funding arrangements/private/public sector
  - Patterns of exchange
  - Level of alliance activity

- Alliance Maintenance
  - Volume of exchange
  - Satisfaction with communication & patient care
  - Compliance with norms of practice:
    - feedback
    - return of patients
    - familiarity
  - Number of actors
  - Domain consensus
  - Status differentials and the distribution of power

Units of analysis

Table 8 operationally defines network and alliance along with the other core units of analysis. Table 9 provides a similar summary of the structural and environmental units of analysis.
### Table 8: Core units of analysis operationally defined

<table>
<thead>
<tr>
<th>Unit of analysis</th>
<th>Operational definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Actor</td>
<td>- An individual or a private business firm or public sector agency capable of receiving reinforcement from its environment (Turner, 1991: 560).</td>
</tr>
<tr>
<td>• Alliance</td>
<td>- An arrangement with another provider organisation involving either a verbal informal understanding or a formal written agreement concerning the management of exchanges (&quot;shared care&quot;).</td>
</tr>
<tr>
<td>• Exchanges</td>
<td>- Business exchanges between actors, including, written and verbal communications and patient referrals.</td>
</tr>
<tr>
<td>• Exchange category</td>
<td>- &quot;The set of all actors who possess the same resources and value the same resources to be received in exchange&quot; (Cook, 1977: 69), for example general practitioner firms, medical specialist firms and public sector health professional agencies.</td>
</tr>
<tr>
<td>• Exchange network</td>
<td>- A regional patient care network of generalist and specialist organisations each of which has opportunity to conduct exchanges with other organisations in the set.</td>
</tr>
<tr>
<td>• Exchange relations</td>
<td>- Patterns of ties that connect different actors to each other, forming a network of relations (Turner, 1991: 565).</td>
</tr>
<tr>
<td>• Familiarity</td>
<td>- The length of time that a general practitioner and a specialist have engaged in exchange with one-another.</td>
</tr>
<tr>
<td>• Norms of practice - feedback and trust</td>
<td>- Actions expected of actors when exchanging with other actors in the network. Two norms of practice are measured, viz., provision of feedback and return of patients. For generalists, the latter is a measure of the extent to which a specialist can be trusted.</td>
</tr>
<tr>
<td>• Compliance with norms of practice</td>
<td>- A judgment by a general practitioner concerning specialists in the network in respect of feedback and return of patients.</td>
</tr>
<tr>
<td>• Organisational interdependence</td>
<td>- The volume of exchange between actors and between exchange categories.</td>
</tr>
<tr>
<td>• Satisfaction-dissatisfaction</td>
<td>- An actor's judgment about the rewards and costs of exchange with other actors.</td>
</tr>
</tbody>
</table>
Table 9: Environmental and structural units of analysis

<table>
<thead>
<tr>
<th>Unit of analysis</th>
<th>Operational definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental</td>
<td></td>
</tr>
<tr>
<td>• Location</td>
<td>Three regional network locations are relevant: disadvantaged rural; representative urban; resource rich capital city.</td>
</tr>
<tr>
<td>• Methods of remuneration</td>
<td>Three methods of remuneration are relevant: fee-for-service, salary, and public hospital sessional payments.</td>
</tr>
<tr>
<td>• Task technology</td>
<td>Task technology is inferred from patient condition (i.e., mental illness or older-onset diabetes).</td>
</tr>
</tbody>
</table>

| Structural       |                        |
| • Domain consensus | The extent to which there is agreement within a network concerning the functions of the various actors. |
| • Level of alliance activity | The prevalence of alliances within a network and between exchange categories. |
| • Network size   | The number of organisations in a specified network: the generalist and specialist organisations for care of people with mental illness or with older-onset diabetes respectively within a region. |
| • Patterns of interdependence: |                        |
| - Centrality     | The extent to which an exchange category mediates the flow of exchanges within a network as measured by 1) frequency of contact with all other exchange categories; 2) number of other positions with which an actor is connected; and 3) the extent to which the location of an actor provides opportunity to control the flow of exchanges. |
| - Directionality | The direction in which resources flow through a network, i.e., whether the flow is one-way or reciprocal. |
| - Volume         | The volume of exchange activity between actors as measured by participant-estimate of the frequency of contacts within a six month period. |
| • Status differentials | Differences in social status as measured by years of training associated with discipline and qualifications of a particular exchange category. |
Three environmental and structural units of analysis deserve attention in data gathering, since the literature suggests that each is responsible for some of the variance associated with alliance maintenance.

Geographic "location" is likely to have a substantial influence on the ability of organisations within a network to access external resources (Levine and White, 1961) with the local availability of health resources diminishing as the network becomes more rural (Harris, 1992b; Stocks, 1994).

The ability of an organisation, or exchange category within a network of exchange relations, to influence the mediation of resources addresses the issue of organisational power and dependence. The measure used in this study to explore organisational ability to mediate the flow of resources is centrality which may be estimated using several dimensions, namely, "degree", "direction", "connectedness", and "location" (Brass and Burkhardt (1992: 201).

Degree, or level of activity is calculated from the frequency of reported contacts that a focal exchange category has had with all other categories in the network during the previous six months. Following Brass and Burkhardt (1992: 201), this number is divided by $n - 1$ (where "n" is the number of exchange categories in the network).

"Frequent" contacts are given a score of 3 and are those which occur weekly, "occasional" contacts are given a score of 2 and are those which occur on a monthly basis while rare contacts are those which occur less than monthly.

The "direction" of exchange relations concerns the flow and sequence of resources exchanged, namely whether the flow of resources is in one direction or reciprocal (Turner, 1991: 553).

Two actors within a network of exchange relations are "connected" if the frequency or magnitude of the transactions with one party is contingent upon exchange with another
party (Cook, 1975). The parties are said to be “bilaterally negatively connected” if they are linked by an “inverse function such as an increase in the frequency or magnitude in one exchange leads to a decrease in the frequency or magnitude of exchange in the other (or vice versa)” (p 69). The “location” of an exchange category within a network of connected relationships may also indicate the extent to which the category influences the flow of resources. “Where network organisations are engaged in the delivery of multiple, differentiated services to clients, an organisation at the centre of the referral flow, namely, one to which all clients must be referred, may gain power over those at the periphery” (Benson, 1975: 233). The focus of measurement in this study is not on mathematically derived, graphic determinations of centrality but on the flow and volume of exchange between exchange categories and the extent to which any particular exchange category is situated at the centre of this flow. In this study, qualifications and years of experience are used as a measure of status.

ESTABLISHING A CHAIN OF EVIDENCE: SAMPLE SELECTION AND METHODS OF DATA COLLECTION

The research process involved six stages of data gathering and participant feedback. The first was a preparatory stage to develop the research protocol and the instruments for data collection and to define alliances and norms of practice governing exchanges among generalists and specialists. Following this activity, a pilot study was conducted of alliance maintenance within a small network of rural service providers. These two activities enabled the ground work to be done to conduct a randomised controlled survey of general practitioners and to identify two patient care networks within one health region. The survey was conducted to provide comparative data on exchanges and alliance activity within each network. In addition, interviews with generalists were conducted to explore the “hows” and “whys” of alliance maintenance from the generalist’s perspective and interviews were held with specialists within the two networks to gain their perspective. Workshops were held with participants and key people to feedback the findings, thereby, providing a forum for participant validation.
Interviews with managers provided data on the concerns and strategies of each exchange category with respect to the two networks. Finally, a focus group was conducted with general practitioners in a well resourced city health region to explore the influence of location on alliance maintenance. The sample selection and methods of data collection are described according to the sequence outlined in Table 10.
Table 10: Establishing a chain of evidence: stages of data collection

1. Preparatory
   - Research protocol developed
   - Exploratory consultations and focus group
   - Health regions selected
   - Research Reference Group established
   - Instruments prepared and tested for validity and reliability

2. Pilot study: rural regional network
   - To test the methodology including:
     • describing the network
     • exploring issues in alliance maintenance
     • trial-running the interviews with generalists, specialists and managers
     • trial-running the computer programs for data analysis and management

3. Survey of patterns of exchange within two networks in an urban region
   - To describe the industry environment
   - To describe and compare networks - patterns of organisational interdependence
   - To explore relationship between volume of exchange and satisfaction
   - To describe and compare alliance activity
   - To explore relationship between volume of exchange and alliance activity

4. Two-case comparative study - factors maintaining alliances in the urban region
   - To define alliances involving generalists and specialists
   - To describe norms of practice governing alliances
   - To examine relationships between variables supporting theoretical framework

5. Key informant validation and management strategies to enhance influence - two-case comparative study

6. Alliance maintenance in a city network
   - Focus group meeting with city-based generalists
   - Interviews with key informants
Stage 1: Preparatory

1. Research protocol

The study was guided by a research protocol which was written by the researcher and which included targets and time-line for achievement of data collection and data analysis and the generation of reports for participant validation and funding bodies.

2. Research management

The protocol was written in the form of a grant submission and was funded by the Department of Human Services and Health and by the New South Wales Health Department. Funding made it possible to employ a research assistant on a part time basis for twelve months to assist with literature search, the administration of mailed surveys and data entry. All aspects of the study were managed by the researcher including the formation of a Research Reference Group, negotiations with professional leaders, conduct of the survey, interviews and consultations and data analysis.

3. Identification of health regions

Three health regions were identified as potential sources of information because they were very different in terms of the availability of resources. The three regions were a rural region known to be disadvantaged in terms of access to services of all kinds, a well resourced city region and an urban region. The urban region is commonly described by planners as representative, based on broad socio-economic indicators and was selected for detailed study. The city region is known to be among the most advantaged health region in New South Wales, particularly, with respect to the provision of private psychiatrists and public sector mental health services (New South Wales Health Department, 1994).
4. Access to networks

The researcher established a Research Reference Group to provide advice on the study process and to assist the researcher to gain access to the networks. In each region the researcher gained access to general practitioners through the relevant Division or Association of General Practice. In each case the respective Executive Committee suggested the approach to be used in gaining the sample. In the case of small business medical firms, the doctor contacted was asked to represent the firm. With respect to hospital departments, the Medical Director or relevant Clinical Director was asked to provide information. In the case of health professional agencies, the approach was to the team leader.

5. Approach to bounding the network

A micro structural approach to bounding the network was employed (Alter and Hage, 1993: 299). The researcher first collected information by survey of general practitioners in order to set the boundaries of the network. In addition, the information gained from generalists was reviewed by key informants to determine whether all relevant organisations used for the care of patients with the chosen conditions had been identified. Inclusion and exclusion criteria were used in order to decrease the number of groups included in each network. Exclusion criteria was based on key informant judgments concerning the importance of the contribution made by an organisation to the network. Specialist inclusion criteria were as follows: 1) 20 per cent or more of responding general practitioners have nominated the specialist as one with whom they have an alliance, and 2) less than 10 per cent of responding general practitioners have nominated the specialist as one with whom they have an alliance. In this way two groups of specialists were gained, namely, those in-alliance with generalists and those not in-alliance.

Typically, private generalist and specialist medical firms are small (on average 2.5 doctors). Public sector specialist units and health professional agencies are also small (from 5 to 20 staff). However, the latter are located within the broad umbrella of a large
bureaucracy. In this study it was the public sector specialist operational units and agencies that were included in the sample rather than the administrative or policy level members of the regional health authority.

6. Instrument development

Four instruments were developed for data collection. They were 1) a questionnaire for survey of generalist firms, 2) a structured protocol on exchange variables for use in interviews with generalists, 3) an interview protocol for use with specialists, medical and non-medical, and 4) a protocol for use with managers.

• Questionnaire for survey of generalist firms (Appendix 1)

A review of literature identified the issues to be addressed in the questionnaire (Levine and White, 1961; Shortell, 1974; Kaluzny, 1991; Morrissey, 1992) together with the findings of an earlier study of general practitioner - medical specialist relationships conducted by the investigator.

In addition, a focus group was held with a group of six general practitioners to clarify the important issues for them in alliance maintenance. Questions were formulated on these issues together with response options in questionnaire format. Six senior general practitioners examined each item for relevance and comprehensibility to meet Bryman's (1989: 57-58) standard of face validity.

Two forms of questionnaire were prepared. One sought information on exchanges and alliances in relation to diabetes care while the second sought information on exchanges and alliances in relation to mental illness.

Closed ended questions were developed together with standardised reporting format for demographics, including, solo or group practice, methods of remuneration and to gain information about alliance activity (nominal scale data). Further questions sought information about patient referrals, feedback from specialists, the appropriate return of
patients, and the number of exchanges between the general practitioner and specialists during the past six months (ordinal scale data).

Questions on general practitioner satisfaction with exchange relations with the respective specialist exchange categories (eg private psychiatrists, health professional agency) employed seven point Likert (1952) scales. The respondents were asked to indicate their satisfaction on a range of options from very dissatisfied to very satisfied. These rating scales provided a single global rating for each issue (ie satisfaction with communications with the respective exchange category of specialists and similarly satisfaction with the care provided to referred patients). This provided opportunity for these two exchange satisfaction measures to be examined independently and as a summation of generalist satisfaction. In addition to questions about satisfaction with patient care and communications, the questionnaire asked about satisfaction with access to a number of exchange categories of specialists. This measure was examined independently of other measures of satisfaction.

Six norms of practice indicators were identified during the preparatory stage of the study, namely, the promptness and quality of the feedback received by the general practitioner, appropriate return of patients to the general practitioner, communication skills with patients, and the quality of treatments offered to patients. All six indicators were included in the questionnaire to assess their validity as measures of norms of practice governing exchange and to gain insight into the parameters of promptness of feedback, methods of feedback and to explore the meaning of “quality” feedback.

- **Face validity and reliability testing of questionnaire**

The questionnaire was pilot tested with the assistance of 16 general practitioners in three locations (city, urban, and rural) and modified as necessary. Comments by those involved referred to the relevance, read-ability and user-friendliness of the questionnaire. The external reliability of the questionnaire was tested by five experienced general practitioners with a three week interval between test and retest. This yielded a coefficient
of reliability of 0.76 (Spearman rho), an acceptable demonstration of the stability of the instrument over time (Bryman, 1989: 55). Internal reliability was not examined because no measures relied on the summation of a range of scores.

- Protocol to examine relationship between volume of exchange and generalist satisfaction and volume of exchange and length of time known - 'familiarity' - (Appendix 2)

To examine the relationship between volume of exchange and generalist satisfaction, seven point rating scales were developed for the two measures of satisfaction, namely generalist satisfaction with communications with specialists and generalist satisfaction with the care provided to patients by specialists. The scale provided options from very satisfied to very dissatisfied.

During Stage 2 of data collection, it was decided to address the question of whether length of time that a generalist and specialist had known one-another was associated with the volume of exchange between a generalist and a specialist. To test for this possibility, three further seven point rating scales were added to the interview protocol among which was a rating scale which asked the generalist to indicate the length of time that he/she had known the particular exchange partner (a few months to many years). The other two items addressed the extent to which the generalist respected the professional contribution of a specialist and the extent to which the general practitioner trusted the specialist.

- Interview protocols for survey of specialists, health agencies and managers

The pilot testing of the generalist questionnaire sharpened the issues which needed to be addressed in the survey of specialist firms and agencies. In each case a draft protocol was produced by the researcher and a senior specialist and the Research Reference Group examined each question for relevance and comprehensibility.
7. Establishment of a data base and report generation

A data base was established for storage of quantitative and qualitative data. The Statistical Package for the Social Sciences was used to manage the analysis of quantitative data. Qualitative data was managed using word processing software for text management. Reports were generated at the end of each stage of data collection, i.e., following the pilot study involving the rural region, the two-case study involving the urban region, and the survey of general practitioners in the city region.

Stage 2: Pilot study - rural regional network

The purpose of the pilot study was to trial all aspects of the methodology and to explore any additional factors relevant to alliance maintenance.

The region selected was a disadvantaged rural region known to have a high proportion of elderly people. Hence it was expected that the prevalence of diabetes mellitus would be comparatively high. Furthermore, the Region is known to rely heavily on general practitioners for the provision of health services. However, like most rural locations, supply of general practitioners is comparatively poor. Hence, it was expected that general practitioners in this location would value highly their relationships with medical and non-medical specialists and that the prevalence of alliance activity would be high.

Sample selection and data collection

Interviews were conducted with a convenience sample of six general practitioners. In addition, each general practitioner completed the survey questionnaire and the protocol to examine the relationship between volume of exchange and generalist satisfaction.

The interviews with general practitioners identified two resident specialist physicians and three visiting physicians. One physician met the criteria for inclusion as an alliance specialist and the other met the criteria for inclusion as a non-alliance specialist. Both were interviewed by the researcher. The interviews served to delineate the patient care
network which included the public hospital specialist unit and the one relevant specialist health professional agency in the region. The unit and agency were included in the study and representatives of these firms were interviewed by the researcher. In addition, the regional manager of the health authority was interviewed, recent reports and archives were consulted, and several artefacts were provided, namely, shared patient care protocols, and referral letters.

**Stage 3: Patterns of exchange within two urban regional networks**

1. **Survey of general practitioners**

The survey method was used with two samples of general practitioners to identify the specialist organisations in the network, examine the prevalence of alliance activity, the volume of exchange that generalists had with other organisations and the extent to which general practitioners were satisfied with exchanges with other organisations and exchange categories within the network.

- **Estimation of sample size and sample selection**

The sample size was estimated in the following manner:

1) The general practitioner population was known and finite (180). However, access to general practitioners was via the Division of General Practice which required that a sample of members be surveyed rather than the total population;

2) The sample had to provide for the study to validly measure the factors associated with alliance maintenance. That is, the sample needed to be representative of the population. This was achieved by randomly selecting from the total population and by stratifying proportionally according to sector or location of the small business practice;

3) The sample had to be large enough to establish the alliance activities of generalists;

4) Since the sample of specialists was to be gained from the generalists, the generalist sample had to be large enough to capture a sample of specialists who would reflect a broad range of specialist views and practices;
5) Since the data from generalists were to include data gathered by mail survey, the sample had to be large enough to accommodate loss due to non-response, calculated at 30-40 per cent. The sample required had to provide for analysis of data at two levels, namely for comparisons to be made between groups within networks and for across-network comparisons. As a guideline, two sample size calculations were undertaken, one for paired data and the other for comparison of independent means.

Concerning paired data, sample size estimation was based on the use of a two-tailed test at the 5 per cent level of a null hypothesis that there is no difference in population means (ie. \( m_0 = 0; z_\alpha = 1.96; z_\beta = -1.65 \)). Data from the Stage 2 study in the rural region indicated 1) that the true difference in means may be as much as 2.5 with respect to generalist satisfaction with exchange relations with medical specialists; 2) \( S_{d}^2 = 4.3 \), and 3) \( s_d = 2.07 \). Following Colton (1974: 142-144) the required sample size was estimated to be 9 or more pairs (Appendix 3).

The data from the Stage 2 rural study was also used to calculate the sample size required to compare independent means in the urban region based on the use of a two-tailed test at the 5 per cent level of a null hypothesis that \( m_1 - m_2 = 0 \). The pilot study indicated a mean of 3.6, a standard deviation of 3 and a confidence interval of 2.6 with respect to generalist satisfaction with health professionals. There was very little variation in response in terms of generalist satisfaction with medical specialists. Using this data it was calculated that an “n” of approximately 30 was statistically desirable for each network with a total “n” of 60 (Appendix 3). With data-loss anticipated at 30-40 per cent, a sample of 100 needed to be drawn.

The two generalist samples were derived from the data base of the Division of General Practice which was known to include 99 per cent of general practitioners within the region. A 55 per cent sample of the membership was selected (n = 99) and this sample was systematically divided into two groups (ie. 49 and 50) so that each general practitioner was asked to provide information about one patient care network. Hence, with an expected response rate of approximately 60 to 70 per cent this should provide for an 'n' of 30 to 34 in each group. General practitioners were divided into two groups to provide the two networks and to mitigate problems of “common method variance” associated with participant fatigue and similar methods of data collection in two patient care networks. All general practitioners were surveyed by questionnaire. In addition, from each group of general practitioners a subset of eight individuals were randomly selected for further interview. Hence, with an expected response rate of approximately 80 per cent this should yield a total of 13 interviews with general practitioners.
• **Administration of mailed questionnaire and measures used to address non-response bias**

The questionnaire was administered by mail to the two groups of general practitioners; one group was asked questions concerning exchange relations with specialists for the care of people with diabetes mellitus and the other group was asked questions concerning mental illness. The questionnaire was accompanied by a letter from the Chairman of the Division of General Practice indicating his strong support and encouraging general practitioners to respond.

To address problems associated with non-response bias, three reminder letters were mailed at two weekly intervals following the cut-off date for return. Following Dillman (1978), careful attention was also given to the total process of administering the questionnaire, including, the presentation and the accompanying correspondence which stated the aims of the research, the supporting bodies, the fact that the study had Ethics Committee approval from both the University and the Regional Health Authority, and notifying participants that they would be provided with feedback.

• **Interviews with general practitioners**

Before any personal contact was made by the researcher, general practitioners selected for interview received a letter of invitation signed by the Chairman of the Division of General Practice. Subsequently, the researcher arranged appointments by phone for a time suitable to the doctor. Interviews were held in the office of the respondent. Written records were kept of each interview. In addition, respondents were invited to participate in research workshops at which the findings from the survey and from interviews were to be reported.

In order to enhance the quality of the information gained from interview, respondents were encouraged to reflect on, and to speak freely about their experiences with alliances and the issues which they considered to be important. In addition, the respondent was
asked to complete the survey questionnaire and to complete the protocol to examine relationships between 1) volume of exchange and generalist satisfaction with specialists, and 2) volume of exchange and the length of time a generalist had known a specialist. At interview the general practitioner was asked to think of the specialist within the respective network with whom he/she had the highest number of professional exchanges during the last six months and to complete five rating scales in terms of that person. Later in the interview he/she was asked to think of a further specialist in the network with whom he/she had exchanges during the last six months and to complete a second, identical set of rating scales in terms of that person.

2. Survey by interview of small business specialist firms and public sector hospital units and health agencies

The second element which the study design had to incorporate was a data-gathering exercise with small business medical specialist firms and public sector specialist hospital units and agencies. It was an integral challenge to the study that the generalists and specialists in question should be linked in collaborative patient care activity. Accordingly, the general practitioner survey was completed before the specialist survey commenced. The specialist sample was derivative of the generalist sample, being those specialists whose names were provided by general practitioners.

• Sample selection

The survey of general practitioner firms produced two groups of specialists: one pertaining to the mental health network and one related to the network for care of people with diabetes mellitus. With respect to mental illness, a list of 18 psychiatrists, four public sector health agencies, two hospital units, and six private psychologists was produced. With respect to diabetes mellitus, a list of 16 physicians and one specialist health professional agency was produced. From the two groups of medical specialists seven psychiatrists and six physicians were selected for interview. Three specialists within each network met the criteria for inclusion as alliance specialists, and the others met the criteria for inclusion as non-alliance specialists.
All relevant public sector specialist units and agencies were included in the study and in the mental health network three private sector health professional firms were selected.

This list of organisations was examined by the Research Reference group to determine whether any relevant firms and agencies had been omitted. No omissions were found.

- **Data collection**

In conducting interviews with specialist firms a similar format was followed to that utilised with general practitioners. The Chairman of the Division of General Practice signed the letter inviting medical specialists to participate and the respective health authority manager contacted all specialists within the relevant health authority encouraging their participation. However, with respect to interviews with public sector health agencies, each agency chose to participate as a team rather than have the leader provide a representative response. Hence, the response from health agencies is an agency consensus.

3. **Other sources of data**

Recent reports and strategic planning documents were accessed and public sector referral records were consulted.

**Stage 4: Factors maintaining alliances - two-case comparative study**

The purpose of this stage of data analysis was to explore variations in definitions of alliance and norms of practice governing alliances within and across networks and to examine relationships between variables in the light of the theoretical framework developed in Chapter 4. Data for this stage of data analysis came from the mailed survey of generalists and interviews with generalists and specialists.
In addition, artefacts were provided in the form of treatment protocols and patient referral letters. The first were used by generalists and health professionals to facilitate alliance management with generalists and the second were provided by specialists.

**Stage 5: Key informant validation and comment**

1. **Participant validation**

Following analysis of the data from the two-case comparative study, two research meetings were held for people who had contributed. These research validation workshops were strongly supported by the cooperating Divisions of General Practice because they saw them as providing opportunity for improvements to be made in generalist-specialist collaboration. In other words, the cooperating Divisions of General Practice had an interest in research that was action oriented research (Prideaux, 1990). The first meeting involved participating general practitioners, medical specialists and academics with an interest in the study. The second meeting involved invited experts, participating health professionals, medical specialists and academics. Separate medical and health professional feedback sessions were held on the advice of the Research Reference Group. Doctors considered that discussion would be more open and honest between doctors in the absence of health professionals.

Each meeting was chaired by the Chairman of the Division of General Practice. Prior to the meeting, copies of the findings of the study were made available to participants. Each meeting began with the presentation of the findings by the researcher. Following the presentation, a panel of invited clinical and academic experts was asked to comment on the validity and utility of the findings. Open discussion was then invited by the Chairman. Participants were asked whether the findings reflected their understanding of exchanges within the regional health care network.
2. Interviews with chairmen of divisions of medicine and managers

The purpose of interviewing network leaders was to gain information about issues of concern to each exchange category and the strategies being employed to mediate the flow of resources within the relevant network.

Five managers were interviewed. These were the Chairmen of the Divisions of General Practice, Psychiatry and Medicine, the Coordinator of Community Mental Health Services and the Coordinator of the Diabetes Education Centre. Each leader was asked to represent the specialist organisation at interview.

Stage 6: Alliance maintenance in a city network

A focus group with city-based generalists was convened to explore issues in the maintenance of alliances involving generalists and specialists for care of people with mental illness in a well resourced inner city environment. It was reasoned that within this well-supplied city region, alliance activity and governance in both the private sector and the public sector could be different from urban or rural locations, especially in terms of competition for patients.

Under the auspices of the local Division of General Practice, 11 general practitioners were personally invited by the Chairman of the Division to participate in a focus group. A suitable venue was arranged together with an evening meal. A skilled moderator was used to facilitate the process and the investigator recorded the discussion. Participants also completed the general practitioner questionnaire utilised in the urban two-case survey to provide data on their network of specialist support for mental illness.

This survey of 11 city general practitioners produced a list of 30 psychiatrists, three mental health clinics and two mental health centres.
In addition to the meeting with general practitioners, the Chairman of the Division of General Practice, the Director of Mental Health Services and a senior psychiatrist were interviewed and recent reports were consulted.

**ANALYSIS OF DATA FROM ALL SOURCES AND INTERPRETATION OF FINDINGS**

**Data accumulation**

Six sets of data were collected over the course of this study. These were:

1) Texts of interviews and focus group meetings with general practitioners during the preliminary stages of the project. This data was used as the basis for questionnaire development;

2) Quantitative record and text record of interviews with general practitioners, specialists and managers from a rural region;

3) Quantitative data from a randomised survey of general practitioner firms within an urban region involving two networks and text record of interviews with general practitioners;

4) Quantitative and text data from structured interviews with specialists and managers from the same urban region and two networks;

5) Field notes of the proceedings of two research workshops;

6) Quantitative analysis and text record of focus group with general practitioners from a city network.

This data was accumulated from approximately 60 hours of interviewing, six hours of research workshops, and 78 completed questionnaires by generalist doctors.

**Analysis of qualitative data**

One of the aims of the study was to identify “norms” of practice associated with exchanges between generalists and specialists. Norms of practice were described in the urban two-case study together with common deviations from accepted practices. The
questions of interest were, “who deviated from the norm, why did they do so, and what were the effects of deviations upon exchanges”. Stage 1 of the study enabled the researcher to generate a list of factors important to generalists in the governance of exchanges with specialists. These factors included prompt, high quality feedback and patient satisfaction with the referral to the specialist. General practitioners had two concerns regarding patient satisfaction, namely, specialist communication with the patient and the quality of the treatment provided. To gain a clearer picture of the “norms of practice”, generalists were asked to nominate a specialist with whom they had an established satisfying relationship and to describe the characteristics of exchanges with the specialist in terms of the following:

- the promptness of the provision of feedback (a few days to longer than a month)
- methods of communication (fax, telephone, letter/memo, combination)
- the quality of the information (acknowledgment of referral to acknowledgment and saying what he/she did and why and what the generalist should do);
- the specialist's communication skills with patients as indicated by feedback from patients;
- the quality of the treatment offered by the specialist.

The compilation of this qualitative data provided a “norms of practice” bench-mark concerning the governance of exchange relationships.

A coding system was developed to facilitate the identification of themes and issues. This provided for the quantification of some of the results and the retrieval of verbatim statements useful for illustrating conclusions. Tables of verbatim statements were prepared according to exchange category and variable of interest. This simplified the examination of relationships and patterns arising from the multiple sources of data and also the process of pattern-matching, since the aim was to compare the qualitative findings with the systems framework for alliance maintenance developed on the basis of theory.
Analysis of quantitative data

Quantitative data in this study involve small numbers and tend not to conform with the assumptions underlying traditional statistical methods. Therefore, extensive use has been made of non-parametric methods of analysis. These methods tend to rely on tests of significance rather than the determination of confidence levels (Colton, 1974: 219-226). Non-parametric methods employed are 1) Spearman's correlation coefficient, 2) Wilcoxon matched-pairs signed rank test, and 3) the Mann-Whitney U-test.

The Statistical Package for the Social Sciences was used for analysis of the quantitative data and the following calculations were undertaken:

- Frequencies were used to display and inspect data;
- Spearman's correlation coefficient (Colton, 1974: 207-217) was used to 1) assess the reliability of the survey instrument employed to gain information from general practitioners, and 2) to examine within network associations between the following variables:
  - The percentage of patients returned to the generalist's care by specialists and generalist satisfaction;
  - The percentage of referred patients for which the generalist received feedback from specialists and generalist satisfaction;
  - Generalist volume of exchange and the percentage of patients for which the generalist received feedback.
- The Wilcoxon matched-pairs signed-rank test (Runyon and Haber, 1972: 263-264) was used to examine within network differences between high volume exchange relationships and low volume exchange relationships with specialists on five “soft” factors (listed below). In all cases volume of exchange was the response variable or dependent variable and the “soft” factor, the predictor or independent variable:
  - general practitioner satisfaction with communications with the specialist;
  - general practitioner satisfaction with the care provided to referred patients by specialist;
- the extent to which the general practitioner trusts the specialist;
- the extent to which the general practitioner respects the way the specialist practices medicine;
- the length of time that the generalist has known the specialist.

• The Wilcoxon matched-pairs signed-rank test was also used to examine within network differences between:

- generalist volume of exchange with in-alliance specialists and other specialists with volume of exchange as the response variable or dependent variable and being in-alliance the predictor or independent variable;

- generalist volume of exchange with medical specialists nominated as complying with norms of practice and generalist volume of exchange with other specialists with volume of exchange as the response variable or dependent variable and compliance with norms of practice as the predictor or independent variable;

- differences in generalist report of private sector and public sector specialist compliance with norms of practice (Ho - m [private sector] = m [public sector]; Ha - m [private sector] > m [public sector]);

- differences in generalist satisfaction with exchanges with private sector and public sector health professionals (Ho - m [private sector] = m [public sector]; Ha - m [private sector] > m [public sector]).

• The Mann-Whitney U-test was used to examine:

- across network differences with respect to the two urban region general practitioner samples, the null hypothesis being that both samples are drawn from populations with the same distribution and the alternative (two-tailed) hypothesis being that the populations from which the samples are drawn, are different (Runyon and Haber, 1972: 257-261);

- across network differences between the urban and city region mental health networks. This analysis was undertaken despite the city region sample being a convenience sample to facilitate description of similarities and differences associated with industry environment;
- within network differences between services received by generalists in-alliance with specialists and services received by generalists not in-alliance ("services received" were measured by the percentage of patients for which the generalist received feedback and the percentage of patients returned) (Ho - generalists in-alliance receive the same level of service from specialists as generalists not in-alliance; Ha - generalists in alliance receive better services (ie receive more feedback and have more patients returned) than generalists not in-alliance;

- within network differences in satisfaction between generalists in-alliance with specialists and generalists not in-alliance (Ho - the satisfaction of generalists in-alliance with specialists is the same as the satisfaction of generalists not in-alliance; Ha - generalists in-alliance with specialists are more satisfied with exchanges with specialists).

- The t-test for paired samples to examine differences in generalist satisfaction with private sector and public sector specialists within the mental health network.

Table 11 lists each of the seven hypotheses which arise from the four theoretical propositions supporting my systems framework together with the null hypotheses, the test statistic used to examine relationships between variables, and the instrument used to collect data and measure the phenomena.
Table 11: Hypotheses by test and measure used to examine relationships

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Description</th>
<th>Null Hypothesis</th>
<th>Alternative Hypothesis</th>
<th>Test Statistic</th>
<th>Instrument Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis 1: Volume of exchange between generalists and medical specialists varies significantly with alliance activity.</td>
<td>Ho $m_1 = m_2$; Ha $m_1 &gt; m_2$ (a one-tailed test); test statistic - Wilcoxon matched-pairs signed-rank test; instrument used General Practitioner Questionnaire: Questions 13 and Question 14 and Question 21 (Appendix 1).</td>
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<tr>
<td>Hypothesis 2: Generalist satisfaction with a specialist firm varies significantly with volume of exchange.</td>
<td>Ho $m_1 = m_2$; Ha $m_1 &gt; m_2$; (one-tailed test); test statistic - Wilcoxon matched-pairs signed-rank test; instrument used - protocol administered in interview (Appendix 2).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypothesis 3: Volume of exchange between generalists and medical specialists varies significantly with specialist compliance with norms of practice.</td>
<td>Ho $m_1 = m_2$; Ha $m_1 &gt; m_2$ (a one-tailed test); test statistic - Wilcoxon matched-pairs signed-rank test; instrument used General Practitioner Questionnaire: Questions 21 and Question 22 (Appendix 1).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypothesis 4: The volume of exchange between generalist and health professional agency is positively associated with the provision of feedback by specialist agencies.</td>
<td>Ho - there is no association between volume of exchange and the provision of feedback by health professionals; Ha - there is a positive association between volume of exchange and the provision of feedback by specialist agencies; test statistic - Spearman’s correlation coefficient; instrument used General Practitioner Questionnaire: Question 15 and Question 16 (Appendix 1).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypothesis 5: Volume of exchange between generalist and specialist firms varies significantly with familiarity of the principals (the greater the number of years the generalist has exchanged with the specialist the greater the volume of exchange).</td>
<td>Ho $m_1 = m_2$; Ha $m_1 &gt; m_2$ (one-tailed test); test statistic - Wilcoxon matched-pairs signed-rank test; instrument used - protocol administered in interview (Appendix 2).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypothesis 6: The percentage of patients returned to generalists for on-going care is positively associated with generalist satisfaction with the care provided to patients by medical specialists.</td>
<td>Ho - there is no association between the percentage of patients returned and generalist satisfaction with patient care; Ha - there is a positive association between the return of patients by medical specialists and generalist satisfaction; test statistic - Spearman’s correlation coefficient; instrument used General Practitioner Questionnaire: Question 19a correlated with Question 12 (Appendix 1).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypothesis 7: The percentage of patients for whom the generalist receives feedback from specialists (medical firm or health professional agency) is positively associated with generalist satisfaction with communication.</td>
<td>Ho - there is no association between the percentage of patients for whom the generalist receives feedback and generalist satisfaction with communication with specialists; Ha - there is a positive association between the provision of feedback by specialists and generalist satisfaction; test statistic - Spearman’s correlation coefficient; instrument used General Practitioner Questionnaire: Question 20a correlated with Question 11 and Question 20c correlated with Question 16 (Appendix 1).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
RESEARCH STRATEGIES TO ENHANCE VALIDITY AND RELIABILITY

One of the strengths of qualitative research is gaining an understanding of the context in which social phenomena occur. Limitations include problems of selective perception and the possibility of drawing hasty conclusions. By combining survey research with qualitative approaches to data collection, the researcher has sought to address, to some extent, the limitations of each method. Several strategies have been recommended for improving the quality of case study research which relies, in part, on qualitative data (Yin, 1989: 41). Each strategy seeks to address one of four research design tests. These include construct validity, reliability, internal validity and external validity. This study has sought to minimise the limitations of the approach employed by applying many of the strategies proposed by Yin. Table 12 summarises the strategies to address each design challenge.

Multiple sources of evidence have been obtained to provide converging evidence and to develop a chain of evidence concerning alliance maintenance. In addition, key informants and participants have reviewed case study reports as a means of participant validation. A panel of experts was used to address issues of face validity with respect to survey instruments. Strategies used to address issues of external reliability included the development of a study protocol and the use of questionnaires and interview protocols. A data base was developed for the systematic management of information and reports were generated at critical stages throughout the project, including reports for research workshops and two reports for government funding bodies. A departure point from Yin's (1989) design was the use of a randomised controlled survey involving two patient care networks. This, within region survey, strengthens, to some extent, the external reliability of the findings. Access to medical generalist and specialist firms in two further regions provided the opportunity to explore similarities and differences in alliance maintenance in two further locations thereby strengthening, to a limited extent, the internal validity of the study.
Table 12: Research strategies designed to enhance validity and reliability

<table>
<thead>
<tr>
<th>Test of quality (Yin, 1989: 41)</th>
<th>Strategies employed in this study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construct validity</strong></td>
<td></td>
</tr>
<tr>
<td>• Use multiple sources of evidence: convergence of evidence</td>
<td>Sources: two networks within one health region supplemented by data from two further regions, involving representatives of generalist and specialist firms and consultation of documents, archives, and artefacts, and experts.</td>
</tr>
<tr>
<td></td>
<td>Methods: focus groups, surveys; interviews; workshops.</td>
</tr>
<tr>
<td>• Establish chain of evidence</td>
<td>Phases of data gathering: 1) preliminary stage to define alliances and norms of practice and develop study instruments; 2) pilot study of alliances within a regional network; 3) two-case survey of generalists and specialists to describe the networks and alliance activity; 4) two-case survey of generalists and specialists to explore alliance maintenance; 5) research workshops and interviews with managers; 6) additional data to explore the influence of environmental on alliance maintenance and issues in private sector/public sector exchanges.</td>
</tr>
<tr>
<td>• Have key informants review draft reports</td>
<td>Two research workshops to review draft reports- participant validation</td>
</tr>
<tr>
<td></td>
<td>Panel of experts to review survey instrument (face validity).</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td></td>
</tr>
<tr>
<td>• Use a study protocol</td>
<td>Documented plan of action developed including study protocols.</td>
</tr>
<tr>
<td></td>
<td>Survey instrument tested for external reliability (Test-retest r = 0.76).</td>
</tr>
<tr>
<td>• Develop a study data base</td>
<td>Quantitative and qualitative data bases developed with reports prepared for research workshops and funding bodies.</td>
</tr>
<tr>
<td><strong>Internal validity</strong></td>
<td></td>
</tr>
<tr>
<td>• Do pattern matching</td>
<td>Pattern matching used across exchange categories and cases.</td>
</tr>
<tr>
<td><strong>External validity</strong></td>
<td></td>
</tr>
<tr>
<td>• Use replication logic in multiple-case studies</td>
<td>Replication across cases</td>
</tr>
<tr>
<td></td>
<td>Randomised controlled survey within two regional health care networks defined by patient condition</td>
</tr>
</tbody>
</table>
SUMMARY

This Chapter has listed the research questions and restated the propositions and hypotheses supporting the Systems Framework developed in Chapter 4 (Figure 5). Like other case study research involving networks, there are multiple levels of analysis and multiple units of analysis. The primary unit of analysis is the alliance, however, in this study alliances are examined within the framework of a regional network of exchange relationships and it is the network that constitutes the case. The methodology provides opportunity for the establishment of a chain of converging evidence with data collected from multiple sources using a range of methods. Quantitative data collection methods include survey method, structured interviews, and records from health authorities, while focus groups, loosely framed interview questions, consultation with organisational representatives and other significant people, provide qualitative data. The strategies for managing and analysing qualitative and quantitative data have been described together with the computations employed to test relationships between variables. Finally, the Chapter outlines the strategies used to enhance the validity and reliability of the study. These strategies address challenges to construct validity, reliability, internal validity and external validity associated with case study research and survey research.
6. FINDINGS

The findings are presented in a manner consistent with Table 10 (p 183). In the first instance, the participants in the study are reported. Then follows the results from the pilot study. The pilot study is labelled Stage 2 since Stage 1 data was presented in Chapter 5, Research Design and Methodology. Stage 3 describes and compares findings about the two urban networks with particular emphasis on patterns of interdependence. Stage 4 addresses alliance findings and reports quantitative and qualitative outcomes including descriptions of alliance and its governance. In addition, relationships between variables and the outcomes from hypothesis testing are reported. Stage 5 presents outcomes from two research workshops including participant validation of the study findings and the findings arising from interviews with managers. Stage 6 reports the results of a focus group of city-based general practitioners with particular emphasis on exchanges between generalists and public sector specialist agencies.

STUDY PARTICIPANTS

In all, 148 people participated in the study (Table 13) of whom 78 were small business generalists, 13 were small business medical specialists, 45 were salaried health professionals from 7 agencies and 12 were managers.

In the Rural Region, 6 small business general practitioners participated and the two resident small business physicians participated. The researcher interviewed the Chairman of the Association of General Practice from the Rural Region and all relevant health professionals in the region. In addition, the director of the hospital unit and the regional health authority manager were interviewed.

In the Urban Region, 61 small business general practitioners and 11 small business medical specialists participated. In addition, the three chairmen of the relevant medical divisions participated, one of whom was also the director of public sector psychiatric
services. All relevant public sector health professional agencies participated. In addition, a private health professional agency was represented. The directors of the public sector health professional agencies were among managers interviewed.

In the City Region 11 small business general practitioners participated including the Chair of the Division of General Practice. In addition, the director of the public sector psychiatric services for the region was interviewed together with a director of hospital and community psychiatric services. No attempt was made to involve small business psychiatrists or health professional agencies in the City Region.

Table 13: Participants by network and stage of data collection

<table>
<thead>
<tr>
<th>Category</th>
<th>Stage 2: Rural</th>
<th>Stages 3 and 4: Urban Network</th>
<th>Stage 6: City</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Diabetes</td>
<td>Diabetes</td>
<td>Mental</td>
<td>Ill.</td>
</tr>
<tr>
<td>• Small business generalists</td>
<td>6</td>
<td>33</td>
<td>28</td>
<td>11</td>
</tr>
<tr>
<td>*Individuals interviewed</td>
<td>(6)</td>
<td>(6)</td>
<td>(8)</td>
<td>(11)</td>
</tr>
<tr>
<td>- Division Chair</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>• Small business medical specialists</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>- Division Chair</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>• Specialist Hospital Units</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>• Health Prof. Agencies</td>
<td>(1)</td>
<td>(1)</td>
<td>(5)</td>
<td>-</td>
</tr>
<tr>
<td>- Individuals participating</td>
<td>2</td>
<td>6</td>
<td>37</td>
<td>-</td>
</tr>
<tr>
<td>- Managers interviewed</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>• Study participants</td>
<td>13</td>
<td>46</td>
<td>1</td>
<td>74</td>
</tr>
</tbody>
</table>

*Individuals interviewed are subsets of the two samples of small business generalists.
STAGE 2: PILOT STUDY - RURAL REGIONAL NETWORK

This stage of evidence collection provided opportunity to gain data about generalist-specialist alliances in a disadvantaged rural region and to trial the study methodology in a situation involving small numbers. One patient care network of service providers was considered, namely, the network for care of people with diabetes mellitus. The report of findings includes 1) a description of the industry environment, 2) sample response, 3) the people in the network, 4) patterns of interdependence, 5) generalist-specialist alliances including norms of practice governing alliances, 6) data relevant to exploring relationships between variables pertinent to the research question.

Industry environment

The population of the rural region is 68,288. It is located approximately 200 kilometres south of Sydney and 80 kilometres from the nearest secondary level hospital referral centre. The residents are widely dispersed across 4,566 square kilometres (14.95 persons per square kilometre) of beautiful rural countryside, much of which borders the ocean. Because of its beauty, many people choose to retire in this area. Socio-economically the people are less well off than most people in the State of New South Wales, scoring 2.56 per cent below the State average (Illawarra Area Health Service, 1994a). Sixteen per cent of the population are over the age of sixty five, which is higher than the State average and 2.52 per cent of the population are Aboriginal which is also higher than the State average.

The provision of health services relies heavily on small business general practitioners. However, like most rural areas in Australia the region has comparatively few general practitioners. While the overall general practitioner-population ratio for the State of New South Wales is 1:754 (Commonwealth Department of Health, Housing and Community Services, 1992: 68), the ratio in this Rural Region is 1:1428 (Illawarra Area Health
Patient access to services outside the region depends on rail transport or the use of private cars.

**Response: convenience sample**

Eight of the 43 general practitioners registered with the local Association of General Practice responded to a letter inviting them to contact the researcher. This approach to gaining a sample was taken on the advice of the Chair of the Association of General Practice. Of the eight who responded, two refused to participate and the remaining six agreed to be interviewed. The two resident consultant physicians who were named by the general practitioners agreed to participate in the study as did the three relevant public sector health professionals and the director of community services for the region.

**The actors in the network**

The six general practitioners identified five physicians (two resident and three visiting) who provide support for the care of people with diabetes mellitus. Four health professionals were identified (the hospital dietitian, two nurses with specialist expertise, and one podiatrist). Table 14 reports the background characteristics of respondents.

In summary, the network for care of people with diabetes mellitus in the rural region includes five exchange categories, namely: 1) small business general practitioners of whom there are 43, 2) two resident small business consultant physicians, and 3) at least three visiting physicians, 4) a small public sector hospital unit with 2.6 staff which includes the clinical director of the unit, and 5) a diabetes education unit which consists of two full-time and one half-time nurse. This unit is located within the local, public sector community health agency.
Table 14: Profile of respondents: Rural Region

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Characteristics of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Small business generalists (n=6)</strong></td>
<td></td>
</tr>
<tr>
<td>Type of practice:</td>
<td>2 solo practice; 4 group practice</td>
</tr>
<tr>
<td>Time since graduation:</td>
<td>4 more than 10 years; 2 less than 10 years</td>
</tr>
<tr>
<td>Gender:</td>
<td>4 male; 2 female</td>
</tr>
<tr>
<td>Vocationally registered:</td>
<td>6 yes</td>
</tr>
<tr>
<td>Practice hours:</td>
<td>6 full-time</td>
</tr>
<tr>
<td>Method of remuneration:</td>
<td>6 fee-for-service</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2. Small business physicians</strong></td>
<td></td>
</tr>
<tr>
<td>Type of practice:</td>
<td>Both solo</td>
</tr>
<tr>
<td>Qualifications:</td>
<td>Both Fellows of the Royal College of Physicians - one with a Diploma of Education</td>
</tr>
<tr>
<td>Gender:</td>
<td>Both male</td>
</tr>
<tr>
<td>Years of practice in the Region:</td>
<td>16 years; 4 years</td>
</tr>
<tr>
<td>Practice hours:</td>
<td>Both full-time</td>
</tr>
<tr>
<td>Method of remuneration:</td>
<td>Both fee-for-service</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3. Public sector health professionals</strong></td>
<td></td>
</tr>
<tr>
<td>Type of practice:</td>
<td>3 employees of the Regional Health Authority</td>
</tr>
<tr>
<td>Qualifications</td>
<td>2 Registered Nurses &amp; additional qualifications</td>
</tr>
<tr>
<td></td>
<td>1 Master of Science (Nutrition and Dietetics)</td>
</tr>
<tr>
<td>Gender:</td>
<td>3 Female</td>
</tr>
<tr>
<td>Years of practice in the region:</td>
<td>1, 5, and 10 years</td>
</tr>
<tr>
<td>Method of remuneration:</td>
<td>3 salaried</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4. Regional health authority manager</strong></td>
<td></td>
</tr>
<tr>
<td>Personal characteristics:</td>
<td>Male; mid-forties; full-time salaried employee</td>
</tr>
<tr>
<td>Type of organisation:</td>
<td>Community health service</td>
</tr>
<tr>
<td>Size:</td>
<td>62 Full-time equivalent positions</td>
</tr>
<tr>
<td>Operating budget:</td>
<td>$2,695 million</td>
</tr>
<tr>
<td>Organisation:</td>
<td>15 community teams - the diabetes staff of 2.5 persons is one of the teams with a budget of $115,000</td>
</tr>
</tbody>
</table>

Patterns of interdependence

Three issues are explored with respect to patterns of interdependence, namely, the direction of exchanges between actors, the volume of exchange between exchange categories and the extent to which any exchange category mediates the flow of resources.

1. The direction of exchanges between members of the network

All six general practitioners reported managing up to 25 patients with diabetes mellitus during the past twelve months. Four general practitioners said they referred 50 per cent
or more of their patients with diabetes to consultant physicians and two referred fewer patients. All six general practitioners receive feedback from physicians for 100 per cent of referred patients. In addition, they reported that 100 per cent of their patients were returned to their care indicating that exchanges between these two categories are reciprocal. However, general practitioners reported that they received substantially less feedback from health professionals. For example, three general practitioners said they received feedback for less than 25 per cent of the patients referred to health professionals, indicating that the flow of exchanges is mainly one way between these two exchange categories. Exchanges between specialist exchange categories were described as reciprocal with the consultant physicians being used as advisers and resource people by health professionals.

2. Volume of exchange between members of the network

Table 15 displays the volume of exchange between the four exchange categories based on respondents' estimates as to whether verbal and written business exchanges have been “frequent”, “occasional”, “rare” or “not at all”. Each exchange category was numbered from zero (not at all) to three (frequent exchanges). The findings indicate that all participants in the network are exchanging frequently with at least one other category. Variation in exchange is small, with the Health Agency scoring the maximum possible weighted average of 3.

From interview it became clear that the averaging of scores within exchange categories masks the influence of individuals on the flow of resources within the network. For example, one physician has frequent contact with all exchange categories while the other has few exchanges. Furthermore, one health professional, who has practised in the region for more than 10 years, has frequent exchanges with members of all exchange categories while other health professionals have less exchanges. This finding suggests that the averaging of exchange category scores arising from survey data has serious limitations unless combined with qualitative data which provides insight into the influence
of individuals on volume of exchange. The Director of Community Services spoke against the practice of doctors referring patients to nominated individuals within the diabetic team. He preferred that patients be referred to the service. Should the Director implement a policy to achieve this objective, it would have a significant effect on the ability of the individual health professional to influence the flow of exchange and demonstrates a lack of understanding for the way doctors manage exchange relationships. This policy could act as a barrier to improved service integration between health professionals and doctors.

Table 15: Volume of exchange between members of the network-weighted average

<table>
<thead>
<tr>
<th>Exchange category</th>
<th>Health Agency</th>
<th>Private Physicians</th>
<th>General Practitioners</th>
<th>Hospital Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Health Agency</td>
<td>-</td>
<td>Frequent</td>
<td>Frequent</td>
<td>Frequent</td>
</tr>
<tr>
<td>• Private Physicians</td>
<td>Frequent</td>
<td>-</td>
<td>Frequent</td>
<td>Frequent</td>
</tr>
<tr>
<td>• Gen.Practitioners</td>
<td>Frequent</td>
<td>Occasional</td>
<td>-</td>
<td>Rare</td>
</tr>
<tr>
<td>• Hospital Unit</td>
<td>Frequent</td>
<td>Frequent</td>
<td>Rare</td>
<td>-</td>
</tr>
<tr>
<td>Weighted Score</td>
<td>3</td>
<td>2.7</td>
<td>2.3</td>
<td>2.3</td>
</tr>
</tbody>
</table>

3. Volume of exchange and pattern of alliance activity

Five out of six general practitioners reported having an alliance arrangement with a consultant physician and in all cases the same resident consultant (A) was nominated. Consultant A had frequent exchanges with all members of the network. Consultant A had been in the region for four years while consultant B had been in the region for more than 16 years. Consultant A reported having alliances with general practitioners while consultant B had none.
Three of six general practitioners reported having an alliance with health professionals and the three health professionals all reported having alliances with general practitioners. The comment was made by health professionals that they only establish alliances with general practitioners who demonstrate a willingness to communicate. Some health professionals saw general practitioners as wanting a "doctor-only" alliance which acted as a barrier to cooperation.

Health professionals also reported having alliances with consultant physicians. Consultant physician A confirmed that he had alliance arrangements with health professionals.

4. Satisfaction with exchange relations

Table 16 summarises satisfaction scores with exchange relations. The ratings on the horizontal axis provide the sum of the ratings for a given exchange category while the ratings on the vertical axis indicate the satisfaction for the particular exchange category. The ratings for each exchange category indicate reasonable levels of satisfaction with patient care and communication. However, general practitioners and the public hospital unit indicate mutual dissatisfaction. These qualitative findings refer to the first proposition namely, that “actor satisfaction is positively associated with organisational interdependence”. The two exchange categories which received the highest network rating are the two with the greatest volume of exchange (Table 15) and hence the findings are in the direction predicted by Proposition 1.
Table 16: Satisfaction with exchange relations

<table>
<thead>
<tr>
<th>Exchange category</th>
<th>Health Agency</th>
<th>Private Physicians</th>
<th>General Practitioners</th>
<th>Hospital Unit</th>
<th>Network Average Rating (7 = very satisfied)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PC* C#</td>
<td>PC C</td>
<td>PC C</td>
<td>PC C</td>
<td>PC C</td>
</tr>
<tr>
<td>Health Agency</td>
<td>6.5 4.5</td>
<td>4.8 3.6</td>
<td>6 6</td>
<td>5.8 4.7</td>
<td></td>
</tr>
<tr>
<td>Private Physicians</td>
<td>7 7</td>
<td>7 6.6</td>
<td>4.5 4.5</td>
<td>5.9 6</td>
<td></td>
</tr>
<tr>
<td>General Practitioners</td>
<td>4 6</td>
<td>5.5 5.7</td>
<td>- -</td>
<td>4.2 4.6</td>
<td></td>
</tr>
<tr>
<td>Hospital Unit</td>
<td>6.5 7</td>
<td>6.5 7</td>
<td>3 2</td>
<td>5.2 5.3</td>
<td></td>
</tr>
<tr>
<td>Exchange Category Rating (7 = very satisfied)</td>
<td>6 6.6</td>
<td>6 5.7</td>
<td>4.8 4.2</td>
<td>4.3 4</td>
<td>5.2 5.1</td>
</tr>
</tbody>
</table>

*PC = Patient Care
# C = Communication

### Generalist-specialist alliances

At the alliance level of analysis, important issues include participant descriptions of what constitutes an alliance, the rewards pertaining to established alliances and the norms of practice governing alliances. In addition, this section explores whether alliances involving private sector generalist and specialist firms differ from alliances involving public sector specialists and private sector generalists.

1. Definitions of alliance

Table 17 provides definitions of alliance from the perspective of three exchange categories, general practitioners, consultant physicians and health professionals. There is consensus among exchange categories as to the role of the general practitioner, the consultant and the health professional. However, consultants were ambivalent about the term "shared care". One indicated he did not use the term and the other thought it over-
simplified a very complex relationship involving consultant and general practitioner. Nevertheless, five of the six general practitioners reported that they have a "shared care" arrangement with this consultant and the three health professionals indicated they also have shared care arrangements with this consultant.

Table 17: Definitions of alliance (shared care) from the perspective of each exchange category

<table>
<thead>
<tr>
<th>General practitioners</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Shared care is where the consultant acts as a consultant (ie. sees patients with problems) to the benefit of both patient and general practitioner. This includes the consultant adopting an educator role.</td>
</tr>
<tr>
<td>- Shared care is where the general practitioner manages the day-to-day ongoing care and refers patients to consultants for special examinations with the general practitioner maintaining responsibility for the on-going care of patients.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consultant physicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>- The term shared care implies that the general practitioner should control the primary care needs of their patients and the consultant should act as a consultant.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health professionals</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Shared care involves sharing responsibility with someone else (ie. general practitioners with medical specialists and health professionals).</td>
</tr>
<tr>
<td>- Shared care implies responsibility for the general practitioner in the day-to-day management of patients - the general practitioner becomes the &quot;linch-pin&quot; and makes sure others, including consultants, are used appropriately.</td>
</tr>
</tbody>
</table>

2. The rewards of alliances

Qualitative data about the rewards of alliances dealt with four subjects: rewards for patients, rewards for general practitioners, rewards for consultants and health professionals and rewards for the health care system (Table 18). Rewards associated with alliances incorporate both "hard" and "soft" issues. Among the hard issues are improved patient outcomes, better deployment of resources and reduced workloads. Soft issues include "increased confidence in what the team is doing". Three exchange categories in this "resource poor" rural region mention "decreased workload" as an expected benefit of alliances suggesting that these providers have heavy workloads and perceive a need to pool resources. Of interest is the emphasis placed on "knowledge of
what other providers are doing” suggesting that alliances may help to reduce professional isolation.

**Table 18: The rewards of alliances**

<table>
<thead>
<tr>
<th>The rewards for patients (according to providers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Better quality of care and better health outcomes</td>
</tr>
<tr>
<td>- Greater confidence in what the various providers are doing</td>
</tr>
<tr>
<td>- Ability to cross-check what each provider is doing without duplication</td>
</tr>
</tbody>
</table>

**The rewards for general practitioners**

- Decreased workload
- Education and career support
- Knowledge of what other providers are doing

**The rewards for consultants and health professionals**

- Decreased workload
- Increased information base
- A more holistic view of the patient from communications with generalists
- Increased trust in what other providers are doing
- Knowledge that the team is guiding the patient to better self-care and self-monitoring
- Seeing my hard work have an impact on the skills of generalists and on patient health outcomes

**The rewards for the health system**

- Improved resource deployment. However, for this benefit to be realised consultants should receive training in how to act as consultants to other health providers.

3. Norms of practice governing established alliances

The General Practitioner Questionnaire (Appendix 1) sought a description of the “gold standard” of norms of practice governing exchange relationships between small business generalists and specialists. The respondent was asked to nominate the specialist who sets the "gold standard" and then to indicate the exchange behaviours of this person. This provided the researcher with opportunity to examine similarities and differences between specialists in terms of norms of practice. Consultant A was nominated by all six general practitioners as setting the gold standard in this small rural network.

Table 19 summarises the norms of practice governing established alliances from the perspective of each exchange category. Four norms of practice were identified, namely, communication, competent patient care, trust and respect.
The findings indicate differences in the norms of practice governing alliances involving private sector general practitioners and public sector health professionals. Unlike small business physicians, public sector health professionals did not mention trust as an important factor. For health professionals, behaviours that demonstrate respect for the role of health professionals are important while physicians did not mention this issue. For health professionals, indicators of respect include acknowledging communications and accepting recommended treatments. Like physicians, health professionals are only prepared to enter alliance with generalists who meet their expected norms of practice; approximately 25 to 50 per cent of generalists in the region were reported as meeting these criteria.
Table 19: Norms of practice governing alliances from the perspective of each exchange category

<table>
<thead>
<tr>
<th>General Practitioners</th>
<th>Consultant Physicians</th>
<th>Health Professionals</th>
<th>Hospital Specialty Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedback within a week (5)</td>
<td>Contacts by telephone if concerned about a patient.</td>
<td>Writes an informative referral letter which indicates what he/she wants me to do and contains information about medication history, laboratory results and diet treatments.</td>
<td>Someone who is approachable and contacts us by telephone.</td>
</tr>
<tr>
<td>Acknowledges referral and says what he did and why (5)</td>
<td>Writes a referral letter with details about investigations, medications and asks specific questions.</td>
<td>Is available by telephone.</td>
<td>Writes an informative referral letter.</td>
</tr>
<tr>
<td>Communicates by telephone and letter (4)</td>
<td>Is available by telephone.</td>
<td></td>
<td>Someone who communicates well.</td>
</tr>
<tr>
<td><strong>Competent patient care</strong></td>
<td><em>Picks up ideas quickly.</em></td>
<td>Is knowledgeable and gives me confidence in his/her ability.</td>
<td>Is knowledgeable.</td>
</tr>
<tr>
<td>Care provided is good to very good (6).</td>
<td><em>Is knowledgeable.</em></td>
<td><em>Is knowledgeable.</em></td>
<td></td>
</tr>
<tr>
<td>Communicates well with patients.</td>
<td><em>Gives me confidence in his/her ability.</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trust</strong></td>
<td>Trust is most important - all other factors follow automatically - patient feedback is the best indicator.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Returns all patients (5).</td>
<td><em>Someone with whom patients feel comfortable.</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaks well to patients about me(2).</td>
<td><em>Informal contact is important.</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Respect</strong></td>
<td>Treats health professionals as equals.</td>
<td>Shows respect by talking with us and accepting what we recommend.</td>
<td></td>
</tr>
<tr>
<td>Respect for the way the specialist practices medicine(5)</td>
<td>Acknowledges receipt of communications.</td>
<td>Treats us as equals.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Respects what I recommend.</td>
<td>Demonstrates understanding of what we do and of our time constraints</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understands the role of health professionals.</td>
<td>Is willing to relinquish some power.</td>
<td></td>
</tr>
</tbody>
</table>
Factors maintaining alliances

This section presents data relevant to exploring relationships between 1) actor satisfaction and volume of exchange, 2) volume of exchange and compliance with norms of practice, and 3) compliance with norms of practice and actor satisfaction. Because of the nature of the sample no statistical calculations have been undertaken. However, frequency tables provide an indication of the direction of the data relating to the three relevant hypotheses.

1. Actor satisfaction and volume of exchange

The protocol for exploring this issue was trialed in interview with five of the six general practitioners (Appendix 2). The results are reported in Table 20. The data is in the direction of the hypothesis that “Generalist satisfaction with specialist firms varies significantly with volume of exchange”.

Table 20: General practitioner satisfaction with exchange relations and volume of exchange

<table>
<thead>
<tr>
<th>Generalists (n=5) (very dissatisfied = 1; very satisfied = 7)</th>
<th>High volume consultant</th>
<th>Low volume consultant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with patient care</td>
<td>Satisfaction with communication</td>
<td>Satisfaction with patient care</td>
</tr>
<tr>
<td>Mean/Median</td>
<td>6.4/6</td>
<td>6.6/7</td>
</tr>
</tbody>
</table>

2. Volume of exchange and compliance with norms of practice

The General Practitioner Questionnaire sought information about volume of generalist exchange with specialists and specialist compliance with norms of practice. Table 21 reports the relevant findings. The data is in the direction of the hypothesis that “Volume of exchange between generalists and medical specialists varies significantly with specialist compliance with norms of practice”.

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Table 21: Volume of exchange and compliance with norms of practice

<table>
<thead>
<tr>
<th>Generalists (n=5)</th>
<th>Consultant who most complies with norms of practice</th>
<th>Other consultants with whom the generalist has had exchange during the previous 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume of exchange</td>
<td>129</td>
<td>89¹</td>
</tr>
<tr>
<td>Mean/Median</td>
<td>21.5/23</td>
<td>17.8/13</td>
</tr>
</tbody>
</table>

Note:
1. An average was computed for the volume of exchange with "other" nominated consultants after removing the number of exchanges with sub-specialists with whom the generalist would be expected on technical grounds to have a low volume of exchange.

3. Compliance with norms of practice and actor satisfaction

The General Practitioner Questionnaire was also used to collect data about generalist satisfaction with specialists, in terms of the care provided to patients and communication, in order to explore the relationship between specialist compliance with norms of practice and generalist satisfaction.

With respect to physicians, there was little variation in compliance with norms of practice. All six generalists reported receiving feedback for up to 100 per cent of referred patients and they were very satisfied with communication with consultants. Similarly, five of the six generalists reported that up to 100 per cent of their patients were returned by consultants and that they were very satisfied with exchanges with consultants.

The situation with health professionals was substantially different. The findings suggest that the provision of feedback by health professionals is related to generalist satisfaction with communication (Table 22).
Table 22: General practitioner satisfaction with communication by feedback from health professionals

<table>
<thead>
<tr>
<th>Generalists</th>
<th>Proportion of patients for which the generalist receives feedback</th>
<th>Generalist satisfaction with communications with health professionals (very dissatisfied = 1; very satisfied = 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25% or less</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>25% or less</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>25% or less</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>26-50%</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>51-70%</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>76-100%</td>
<td>5</td>
</tr>
</tbody>
</table>

Issues arising from the pilot study

As a result of the pilot study it was decided that the General Practitioner Questionnaire was a suitable instrument for conducting a randomised survey of generalists in the Urban Region and that the interview protocols for use with specialists and managers worked well. However, with respect to the protocol for use in interviews with generalists it was decided to add a further Likert scale for exploring the relationship between the length of time that a generalist had known a specialist and volume of exchange. This decision was taken because several participants indicated that familiarity had a substantial influence on the number of their exchanges with other actors. Furthermore, the literature supports this proposition.
STAGE 3: PATTERNS OF EXCHANGE WITHIN TWO URBAN REGIONAL NETWORKS

This section describes the industry environment and the two networks, namely, the network of small business generalists and specialists and public sector agencies for care of people with mental illness and diabetes mellitus. The data for each case were first analysed separately. However, the data for both cases are presented together so that the reader can observe differences across cases.

A randomised controlled survey of small business general practitioner firms and the specialist organisations with which they exchange was conducted and is reported. The descriptive data concerning the two networks is presented under five headings: 1) the industry environment, 2) the response rate, 3) the organisations and people, 5) patterns of organisational interdependence, and 5) patterns of alliance activity.

The industry environment of the two networks

This Urban Region is located 80 kilometres South of Sydney. The area extends along the coast for approximately 120 kilometres and covers an area of approximately 1087 square kilometres. The population of the Region numbers approximately 231,200 of which 7.5 per cent are under the age of five, 12 per cent are over the age of sixty five, 24 per cent of the youth are unemployed, 58 per cent receive a low income, 13.5 per cent are from a non-English speaking background and one per cent are Aboriginal (Australian Bureau of Statistics, 1991). Based on socio-economic indicators, the Region scores marginally below the New South Wales state average.

The general practitioner-population ratio is approximately 1:1290 (Illawarra Area Health Service, 1994a). Hence, like the Rural Region, the Urban Region has substantially fewer general practitioners per head of population than the State average of 1:754 (Commonwealth Department of Health, Housing and Community Services, 1992: 68).
The headquarters of the regional health authority is located within the Region, as is the Regional Hospital.

Little information was available on the extent to which people access resources outside the Region. However, managers of the Regional Health Authority are concerned at the tendency for people to be referred to Sydney based hospitals because the "outflow" of patients from the Region has a negative impact on the size of the Region's allocated budget. Patient access to Sydney based services requires a car, rail or bus journey of one to two hours.

1. Mental illness and its care

Data about the prevalence of mental illness in the region relies heavily on inpatient data. According to this data 3.8 people per thousand have serious mental illness of whom 60 per cent are under the age of 40 and 86 per cent have functional psychotic disorders or neurotic personality disorders (Illawarra Area Health Service, 1995). Residents of this Region are hospitalised for psychiatric illness at a rate which is 20 per cent higher than that for all New South Wales residents. In 1994, the hospital admission rate was 4.37 per 1,000 residents compared with 3.64 for the State as a whole. However, while residents are hospitalised more, the average hospital stay is shorter, namely, 19.8 days compared with 153.3 days for the State as a whole (Illawarra Area Health Service, 1995).

The small business psychiatrist plays an important role in caring for people with mental illness. There are 16 resident psychiatrists. Other specialist psychiatric services include 2 acute care hospital units with a total of 34 beds and one rehabilitation unit with 20 beds, a psychotherapy centre, a living skills centre, an industrial therapy centre, and an accommodation service coordinator. Among the health professional agencies are 2 community mental health teams with a total of 21 staff, an adolescent psychiatric service with 2 staff and a crisis care team with 13 staff (Illawarra Area Health Service, 1995).
2. Diabetes mellitus and its care

Two - three per cent of residents have diabetes mellitus with the prevalence increasing with age. This represents a 50 per cent increase from 1966-1981 (Illawarra Area Health Service Diabetes Centre, 1994).

Specialist services for care of people with diabetes mellitus are heavily dependent on small business consultant physicians, of whom there are 14 (Illawarra Area Health Service, 1994b), and a diabetes education centre with six salaried staff. Diabetes patients, when admitted to hospital, are cared for within the general medical wards.

Survey response

The randomised survey of general practitioners achieved an overall response rate of 62 per cent (61/98). From each sample of 49 generalists, 8 were selected by a second random procedure for interview plus questionnaire completion. Of the 16 generalists selected for interview, 15 were contacted and 13 (86%) agreed to be interviewed. Eleven (85%) of the 13 medical specialists contacted were interviewed and 43 health professionals participated of the 45 contacted (96%).

1. Response from the actors in the mental health network

Fifty seven per cent (28/49) of generalists surveyed about the network for mental illness responded. All 8 generalists invited to interview agreed to participate.

The survey of general practitioners produced a list of 18 psychiatrists, 4 public sector mental health agencies and 7 psychologists in private practice (4 practices). Six of the 7 psychiatrists contacted were interviewed (86%) and of these, 3 met the criteria for inclusion as alliance psychiatrists. All 4 mental health agencies participated (36 individuals) and of 3 three private clinical psychologists contacted, one responded. This psychologist represented a small group practice.
2. Response from the actors in the diabetes care network

Sixty seven per cent (33/49) of generalists surveyed about the network for diabetes mellitus responded. Six of the 8 generalists selected for interview were contacted and, of these, 5 agreed to be interviewed (63%).

The survey of general practitioners produced a list of 16 consultant physicians and the Diabetes Education Centre. Five of 6 physicians agreed to be interviewed, of whom, 3 met the criteria for inclusion as alliance specialists.

All 6 staff of the Diabetes Education Centre participated. Other people were nominated by physicians and staff of the Diabetes Education Centre as contributing to this network. These people included 2 ophthalmologists and one podiatrist. However, while their specialist role is important for individuals with particular needs their contribution to the network was not considered important. Accordingly, they were not included in the study.

Table 23 summarises the response rate for each network.

<table>
<thead>
<tr>
<th>Exchange category</th>
<th>Mental health network</th>
<th></th>
<th>Diabetes care network</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contacted</td>
<td>Responded</td>
<td></td>
<td>Contacted</td>
</tr>
<tr>
<td>• Small business generalists</td>
<td>49</td>
<td>28</td>
<td>57%</td>
<td>49</td>
</tr>
<tr>
<td>• Small business specialists</td>
<td>7</td>
<td>6</td>
<td>86%</td>
<td>6</td>
</tr>
<tr>
<td>• Health professionals</td>
<td>39</td>
<td>37</td>
<td>95%</td>
<td>6</td>
</tr>
<tr>
<td>• Total</td>
<td>95</td>
<td>71</td>
<td>75%</td>
<td>61</td>
</tr>
</tbody>
</table>
Characteristics of respondents

Table 24 reports the characteristics of respondents. With respect to the two samples of general practitioners, no significant differences were observed. However, the “eyeball” test revealed that more women had responded to the mental health survey than had responded to the diabetes care survey. Compared with general practitioners throughout Australia the sample is characteristic of the profile of general practitioners in large towns with respect to gender and years since graduation. However, with respect to type of practice the sample approximates the metropolitan general practitioner profile and in terms of salaried/fee-for-service practice it appears to be more fee-for-service oriented than the general practitioner profile for Australia (Britt, Miles, Bridges-Webb et al., 1993).

Few differences were observed between the two groups of medical specialists, except that the physicians tended to be a little older than the psychiatrists. However, among health professionals substantial differences were observed with the mental health professionals being more numerous and heterogeneous with respect to qualifications and gender than diabetes health professionals.
Table 24: Characteristics of respondents by network

<table>
<thead>
<tr>
<th>Exchange category</th>
<th>Mental health network</th>
<th>Diabetes care network</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Small business generalists</td>
<td>(n=28)</td>
<td>(n=33)</td>
</tr>
<tr>
<td>- Graduated more than 10 years</td>
<td>78%</td>
<td>94%</td>
</tr>
<tr>
<td>- Vocationally registered</td>
<td>91%</td>
<td>96%</td>
</tr>
<tr>
<td>- Male</td>
<td>82%</td>
<td>91%</td>
</tr>
<tr>
<td>- Female</td>
<td>18%</td>
<td>9%</td>
</tr>
<tr>
<td>- Solo practice</td>
<td>31%</td>
<td>42%</td>
</tr>
<tr>
<td>- Group practice</td>
<td>69%</td>
<td>58%</td>
</tr>
<tr>
<td>- Full-time practice hours</td>
<td>68%</td>
<td>87%</td>
</tr>
<tr>
<td>- Part-time practice hours</td>
<td>32%</td>
<td>13%</td>
</tr>
<tr>
<td>- Fee-for-service payment</td>
<td>89%</td>
<td>90%</td>
</tr>
<tr>
<td>- Salaried payment</td>
<td>4%</td>
<td>7%</td>
</tr>
<tr>
<td>- Salaried and fee-for-service</td>
<td>7%</td>
<td>3%</td>
</tr>
</tbody>
</table>

| • Small business specialists and hospital specialists | (n=6) | (n=5) |
| - Years since graduation | 6-28 | 20-24 |
| - Male | 6 | 5 |
| - Solo practice | 4 | 5 |
| - Group practice | 1 P/T | 1 P/T |
| - Hospital Sessions | 3 | 2 |
| - Fee-for-service payment | 4 | 5 |
| - Salaried payment | 2 | 1 |
| - Sessional payment | 3 | 2 |
| - Years in practice in Region | 5-15 | 11-19 |

| • Health professionals | (n=37) | (n=6) |
| - Qualifications | 70% | 100% |
| - Nursing with specialisation | 19% | (3 with MSc all accredited in specialty) |
| - Clinical psychologists | 7% | |
| - Social Work/Welfare | 4% | |
| - Male | 54% | - |
| - Female | 46% | 100% |
| - Group practice | 100% | 100% |
| - Salaried employees | 97% | 100% |
| - Years in practice in region | 4-25 | 3-10 |

The size of the networks

From the records of the Division of General Practice, information supplied by key informants and survey of general practitioners an estimation can be made of the total size
of each network vis a vis my two samples. Within the region there are approximately 100 small business general practitioner firms (57 solo practice firms and 43 group practice firms). These organisations are common to both networks. From the information provided by generalists and key informants, the overall size of each network is estimated as follows:

1. The mental health network

In all, the mental health network contains approximately 134 organisations and 244 people which can be grouped into 5 exchange categories, namely, 1) small business general practitioner firms, 2) 18 small business psychiatrist firms, 3) two public hospital units, 4) four private sector health professional firms, and 5) four public sector health professional agencies.

2. The diabetes network

The total number of organisations in the diabetes care network is approximately 118 and the total number of people is approximately 205. The exchange categories in this network include 1) small business general practitioners, 2) 16 small business physicians, 3) the public hospital, and 4) a public sector health professional agency.

Hence, from a health provider perspective the mental health network is larger and more diverse than the diabetes network. Furthermore, these findings suggest that medical condition has a substantial influence on network size.

Patterns of interdependence in the mental health network

In this section each network is described in terms of the functions of the actors, the direction of exchanges between actors, the volume of exchange between exchange categories, the satisfaction of the actors and the extent to which any exchange category or individuals mediate the flow of resources. Qualitative comparisons are detailed across the two networks.
An attempt was made to gain a comprehensive description of the flow of resources by consulting the records of the regional health authority concerning referrals to hospital units and health professional agencies. However, the researcher was advised by staff of the health authority that the data included in records was highly unreliable. Hence, the information on flow of resources depends predominantly on data gained by survey.

1. **The functions of the actors in the mental health network**

Most general practitioners indicated that, in the last twelve months, they had managed 10-25 patients with mental illness and that most of their patients suffered from depression, mood disorders and personality disorders. In interview, approximately fifty per cent of general practitioners knew about the mental health services provided by the public sector mental health agencies.

Private psychiatrists reported managing 40-70 patients per week (mean patient load 53). The type of patient condition managed by psychiatrists varied substantially between private sector psychiatrists and psychiatrists with public hospital appointments. Of patients managed by private psychiatrists, approximately 50 per cent were reported as having anxiety disorders, 28 per cent mood disorders and 17 per cent schizophrenia. Private psychiatrists with public hospital appointments reported managing a higher percentage of patients with schizophrenia (44%) and less patients with mood disorders (27%). Public hospital psychiatrists reported that 77 per cent of their patients were severely disabled, of whom 50 per cent had schizophrenia and 22 per cent were suicidal and aggressive. All interviewed psychiatrists knew about the services offered by community mental health agencies.

The crisis care team reported managing patients with schizophrenia and mood disorders while the records of the regional health authority suggested that the majority of patients managed by community mental health agencies suffered from anxiety disorders and/or depression with a few suffering from psychosis. In interview, one of these agencies
indicated having frequent contacts with general practitioners in their planning sector while
the other agencies indicated having few contacts with general practitioners. On the other
hand, the four agencies indicated having frequent contact with one another through
regular team meetings and with the two public sector hospital psychiatrists.

2. The direction of exchanges between members of the mental health network

Fifty per cent of generalists reported that they referred most of their patients with mental
illness to a psychiatrist during the previous twelve months and 80 per cent of them
expected to have an on-going involvement with their patients. At the same time, 20 per
cent indicated that they referred most of their patients with mental illness and that they did
not wish to have any further involvement with their care. Eighty five per cent of
generalists reported receiving feedback for 76-100 per cent of the patients they referred to
psychiatrists. Hence, for those generalists who want continuing involvement in the care
of mentally ill patients, the flow of information exchange is reciprocal. However, only
52 per cent of generalists reported that 76-100 per cent of their patients were returned,
suggesting that the flow of resources is not always in the generalist's favour.

Private psychiatrists indicated that between 10-30 general practitioners refer to them on a
regular basis and that they receive 20-30 letters a week from general practitioners. With
the general practitioners who refer to them regularly, psychiatrists report having frequent
exchanges of a reciprocal nature.

With respect to exchanges with mental health professionals, 30 per cent of general
practitioners reported having frequent contact with any of the services and only 23 per
cent reported receiving feedback from health professionals for 76-100 per cent of referred
patients. This suggests that exchanges between generalists and health professionals are
frequently uni-directional and that the flow of resources does not favour the generalist.
3. The volume of exchange between members of the mental health network

As in the Rural Region a matrix was developed to describe the volume of exchange between exchange categories. Table 25 summarises the volume of exchange between members of the mental health network. However, one health professional agency has been omitted from the matrix. This agency had few exchanges with any other members of the network because of its very specialised role in the care of mentally ill adolescents. As with the Rural Region the figures are based on the respondent's estimate of whether exchanges have been “frequent”, “occasional”, “rare” or “not at all”. Each category was given a number from zero (not at all) to three (frequent exchanges). The weighted network score is 2.2. Table 25 indicates that the exchange category "private psychiatrist" plays a central role in mediating the resources of the mental health network. Furthermore, exchanges between all public sector health agencies and public hospital units are frequent. While general practitioners, as an exchange category, have frequent contacts with private psychiatrists they have few contacts with public sector health agencies and units, suggesting that they prefer to conduct exchanges with small business specialists.
Table 25: Volume of exchange between members of the mental health network (weighted average)

<table>
<thead>
<tr>
<th>Exchange category</th>
<th>Private Psychiatrists</th>
<th>Crisis Care Team</th>
<th>Community Health Agencies</th>
<th>Public Hospital Units</th>
<th>General Practitioners</th>
<th>Clinical Psychologists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Psychiatrist</td>
<td>-</td>
<td>Frequent</td>
<td>Occasional</td>
<td>Frequent</td>
<td>Frequent</td>
<td>Occasional</td>
</tr>
<tr>
<td>Crisis Care Team</td>
<td>Frequent</td>
<td>-</td>
<td>Frequent</td>
<td>Frequent</td>
<td>Occasional</td>
<td>Rare</td>
</tr>
<tr>
<td>Community Health</td>
<td>Frequent</td>
<td>Frequent</td>
<td>-</td>
<td>Frequent</td>
<td>Occasional</td>
<td>Occasional</td>
</tr>
<tr>
<td>Public Hospital</td>
<td>Frequent</td>
<td>Occasional</td>
<td>Frequent</td>
<td>-</td>
<td>Rare</td>
<td>Rare</td>
</tr>
<tr>
<td>General Practitioner</td>
<td>Frequent</td>
<td>Occasional</td>
<td>Occasional</td>
<td>Rare</td>
<td>-</td>
<td>Rare</td>
</tr>
<tr>
<td>Clinical Psychologist</td>
<td>Occasional</td>
<td>Occasional</td>
<td>Occasional</td>
<td>Rare</td>
<td>Rare</td>
<td>-</td>
</tr>
<tr>
<td>Weighted Score</td>
<td>2.8</td>
<td>2.4</td>
<td>2.4</td>
<td>2.2</td>
<td>1.8</td>
<td>1.4</td>
</tr>
</tbody>
</table>

5. Satisfaction with exchange relations in the mental health network

Table 26 presents data about the satisfaction of the various actors with exchanges between members of the network. The horizontal axis provides the weighted average satisfaction score for all exchange categories in the network with a particular category. For example, the category receiving the highest rating for patient care is private psychiatrists while for communication the two categories receiving the highest ratings are crisis care and the community mental health. On the other hand, the public hospital unit received the lowest rating for patient care and general practitioners received the lowest rating for communication. The vertical axis provides the overall satisfaction score for a particular exchange category. Private psychiatrists are the exchange category most satisfied with communications and patient care. The crisis care team, the public hospital and general
practitioners are the groups most dissatisfied with exchanges. The general practitioner rating is consistent with their low frequency of exchange with most exchange categories apart from private psychiatrists. It is interesting to note that the group least satisfied with exchanges is the public hospital and this is also the group which receives the lowest network satisfaction rating. The overall network satisfaction scores are 4.8 for patient care and 4.9 for communication, somewhat lower than that recorded for the rural network.

As with the rural network, this qualitative data support the prediction that actor satisfaction with exchanges is related to volume of exchange given that the three most satisfied exchange categories are those with the highest volume of exchange within the network (Table 25).
Table 26: Satisfaction with exchange relations in the mental health network

<table>
<thead>
<tr>
<th>Exchange category</th>
<th>Private Psychiatrists</th>
<th>Crisis Care Team</th>
<th>Comm. Health Agencies</th>
<th>Public Hospital Units</th>
<th>General Practitioners</th>
<th>Clinical Psychologists</th>
<th>Network Average Rating (7= very satisfied)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PC* C#</td>
<td>PC C</td>
<td>PCC</td>
<td>PC C</td>
<td>PC C</td>
<td>PC C</td>
<td>PC C</td>
</tr>
<tr>
<td>Private Psychiatrists</td>
<td>- -</td>
<td>4 3</td>
<td>5 6</td>
<td>6 4</td>
<td>5.7 5.8</td>
<td>6 5</td>
<td>5.3 4.8</td>
</tr>
<tr>
<td>Crisis Care Team</td>
<td>6 6</td>
<td>- -</td>
<td>7 7</td>
<td>3 6</td>
<td>4.5 3.8</td>
<td>5 5</td>
<td>5.1 5.7</td>
</tr>
<tr>
<td>Comm. Health</td>
<td>6 6</td>
<td>5 6</td>
<td>- -</td>
<td>3 6</td>
<td>4.3 4</td>
<td>- -</td>
<td>4.6 5.5</td>
</tr>
<tr>
<td>Public Hospitals</td>
<td>4 5</td>
<td>4 4</td>
<td>4 5</td>
<td>- -</td>
<td>4.6 4.4</td>
<td>- -</td>
<td>4.2 4.6</td>
</tr>
<tr>
<td>General Practitioners</td>
<td>5.5 6</td>
<td>4 4</td>
<td>4 4</td>
<td>5 2</td>
<td>- -</td>
<td>6 5</td>
<td>4.9 4.2</td>
</tr>
<tr>
<td>Clinical Psychologists</td>
<td>5 5</td>
<td>5 5</td>
<td>5 4</td>
<td>- -</td>
<td>4.3 4.3</td>
<td>- -</td>
<td>4.6 4.3</td>
</tr>
<tr>
<td>Exchange Category Rating (7= very satisfied)</td>
<td><strong>5.3 5.6</strong></td>
<td><strong>4.2 4.2</strong></td>
<td><strong>5 5.2</strong></td>
<td><strong>3.4 4.5</strong></td>
<td><strong>4.6 4.5</strong></td>
<td><strong>5.7 5</strong></td>
<td><strong>4.8 4.9</strong></td>
</tr>
</tbody>
</table>

* PC = Patient Care  
# C = Communication

Patterns of interdependence in the diabetes care network

1. The functions of the actors in the diabetes care network

Seventy per cent of general practitioners reported managing 11 or more patients with older-onset diabetes mellitus during the previous twelve months. Fifty per cent of general practitioners said they referred less than 75 per cent of their patients to consultants while 20 per cent reported referring 75 - 100 per cent of patients. The remaining 30 per cent indicated that they referred very few patients. At interview, all general practitioners were aware of the services offered by the Diabetes Education Centre.
Physicians reported wide variation in the number of patients managed with diabetes and the number of generalists from whom they received referrals. Interviewed physicians indicated that the average number of generalists from whom they received referrals was 166 (range 100-400). The average per-week-diabetes-patient load for any one physician was 63 (range 10-100) with some physicians reporting that 90 per cent of their patient load were people with older-onset diabetes while others indicated that this condition represented 50 per cent of their patient load. At interview all physicians were aware of the services offered by salaried health professionals.

Staff of the Diabetes Education Centre reported that 75 per cent of their patient load concerned people with older-onset diabetes with the remaining patient conditions being gestational diabetes (15%) and early-onset diabetes (10%).

2. The direction of exchanges between members of the diabetes care network

General practitioners refer fewer of their patients with diabetes mellitus than patients with mental illness. Furthermore, approximately 95 per cent of general practitioners expect to have on-going involvement in the care of people they refer with diabetes.

Seventy seven per cent of general practitioners reported receiving feedback from physicians for 75-100 per cent of referred patients. However, only 36 per cent of general practitioners indicated that 76-100 per cent of their patients were returned by physicians. As with the mental health network, these findings indicate that flow of information exchange is predominantly reciprocal, while resource exchanges are frequently unidirectional and favour resources flowing to the consultant physician.

Sixty two per cent of general practitioners reported frequent contact with the Diabetes Centre and 60 per cent indicated that they received feedback from the centre for 75-100 per cent of referred patients. Hence, in comparison to exchanges with mental health
professional agencies, exchanges between the Diabetes Centre and general practitioners are more often reciprocal.

3. The volume of exchange between members of the diabetes care network

The network for care of people with diabetes is homogeneous and dense (Table 27). All exchange categories report having frequent exchanges with one another. Over 60 per cent of general practitioners report having frequent contact with the Diabetes Education Centre and the Centre reciprocates. Based on averages of reported contacts it appears that no one exchange category mediates the flow of resources in this network. When compared with the mental health network, the diabetes network is smaller in total number of actors and all actors are frequently in contact with one another.

Table 27: Volume of exchange between members of the diabetes care network-weighted average

<table>
<thead>
<tr>
<th>Exchange category</th>
<th>Private Consultants</th>
<th>Diabetes Education Centre</th>
<th>General Practitioners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Consultants</td>
<td>-</td>
<td>Frequent</td>
<td>Frequent</td>
</tr>
<tr>
<td>Diabetes Ed. Centre</td>
<td>Frequent</td>
<td>-</td>
<td>Frequent</td>
</tr>
<tr>
<td>General Practiners.</td>
<td>Frequent</td>
<td>Frequent</td>
<td>-</td>
</tr>
<tr>
<td>Weighted Score</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Satisfaction with exchange relations in the diabetes network

Table 28 presents data on the satisfaction of the various actors with exchanges between members of the diabetes care network. All exchange categories report being reasonably satisfied with exchanges in terms of the quality of care provided to patients with a network average of 5.4. However, while the two groups of medical exchange categories
are satisfied with communications, the staff of the Diabetes Education Centre are not as satisfied with communications with either of these exchange categories suggesting that there is a cost for health professionals of increased volume of exchange with doctors.

Table 28: Satisfaction with exchange relations in the diabetes network

<table>
<thead>
<tr>
<th>Exchange category</th>
<th>Physicians</th>
<th>Diabetes Education Centre</th>
<th>General Practitioners</th>
<th>Network Average Rating (7 = very satisfied)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>PC* C#</td>
<td>6.3 6.5</td>
<td>5.3 5.3</td>
<td>5.7 4.7</td>
</tr>
<tr>
<td>Diabetes Centre</td>
<td>6.3 6.5</td>
<td>- -</td>
<td>5.2 4.8</td>
<td>5.7 5.7</td>
</tr>
<tr>
<td>General Practitioners</td>
<td>4.3 4.25</td>
<td>5 3</td>
<td>- -</td>
<td>4.7 3.6</td>
</tr>
<tr>
<td>Exchange Category Rating (7 = very satisfied)</td>
<td>5.2 5.3</td>
<td>5.5 3.5</td>
<td>5.3 5</td>
<td>5.4 4.7</td>
</tr>
</tbody>
</table>

*PC = Patient Care  
# C = Communication

Pattern of alliance activity within the mental health network

1. Prevalence of alliance activity

Forty three per cent of general practitioners report that they have alliance arrangements with psychiatrists and 9 of the 18 psychiatrists in the mental health network were nominated as people with whom generalists have alliances. Four of the 12 general practitioners with alliance arrangements have alliances with more than one psychiatrist; one doctor has an alliance with 4 psychiatrists.

All psychiatrists reported that they have alliance arrangements with general practitioners. The average number of general practitioners with whom each psychiatrist has an alliance
is 20. Furthermore, all psychiatrists indicate keen interest in developing further alliance arrangements.

Only 11 per cent of generalists report having alliance arrangements with mental health professional agencies while all but one mental health agency said that they have alliance arrangements with general practitioners. However, the number of general practitioners with whom these agencies have alliances is small (2-3). Like psychiatrists, mental health professionals expressed interest to develop further alliance arrangements with general practitioners. Public hospital doctors recognised a need to improve relationships with general practitioners.

2. Volume of exchange and pattern of alliance activity

Table 29 displays evidence that alliance activity is related to volume of exchange between actors. At interview, general practitioners and psychiatrists indicated that they choose their alliance partners carefully. For example, psychiatrists were only prepared to enter alliance with general practitioners who 1) were willing to enter such an arrangement, 2) did not “dump difficult patients on the psychiatrist, that is, he/she was willing to jointly sort the person’s problems out”, 3) was a good communicator in terms of letting the psychiatrist know what he/she wanted and keeping the psychiatrist informed, 4) was prepared to take instruction, 5) was willing to spend time with patients, and 6) employed an appropriate “social model of care”.

<table>
<thead>
<tr>
<th>General practitioners(n=10)</th>
<th>Exchanges with alliance psychiatrists (previous 6 months)</th>
<th>Exchanges with other psychiatrists (previous 6 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Number of contacts</td>
<td>112</td>
<td>36</td>
</tr>
<tr>
<td>• Range</td>
<td>3-25</td>
<td>0-10</td>
</tr>
<tr>
<td>• Mean/median</td>
<td>11.2/13</td>
<td>3.6/3</td>
</tr>
</tbody>
</table>

Wilcoxon Matched-Pairs Signed-Ranks Test; p< 0.05
Pattern of alliance activity within the diabetes care network

1. Prevalence of alliance activity

Fifty per cent of general practitioners indicated that they have alliances with physicians. Of those with alliance arrangements, one half reported alliance with 2 or more physicians. Twelve of the 16 physicians in the network were nominated as alliance-physicians. Two alliance-physicians who specialise in endocrinology were nominated three times as often as other physicians. However, two alliance-physicians, who also specialise in endocrinology, were located outside the region. Interview, and general practitioner satisfaction ratings, indicate dissatisfaction with two local physicians, hence, some general practitioners have gone outside the region for physician exchange. General practitioner comments implied that some physicians manage the patient interface poorly.

All physicians reported alliance arrangements with general practitioners. Physicians reported being in-alliance with 40-100 (mean 70) general practitioners and three of the five physicians were keen to establish alliances with other general practitioners.

Twenty three per cent of general practitioners reported alliance arrangements with staff of the Diabetes Education Centre. This was corroborated by the staff of the Centre who reported alliance arrangements with 20 per cent, or 30-40 general practitioners in the Region.

2. Volume of exchange and pattern of alliance activity

More general practitioners reported alliance arrangements with other providers in the diabetes network than in the mental health network. Furthermore, fifty per cent of alliance general practitioners reported that they only exchange with physicians with whom they have an alliance. Because over one-half of generalists in alliance only exchange with alliance physicians, the number of generalists available to examine differences in general practitioner volume of exchange with alliance and non-alliance
physicians was small. Table 30 reports the findings for seven general practitioners in alliance with physicians who also reported exchanges with other network physicians. As with the mental health network, the findings indicate that alliance activity is related to volume of exchange between generalists and specialists when analysed by the Wilcoxon Matched-Pairs Signed Ranks Test.

No relationship was found between general practitioner/diabetes health professional alliance and volume of exchange.

Like psychiatrists, physicians were only interested in alliance with general practitioners who complied with their expected norms of practice, described by one physician as "the more able people". According to physician assessment, between one-third and one-half of general practitioners met their criteria for "more able".

Table 30 General practitioner volume of exchange with alliance physicians and volume of exchange with other physicians

<table>
<thead>
<tr>
<th>General practitioners (n=7)</th>
<th>Exchanges with alliance physicians (previous 6 months)</th>
<th>Exchanges with other physicians (previous 6 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Number of contacts</td>
<td>65</td>
<td>23</td>
</tr>
<tr>
<td>• Range</td>
<td>3-25</td>
<td>3-6</td>
</tr>
<tr>
<td>• Mean/Median</td>
<td>9.28/8</td>
<td>3.25/3</td>
</tr>
</tbody>
</table>

Wilcoxon Matched-Pairs Signed-Ranks Test; p<0.05

Summary

This section has described the industry environment and the two regional networks. A survey response rate of over 70 per cent was achieved for both networks. Small business generalist and specialist doctors display similar personal profiles across networks, but this was not the case with health professionals. The number and variety of health professionals involved in the mental health network is greater than in the diabetes network.
The volume and direction of exchanges in the mental health network indicates that private psychiatrists have greatest influence in the mediation of resources. The volume of exchange between general practitioners and public sector mental health professionals is small which may be partly explained by the fact that many general practitioners do not know about the services offered by health professionals.

Communication exchanges between doctors within networks are generally reciprocal. However, some exchanges such as the flow of communication between public sector mental health professionals and general practitioners were from generalist to specialist. General practitioner satisfaction ratings reflect their displeasure with this state of affairs. However, in the diabetes care network general practitioners reported more feedback from health professionals, frequent exchanges and being reasonably satisfied with exchanges.

In the diabetes network, generalists expect to have most of their patients returned to their care by physicians, but only 36 per cent of generalists reported that 76-100 per cent were returned suggesting some opportunistic behaviour by physicians. The level of alliance activity in the diabetes network is substantially higher than it is in the mental health network with 50 per cent of generalists in-alliance with physicians compared with 43 per cent in the mental health network.

The qualitative findings reported in this section support the predicted relationship between volume of exchange and actor satisfaction. The exchange categories most satisfied with exchanges in the mental health network are those with the greatest volume of activity.

In the next section, evidence is presented concerning the nature of informal alliances and the factors which serve to maintain them.
STAGE 4: TWO-CASE COMPARATIVE STUDY - FACTORS MAINTAINING ALLIANCES

This section revisits definitions and rewards of alliance and the norms of practice governing alliances. First, qualitative data is introduced. Quantitative data is then presented which examines relationships between variables relating to the theoretical framework outlined in Chapter 4 (p 147).

Interorganisational alliances

The data concerning definitions, rewards and costs of being in alliance are presented in tabular form to emphasise differences and similarities in themes across networks.

1. Definitions of alliance

Tables 31 and 32 indicate that general practitioners in this Urban Region associate alliance arrangements with greater financial security and control over the care of patients. Other important factors for generalists are ready access to expertise and support.

Some physicians believe alliances are beneficial for their practice. For example, one physician reported that he had made an offer of alliance to 100 general practitioners and 40 had expressed interest.

In both networks the concept of alliance is predominantly associated with linkages between general practitioners and medical specialists rather than between doctors and health professionals. However, health professionals supported the practice of "shared care" and were enthusiastic about developing further alliances with general practitioners.
### Table 31: Definitions of alliance in the mental health network from the perspective of the actors

#### General practitioners
- An arrangement in which both the general practitioner and the specialist look after the patient.
- Continued involvement by the general practitioner in patient care following referral to a specialist (i.e., the patient sees the specialist less frequently).
- When the general practitioner has a problem, he can happily phone and get comment and/or assistance.
- It involves the general practitioner providing the specialist with feedback.
- It involves specialist-generalist interviews.
- Where the psychiatrist sends patients back to you to supervise progress until the psychiatrist sees them again.

#### Psychiatrists
- An arrangement in which the generalist and the psychiatrist are equally responsible for a patient.
- The general practitioner does primary care; I do consultant care - the generalist coordinates the patient's special needs. This can only happen with general practitioners who are prepared to care for mentally ill patients in the community.
- An arrangement which requires clearly defined roles - this has to be clarified depending on patient condition and the expertise of the generalist.
- It involves joint case management. The general practitioner manages the patient - we provide information and education and work together as a team.
- What it always should be - the psychiatrist sharing care with the general practitioner.

#### Mental health professionals
- The joint management of individual patients by various service providers; i.e., the client is being cared for by more than one person.
- It involves multidisciplinary care i.e. network care.
- An agreement to co-manage a client's care needs by instituting an agreed plan with identified responsibilities and a commitment to review progress.
Table 32: Definitions of alliance in the diabetes care network from the perspective of the actors

**General practitioners**
- An arrangement in which the general practitioner and the specialist are both involved in the care of patients with the physician seeing the patient annually and the patient seeing the general practitioner in-between.
- It involves the general practitioner making the diagnosis and having the on-going management and calling in the specialist as needed.
- It involves developing a treatment program for a patient which includes the general practitioner, the physician and the Diabetes Education Centre.

**Physicians**
- I don't know what it means. I guess it means where the general practitioner controls the referral process.
- The law requires that all patients are shared through the referral letter.
- An arrangement in which the care is shared- it involves team management.
- An arrangement in which the general practitioner retains responsibility for the primary care functions and the physician takes over the difficult problems.
- It involves me doing some things and the general practitioner doing some things. Some patients like to be seen by a physician and I do some things better, for example, assessing the difficult things such as complications. I send the generalists biochemical test results and they send me details of the tests and medications that they have prescribed. This type of alliance arrangement is still developing. Of the 100 or more general practitioners I have offered this type of arrangement to 40 have expressed interest.

**Diabetes care health professionals**
- An arrangement which makes the patient the focal point and uses a multidisciplinary approach to provide holistic care.

2. The rewards of alliance for the respective players

There are similarities across network with respect to the rewards of alliance for each group of actors (Tables 33 and 34). Participants from both networks emphasise that alliance arrangements have rewards for customers with one small business physician indicating that alliances are “good consumerism”. According to providers, the rewards for customers include better quality care, improved access to a range of appropriate services and improved service coordination. Efficient communication between providers appears to be equally important for diabetes and mentally ill patients.

For the general practitioner, skill enhancement and on-going education are important rewards of alliance together with improved access to specialist support. This issue is
particularly important with respect to the mental health network where the provision of care to some clients may be quite stressful for providers.

Private sector specialists derive satisfaction from the role of educator and value alliance exchanges which are free from misunderstanding.

Public sector specialists and health professionals emphasise the benefits for the system which include improved cost-effectiveness and reductions in the demand on the public system through transferring care to the private sector general practitioner.

Table 33: The rewards of alliance in the mental health network

<table>
<thead>
<tr>
<th>The rewards for patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Access to a range of skills. The general practitioner is locally based and easy to access.</td>
</tr>
<tr>
<td>- Better quality care, better coordinated care, better consistency and continuity of care; a more holistic approach with a general practitioner who understands and is comfortable with the patient’s home situation.</td>
</tr>
<tr>
<td>- Greater confidence in treatment; the general practitioner is supported by the psychiatrist.</td>
</tr>
<tr>
<td>- On-going continuity of care with someone who knows patient and family and their problems.</td>
</tr>
<tr>
<td>- Rapid exchange of information between providers for one-in-three patients who need it.</td>
</tr>
<tr>
<td>- Satisfaction for the patient and their family.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The rewards for general practitioners</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Increased knowledge and support, hence, is able to provide more comprehensive care.</td>
</tr>
<tr>
<td>- Access to specialist support and community facilities. Many clients are stressful to manage and support is important “together we muddle through”.</td>
</tr>
<tr>
<td>- Fewer &quot;stuff-ups&quot;.</td>
</tr>
<tr>
<td>- Satisfaction from knowing the needs of the patient (ie. personal fulfilment).</td>
</tr>
<tr>
<td>- Skill enhancement and increased understanding of the current mental health status/functioning of patients.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The rewards for psychiatrists and mental health professionals</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Ability to tailor his/her practice to areas of interest and expertise.</td>
</tr>
<tr>
<td>- Gain more complete knowledge of the situation; mutual education “I learn about recent trends in primary care medicine and the generalists learns specialist information”.</td>
</tr>
<tr>
<td>- Personal satisfaction through the teacher role- “we try and do it with letters- there should be more of it”.</td>
</tr>
<tr>
<td>- Not having his rooms &quot;clogged with cases that can best be handled by a phone call with a general practitioner&quot;.</td>
</tr>
<tr>
<td>- Clarification of the expectations of each party and reduction of potential for misunderstanding.</td>
</tr>
<tr>
<td>- Less worry about clients through shared responsibility.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The rewards for the health system</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Each group of providers do what they do best; improved cost-effectiveness.</td>
</tr>
<tr>
<td>- It reduces the load on the public system through management by general practitioners.</td>
</tr>
<tr>
<td>- It enhances the professional network of care and enhances the system’s ability to see more clients and meet the needs of more people with mental illness.</td>
</tr>
</tbody>
</table>
Table 34: The rewards of alliance in the diabetes care network

**The rewards for patients**
- Better care to patients; "I feel that the more we work together the better we look to our patients and the more reassured the patient feels".
- They maintain their basic relationship with their family doctor.
- A better coordinated system of care with roles merged.

**The rewards for general practitioners**
- Further education via the letter from the physician which he/she can apply to subsequent patients.
- Improved patient satisfaction leads to greater generalist and specialist satisfaction. "Alliance arrangements are good consumerism."
- Retains and enhances the generalist's skills in the management of diabetes.
- Access to specialist support and enhanced communication with health professionals.

**The rewards for physicians and diabetes care health professionals**
- A better/broader view of the patient's whole situation.
- Is able to concentrate attention on the harder cases ("the superb general practitioner sends you superb patients"; "I'm able to do what I am interested in").
- Satisfaction with the educator role and from having better satisfied patients.
- A better informed consultant who is able to react effectively and have confidence in the ability of others.
- No fear in doing one another's jobs - less friction.
- Improved communication with general practitioners and physicians for health professionals.

**The rewards for the health system**
- Fewer unnecessary referrals to the public system.

3. The costs and pitfalls of alliance

Participants were asked about the costs and pitfalls of alliance. The predominant message across both networks is the need for effective communication between alliance partners (Table 35). Good communication prevents conflict and other problems for customers, such as, confusion over who is responsible for providing their care and problems of coordination. This was seen as particularly important in the care of people with severe mental illness who may easily fall through the “net” and, as a result, fail to take essential medication.

For medical specialists one cost of alliance is being readily available to alliance partners for informal telephone consultations. However, the rewards outweigh the costs of
lengthy, unexpected telephone consultations. As expressed by one psychiatrist, “the smoothness of the relationship makes up for it”.

Table 35: The costs and pitfalls of alliance in two networks

<table>
<thead>
<tr>
<th>The mental health network</th>
<th>The diabetes care network</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General practitioners</strong></td>
<td>General practitioners</td>
</tr>
<tr>
<td>• Some patients are stressful for the generalist who must take the good with the bad.</td>
<td>• Conflict may occur with respect to who is monitoring and prescribing medication for the patient.</td>
</tr>
<tr>
<td>• Sometimes the general practitioner may misunderstand a certain line of treatment and fail to reinforce it adequately and this can have adverse effects for the patient.</td>
<td></td>
</tr>
<tr>
<td>• Differences in opinion about diagnosis and treatment may lead to friction.</td>
<td></td>
</tr>
<tr>
<td><strong>Psychiatrists</strong></td>
<td>Physicians</td>
</tr>
<tr>
<td>• Costly if you do not communicate.</td>
<td>• There are no costs to alliances.</td>
</tr>
<tr>
<td>• The time spent on the phone (sometimes when patients are with you), for which you receive no payment. However, the “smoothness of the relationship makes up for it”.</td>
<td>• The potential to be over-used because you are known to be available for consultation with the practitioner.</td>
</tr>
<tr>
<td>• If communication breaks down, patients fall through the gap or duplication occurs. Some mentally ill patients are unreliable in turning up for appointments and taking their medication- it is easy for them to fall through the gaps.</td>
<td>• The potential for alliance partners to overuse the informal system.</td>
</tr>
<tr>
<td>• General practitioners lack the skills for managing aggressive and violent patients and they may be exposed to situations they cannot handle.</td>
<td>• If communication breaks down patients may wonder who is treating them, they may fall between the gaps, they may feel they are being pushed on to someone else.</td>
</tr>
<tr>
<td><strong>Mental health professionals</strong></td>
<td>Diabetes care professionals</td>
</tr>
<tr>
<td>• If you do not communicate effectively concerning role responsibilities:</td>
<td>• If there is poor communication between providers the patient is left in “limbo”.</td>
</tr>
<tr>
<td>- clients may fall through the gap</td>
<td></td>
</tr>
<tr>
<td>- the care provided may be poor</td>
<td></td>
</tr>
<tr>
<td>- conflict may occur over treatment strategies and clients may become confused.</td>
<td></td>
</tr>
<tr>
<td>• Becoming dependent on other service providers.</td>
<td></td>
</tr>
</tbody>
</table>
Norms of practice governing alliances

Stage 1 and stage 2 of data collection identified four norms of practice governing alliances between general practitioners, medical specialists and health professionals, namely, communication, competence, trust and respect. Private sector doctors placed greater emphasis on issues related to trust while public sector professionals emphasized respect and equality. In this section of data presentation, the norms of practice that apply to medical specialists are further explored using data from the survey of general practitioners in the two networks. Because of the consistency between the data gained in Stages 1 and 2 and the data collected in Stage 4 in the urban region concerning norms of practice, this qualitative data is presented in Appendix 4.

In 95 per cent of cases the medical specialist nominated by general practitioners as setting the “gold standard” practice governing exchange relationships was nominated as an alliance specialist.

Table 36 provides a general practitioner description of the behaviours of medical specialists in the two networks who most comply with alliance norms of practice. Approximately seventy per cent of general practitioners in both networks report that "gold standard" medical specialists provide feedback within one week. Psychiatrists make greater use of the telephone to provide feedback (p < 0.05) and receive a higher rating with respect to communicating with patients (p < 0.05). Approximately 80 per cent of generalists in both networks rate “gold standard” specialists as providing educative feedback and “good” to “very good” quality of care.
Table 36: A general practitioner perspective of “gold standard” practice by medical specialists

<table>
<thead>
<tr>
<th>Norms of practice</th>
<th>Psychiatrists</th>
<th>Physicians</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication</strong></td>
<td>(n=28)</td>
<td>(n=32)</td>
</tr>
<tr>
<td>Method of feedback</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Telephone and letter</td>
<td>54%</td>
<td>30%</td>
</tr>
<tr>
<td>- Letter</td>
<td>46%</td>
<td>70%</td>
</tr>
<tr>
<td>Promptness of feedback</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Within a week</td>
<td>71%</td>
<td>73%</td>
</tr>
<tr>
<td>- Within a month</td>
<td>29%</td>
<td>24%</td>
</tr>
<tr>
<td>- &gt; month</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Quality of feedback</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Acknowledges referral, says what he/she did &amp; why &amp; what I should do</td>
<td>54%</td>
<td>46%</td>
</tr>
<tr>
<td>- Acknowledges referral, says what he/she did &amp; why</td>
<td>29%</td>
<td>27%</td>
</tr>
<tr>
<td>- Acknowledges referral, says what he/she did</td>
<td>17%</td>
<td>27%</td>
</tr>
<tr>
<td><strong>Quality of care</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Good to very good</td>
<td>83%</td>
<td>88%</td>
</tr>
<tr>
<td>- Average</td>
<td>17%</td>
<td>12%</td>
</tr>
<tr>
<td><strong>Communications with patients</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Good to very good</td>
<td>87%</td>
<td>64%</td>
</tr>
<tr>
<td>- Average to poor</td>
<td>13%</td>
<td>36%</td>
</tr>
</tbody>
</table>

*Mann-Whitney U-Test; p < 0.05*

Missing from Table 36 is the “gold standard” measure of return of patients. Interviews with general practitioners in both networks in the Urban Region confirmed that return of patients is very important to general practitioners. As stated by one general practitioner, “I do not send any more patients to specialists who fail to return my patients or to specialists who fail to communicate with me or to specialists who bad-mouth me in front of my patients”. The study found a significant relationship between the return of patients and generalists with an alliance arrangement with physicians (Table 37) suggesting that return of patients is one of the issues motivating generalists to maintain an alliance with a physician. Furthermore, significantly more patients (Mann Whitney U-Test; p < 0.05) were reported to be returned to generalist care by psychiatrists than by physicians (52% compared with 36%).
Further statements from general practitioners indicated that feedback from patients and patient satisfaction with a referral to a specialist is very important. For example, one general practitioner stated, "What is really important is how the patient feels after seeing the specialist".

Four of the six interviewed psychiatrists proposed that personal contact with general practitioners is important and that it should be fostered in order to improve exchange relationships; a viewpoint not supported by the majority of interviewed general practitioners.

**Factors maintaining alliances**

Having established within two networks that tangible and intangible rewards from alliances are to be had by the actors and having discovered in both networks that the norms of practice governing alliances are very similar, it is now necessary to explore relations between variables in terms of the theoretical framework, namely, the relationships between 1) actor satisfaction and volume of exchange, 2) volume of exchange and compliance with norms of practice, and 3) compliance with norms of practice and actor satisfaction.

1. **Actor satisfaction and volume of exchange**

The relationship between general practitioner satisfaction with exchanges and volume of exchange, was investigated using data collected at interview and by questionnaire from
general practitioners in both networks. The results pertaining to general practitioner-medical specialist volume of exchange are presented in Table 38. The findings from both networks support the hypothesis that “Generalist satisfaction with a specialist firm varies significantly with volume of exchange”.

Table 38: Generalist satisfaction and volume of exchange with specialists

<table>
<thead>
<tr>
<th>Generalist satisfaction (n=13) (7 = very satisfied)</th>
<th>High volume of exchange consultant</th>
<th>Low volume of exchange consultant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Satisfaction with patient care</td>
<td>Satisfaction with communication</td>
</tr>
<tr>
<td>Range</td>
<td>5-7</td>
<td>5-7</td>
</tr>
<tr>
<td>Mean</td>
<td>6.1₁</td>
<td>6.6²</td>
</tr>
</tbody>
</table>

1. Wilcoxon Matched-Pairs Signed-Ranks Test; p < 0.001
2. Wilcoxon Matched-Pairs Signed-Ranks Test; p< 0.001

Responses to the General Practitioner Questionnaire provided an opportunity to examine any relationship between generalist satisfaction and the frequency of use of health professionals. In the diabetes care network a weak association (Spearman’s rho 0.438) was found between generalist satisfaction and the frequency of use of health professionals (Table 39) with 19 per cent of frequency of contact explained by satisfaction with communication. No corresponding association was found with respect to generalist satisfaction and volume of exchange with mental health professionals. This may be largely explained by the fact that general practitioners have fewer exchanges with mental health professionals (Table 25) than they do with diabetes health professionals (Table 27).
Table 39: Volume of exchange with diabetes health professionals and generalist satisfaction with communication (1 = very dissatisfied; 7 = very satisfied)

<table>
<thead>
<tr>
<th>Frequency of contact</th>
<th>Satisfaction-communication</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Frequent</td>
<td>-</td>
</tr>
<tr>
<td>Occasional</td>
<td>1</td>
</tr>
<tr>
<td>Not at all</td>
<td>-</td>
</tr>
</tbody>
</table>

Spearman's rho = 0.438; p < 0.05

2. Volume of exchange and compliance with norms of practice

The General Practitioner Questionnaire provided opportunity to examine any relationship between volume of exchange and compliance with norms of practice. The variables considered with respect to medical specialists were the number of contacts with the “gold standard” specialist and the number of contacts with “other” specialists in the generalist’s exchange network. With health professionals, the variables used were the proportion of patients for which the generalist receives feedback and the frequency of contact.

Tables 40 and 41 report the findings for the mental health network. With respect to psychiatrists, generalist frequency of contact varies significantly with specialist compliance with norms of practice. Furthermore, with respect to mental health professionals, there was a reasonably strong association (Spearman’s rho 0.69) between generalist frequency of contact and the receipt of feedback with 48 per cent of frequency of contact explained by the provision of feedback.
Table 40: Generalist volume of exchange and psychiatrist compliance with norms of practice

<table>
<thead>
<tr>
<th>General practitioners (n=20)</th>
<th>Psychiatrist who most complies with norms of practice (volume of exchange during the previous 6 months)</th>
<th>Other psychiatrists with whom the generalist exchanges (previous 6 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Total number of contacts</td>
<td>167</td>
<td>63.5</td>
</tr>
<tr>
<td>• Range</td>
<td>3-25</td>
<td>0-11</td>
</tr>
<tr>
<td>• Average/Median</td>
<td>8.35/8</td>
<td>3.175/3</td>
</tr>
</tbody>
</table>

Wilcoxon Matched-Pairs Signed-Ranks Test; p < 0.001

Note:
1. An average was computed for the volume of exchange with “other” nominated psychiatrists after removing the number of contacts with sub-specialists with whom the generalist would be expected on technical grounds to have a low volume of exchange.

Table 41: Generalist volume of exchange and mental health professional compliance with norms of practice

<table>
<thead>
<tr>
<th>Generalist frequency of contact (n=23)</th>
<th>Percentage of patients for which the generalist receives feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
</tr>
<tr>
<td>• Frequent</td>
<td>-</td>
</tr>
<tr>
<td>• Occasional</td>
<td>-</td>
</tr>
<tr>
<td>• Rare</td>
<td>4</td>
</tr>
</tbody>
</table>

Spearman's rho = 0.69; p < 0.05

As in the mental health network, generalist volume of exchange with physicians identified as complying with norms of practice was greater than with other physicians (Table 42). However, no association was found between generalist frequency of contact with diabetes health care professionals and the provision of feedback. In this situation 65 per cent of generalists reported using the service frequently and 95 per cent of these doctors indicated that they received feedback for most patients.

It is concluded that the data from both networks supports the proposition that “degree of organisational interdependence is positively associated with compliance with norms of practice regarding methods of coordination and the development of trust”.

253
Table 42: Generalist volume of exchange and physician compliance with norms of practice

<table>
<thead>
<tr>
<th>General practitioner (n=24)</th>
<th>Physician who most complies with norms of practice (volume of exchange during the previous 6 months)</th>
<th>Other physicians with whom the generalist exchanges (previous 6 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Total number of contacts</td>
<td>201</td>
<td>108.7</td>
</tr>
<tr>
<td>• Range</td>
<td>3-25</td>
<td>3-18</td>
</tr>
<tr>
<td>• Average/Median</td>
<td>8.37/3</td>
<td>4.5/3</td>
</tr>
</tbody>
</table>

Wilcoxon Matched-Pairs Signed-Ranks Test; p < 0.001

**Note:**
1. An average was computed for the volume of exchange with “other” nominated physicians after removing the number of contacts with sub-specialists with whom the generalist would be expected on technical grounds to have a low volume of exchange.

3. Volume of exchange by familiarity

The general practitioner interview protocol was used to collect data relevant to examining the relationship between volume of exchange and the length of time that a generalist had known a specialist within the respective exchange network. The null hypothesis could not be rejected (Table 43).

Table 43: Volume of exchange by length of time that the generalist had known the specialist

<table>
<thead>
<tr>
<th>Number of years known by the general practitioner (n=13)</th>
<th>High volume exchange specialist</th>
<th>Low volume exchange specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Range (years)</td>
<td>1 - 10 or more</td>
<td>1-10 or more</td>
</tr>
<tr>
<td>• Average/Median</td>
<td>5.3/4</td>
<td>4.5/5</td>
</tr>
</tbody>
</table>

4. Compliance with norms of practice and actor satisfaction

Variables entering into an examination of the relationship between compliance with norms of practice and general practitioner satisfaction include: 1) the proportion of patients returned to generalist care by medical specialists and generalist satisfaction with the care provided to patients, 2) the proportion of patients for which the generalist receives
feedback from medical specialists and generalist satisfaction with communications, and
3) the proportion of patients for which the generalist receives feedback from health
professionals and generalist satisfaction with communication.

Tables 44 and 45 present the relevant frequencies for both networks. Of note are across-
network differences in 1) the percentage of patients returned by medical specialists (Table
44: Mann Whitney U-Test p<0.05) 2) the amount of feedback received by generalists
from health professionals (Mann Whitney U-Test; p < 0.01), and 3) generalist
satisfaction with feedback from health professionals (Table 45: Mann Whitney U-Test; p
< 0.05). General practitioners report receiving more feedback from diabetes health
professionals and being more satisfied with communications with these health
professionals than with mental health professionals.
Table 44: Specialist compliance with norms of practice: mental health network and diabetes care network

<table>
<thead>
<tr>
<th>Norms of practice: generalist perspective (n=27 mental health; 31 diabetes care)</th>
<th>Number of specialists who comply: mental health network</th>
<th>Number of specialists who comply: diabetes care network</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Percentage of patients returned by medical specialists:</td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td>- 76-100%</td>
<td>14</td>
<td>52%</td>
</tr>
<tr>
<td>- 51-75%</td>
<td>8</td>
<td>30%</td>
</tr>
<tr>
<td>- 26-50%</td>
<td>4</td>
<td>15%</td>
</tr>
<tr>
<td>- 15% or less</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>- Percentage of patients for which the generalist receives feedback from medical specialists:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 76 - 100%</td>
<td>23</td>
<td>85%</td>
</tr>
<tr>
<td>- 52 - 75%</td>
<td>4</td>
<td>15%</td>
</tr>
<tr>
<td>- 26 - 50%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>- Percentage of patients for which the generalist receives feedback from health professionals:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 76 - 100%</td>
<td>6</td>
<td>26%</td>
</tr>
<tr>
<td>- 51 - 75%</td>
<td>5</td>
<td>22%</td>
</tr>
<tr>
<td>- 26 - 50%</td>
<td>3</td>
<td>13%</td>
</tr>
<tr>
<td>- 25% or less</td>
<td>5</td>
<td>22%</td>
</tr>
<tr>
<td>- no feedback</td>
<td>4</td>
<td>17%</td>
</tr>
</tbody>
</table>

*Mann Whitney U-Test; p < 0.05
Table 45: Generalist satisfaction with exchange relations: mental health network and diabetes care network

<table>
<thead>
<tr>
<th>Measure of satisfaction: generalist perspective (n=27 mental health; 31 diabetes care)</th>
<th>Number satisfied: mental health network</th>
<th>Number satisfied: diabetes care network</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td><strong>Satisfaction with medical specialist patient care:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Very satisfied to satisfied</td>
<td>24 88%</td>
<td>22 68%</td>
</tr>
<tr>
<td>- Mid-range satisfaction</td>
<td>1 4%</td>
<td>5 16%</td>
</tr>
<tr>
<td>- Dissatisfied to very dissatisfied</td>
<td>2 8%</td>
<td>5 16%</td>
</tr>
<tr>
<td><strong>Satisfaction with communications with medical specialists:</strong></td>
<td>24 89%</td>
<td>23 72%</td>
</tr>
<tr>
<td>- Very satisfied to satisfied</td>
<td>- -</td>
<td>6 19%</td>
</tr>
<tr>
<td>- Mid-range satisfaction</td>
<td>3 11%</td>
<td>3 9%</td>
</tr>
<tr>
<td>- Dissatisfied to very dissatisfied</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Satisfaction with communications with health professionals:</strong></td>
<td>9 41%</td>
<td>15 54*%</td>
</tr>
<tr>
<td>- Very satisfied to satisfied</td>
<td>5 22%</td>
<td>7 25%</td>
</tr>
<tr>
<td>- Mid-range satisfaction</td>
<td>9 37%</td>
<td>6 21%</td>
</tr>
<tr>
<td>- Dissatisfied to very dissatisfied</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Mann Whitney U-Test; p < 0.05

Furthermore, with respect to the mental health network a reasonably strong positive association (Spearman's rho 0.769; p < 0.05) was observed between the amount of feedback received by generalists from health professionals and general practitioner satisfaction with communications with 58 per cent of generalist satisfaction explained by the provision of feedback (Table 46). In the diabetes network a somewhat weaker association (Spearman’s rho 0.63) was observed between feedback received by generalists from health professionals (Table 47).
Table 46: The provision of feedback by mental health professionals and generalist satisfaction with communication

<table>
<thead>
<tr>
<th>Percentage of patients for which the generalist receives feedback (n=23)</th>
<th>Generalist satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>76-100%</td>
<td>1 2 2 1</td>
</tr>
<tr>
<td>51-75%</td>
<td>- - 1 2 -</td>
</tr>
<tr>
<td>26-50%</td>
<td>- - - 2 1 -</td>
</tr>
<tr>
<td>&lt;25%</td>
<td>1 2 - 2 - -</td>
</tr>
<tr>
<td>None</td>
<td>2 1 1 1 - -</td>
</tr>
</tbody>
</table>

Spearman’s rho = 0.769; p < 0.05

Table 47: The provision of feedback by diabetes health professionals and generalist satisfaction with communication

<table>
<thead>
<tr>
<th>Percentage of patients for which the generalist receives feedback (n=31)</th>
<th>Generalist satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>76-100%</td>
<td>1 - - 5 - 2 10</td>
</tr>
<tr>
<td>51-75%</td>
<td>- 1 - - - 2 -</td>
</tr>
<tr>
<td>26-50%</td>
<td>- - 1 1 - - -</td>
</tr>
<tr>
<td>&lt;25%</td>
<td>- - 1 1 - - -</td>
</tr>
<tr>
<td>None</td>
<td>1 - - - 1 - -</td>
</tr>
</tbody>
</table>

Spearman’s rho = 0.6258; p < .05

In the mental health network, no relationship was observed between the return of patients, or the amount feedback provided by psychiatrists and generalist satisfaction. As indicated by Table 45, there was little variation in generalist satisfaction with patient care and with communications with psychiatrists, 88 per cent and more of general practitioners were satisfied to very satisfied. The situation was different in the diabetes network in that only 35 per cent of generalists reported that most patients were returned to their care and generalist satisfaction with the care provided to patients by physicians was substantially lower. In this network a weak association (Spearman’s rho 0.5) was observed between the percentage of patients returned to generalists and general practitioner satisfaction with the care provided by physicians (Table 48) with 29 per cent of generalist satisfaction explained by the return of patients.
It is concluded that this quantitative data supports the fourth research proposition, namely, “that compliance by the partners with the norms of practice governing exchanges is positively associated with level of satisfaction with an exchange relation”.

**Issues requiring further examination**

During analysis of the data from the two-case study in the Urban Region it became apparent that substantial differences exist in exchanges between small business generalist and specialist firms and exchanges between small business generalist and public sector specialist organisations. Among the differences are expectations about the outcomes of alliance arrangements and the norms of practice governing exchanges. While general practitioners expect alliances with specialist organisations to result in the return of patients to their care and the provision of informative feedback, public sector organisations expect alliances to result in cost reduction through the more efficient use of resources and the transfer of costs to the private sector. With respect to the norms of practice governing exchanges, both sectors consider effective communications and quality patient care to be important, however, of high priority to general practitioners is the return of patients. Public sector health professionals on the other hand, emphasize respect for the role of specialist health professionals and being treated as equal members of the health team. These differences were particularly apparent in the mental health network with its extensive reliance on the public sector. Table 49 indicates that, on all satisfaction
extensive reliance on the public sector. Table 49 indicates that, on all satisfaction measures, public sector psychiatrists and health agencies receive significantly lower ratings than their private sector colleagues from general practitioners.

Table 49: General practitioner satisfaction with specialist mental health services by specialist sector of activity

<table>
<thead>
<tr>
<th>Measure of satisfaction: generalist perspective (n = 27)</th>
<th>Private sector specialists</th>
<th>Public sector specialists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>n</td>
</tr>
<tr>
<td></td>
<td>Number satisfied</td>
<td>Number satisfied</td>
</tr>
<tr>
<td>• Satisfaction with the care provided to patients by psychiatrists:</td>
<td>24</td>
<td>14*</td>
</tr>
<tr>
<td>- Satisfied to very satisfied</td>
<td>88%</td>
<td>56%</td>
</tr>
<tr>
<td>- Mid-range</td>
<td>4%</td>
<td>24%</td>
</tr>
<tr>
<td>- Dissatisfied to very dissatisfied</td>
<td>8%</td>
<td>20%</td>
</tr>
<tr>
<td>- No contact</td>
<td>-</td>
<td>(2)</td>
</tr>
<tr>
<td>• Satisfaction with communications with psychiatrists:</td>
<td>24</td>
<td>12*</td>
</tr>
<tr>
<td>- Satisfied to very satisfied</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>- Mid-range</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>- Dissatisfied to very dissatisfied</td>
<td>-</td>
<td>(2)</td>
</tr>
<tr>
<td>- No contact</td>
<td></td>
<td>(7%)</td>
</tr>
<tr>
<td>• Satisfaction with patient care provided by health professionals:</td>
<td>12</td>
<td>10*</td>
</tr>
<tr>
<td>- Satisfied to very satisfied</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>- Mid-range</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>- Dissatisfied to very dissatisfied</td>
<td>(6)</td>
<td>(7)</td>
</tr>
<tr>
<td>- No contact</td>
<td></td>
<td>(26%)</td>
</tr>
<tr>
<td>• Satisfaction with communications with health professionals:</td>
<td>10</td>
<td>8*</td>
</tr>
<tr>
<td>- Satisfied to very satisfied</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>- Mid-range</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>- Dissatisfied to very dissatisfied</td>
<td>(6)</td>
<td>(8)</td>
</tr>
<tr>
<td>- No contact</td>
<td></td>
<td>(30%)</td>
</tr>
</tbody>
</table>

* t-test for paired samples: p < 0.01
Summary

Exchange categories in both networks consider that alliances have good outcomes for patients and for private sector participants. The rewards for general practitioners of alliance with small business medical specialists include greater financial security through the non-loss of patients, ready access to information and support, and skill and knowledge enhancement. The rewards for small business medical specialists include increased general practitioner loyalty to refer patients, personal satisfaction and fulfilment associated with the role of generalist educator and supporter, knowledge up-date in general medicine, and “smoother” working relationships.

Private sector and public sector participants in both networks agree that feedback is an essential norm of practice, and private sector participants additionally emphasise the importance of trust. For the general practitioner, trust is associated with the return of patients, the specialist speaking well of the generalist to patients and a specialist with whom patients are satisfied. For medical specialists in both networks, trust is associated with the generalist speaking well of the specialist to patients and willingness and competence on the part of the generalist to comply with recommended treatments.

The prevalence of alliance activity between small business generalists and public sector medical specialists and health professionals is substantially less than alliance activity between small business generalists and specialists. Public sector alliance partners emphasise the rewards for patients and the potential for alliances to reduce the workload in the public sector. In both sectors, the costs of alliance are largely associated with consequences of break down in communication.

Evidence has been provided which bears upon the theoretical framework with respect to alliance maintenance. For small business generalists in both networks the maintenance of alliance is strongly associated with specialist conformity with norms of practice governing exchange. The quantitative data from the urban region provides support for 1) the
proposition that “actor satisfaction is positively associated with organisational interdependence”, 2) the proposition that “degree of organisational interdependence is positively associated with compliance with norms of practice” and 3) the proposition that “compliance by the partners with the norms of practice governing exchanges is positively associated with satisfaction with an exchange relation”. However, no support was found for the hypothesis that “volume of exchange between generalist and specialist varies significantly with familiarity of the principals”.

Within the mental health network, small business general practitioners were significantly more satisfied with the services they receive from small business medical and non-medical specialists than they were with public sector psychiatrists and mental health professionals. Stage 6 of evidence presentation explores the complexities of private sector/public sector collaboration further.
STAGE 5: KEY INFORMANT VALIDATION AND COMMENT

Fifty one people participated in two research workshops which were conducted with equal representation from both networks following the analysis of the data from the Two-Case survey. The purpose of the Research Workshops was to gain key informant comment on the validity of the study findings. The first workshop included nineteen small business general practitioners and six small business medical specialists who had participated in the study, the Chairmen of the relevant Divisions of Medicine, and five invited experts, four of whom had participated in the study. The second workshop involved the Chairman of the Division of General Practice, 15 health professionals who had contributed to the study, and the managers of the network-relevant public sector health agencies, plus three invited experts.

Doctor validation and comment

Following the presentation of findings from the study, open discussion expanded and clarified the results while the researcher recorded reactions of generalists and specialists. It was agreed that the study provided new and useful information on exchange activities, particularly in relation to alliances. It was agreed that identified norms of practice should be publicised widely among generalists and specialists to promote a more intelligent approach to interorganisational collaboration.

Invited experts highlighted issues of greatest importance to each exchange category (e.g. the poor quality of some referral letters and failure by some medical specialists to return patients to the referring general practitioner). Members of each exchange category responded.
1. Mental health network

With respect to the mental health network, the Director of the public sector Mental Health Service invited general practitioners to enter formal alliance arrangements with the regional hospital. He acknowledged that psychiatry was not a popular field. He described the hospital's need of medical staff to assist in the care of people with schizophrenia, mania and psychotic depression. He also described a formal alliance model in which the general practitioner trains at the hospital for six months and then contracts with the hospital for three to five half-day sessions per week. He indicated that a training program could be instituted that would lead to a Diploma of Mental Health. No general practitioner took up his invitation.

Members of the expert panel raised the issue of general practitioner dissatisfaction with communications with the public hospital and with mental health agencies.

The group endorsed the relevance and authenticity of the findings. In particular the group agreed that general practitioners should be provided with guidelines for information required in a good psychiatric referral letter. It was agreed that a brochure should be developed for dissemination among general practitioners as to the services available from mental health professionals for the care of mentally ill people. Furthermore, it was agreed that members of the Division of General Practice should be informed on opportunities to "share care" with the public hospital psychiatric unit.

2. Diabetes care network

Panel members raised two important issues concerning the diabetes network, namely, the poor quality of some referral letters from general practitioners to physicians and failure by some physicians to return patients to general practitioners. Exchanges between generalists and specialists were frank and challenging and, according to the Chairman of the Division of General Practice, useful.
With respect to exchanges with health professionals, several comments implied that “a battle for territory” and patients exists between general practitioners and health professionals and that this is counter-productive to good working relationships.

Recommendations from the meeting included the need to develop a “proforma” referral letter which could be made available to all general practitioners to improve the quality of letters to physicians. In particular, it was agreed that the referral letter should articulate the general practitioner’s expectations about his/her on-going role in the care of patients; thereby clarifying expectations about return of patients.

The group formally endorsed the relevance and apparent accuracy of the findings.

Health professional validation and comment

A second research workshop dealt with the study findings relevant to exchange relationships between health professionals and general practitioners. Two of the six doctors invited to participate in the meeting attended. Health professionals noted the poor representation of doctors, taking it to exemplify a lack of respect characteristic of many doctors in relation to health professionals.

1. Mental health network

Mental health professionals perceived that general practitioners had little time for mentally ill patients and, as a result, they have little interest in caring for people with mental illness. They stated that only three general practitioners in the region committed time to seriously mentally ill patients. Furthermore, the comment was made that problems in exchanges between general practitioners and mental health nurses had existed for a long time and that entrenched, negative attitudes were difficult to overcome.

In response to the low satisfaction rating from general practitioners concerning the public hospital psychiatric services, health professionals indicated that the feelings were mutual. They said that the 10 per cent of general practitioners who referred patients to the hospital
outpatients department failed to communicate about mentally ill clients with hospital staff. It was agreed that it was time for health professionals and general practitioners to show more respect for one another. It was recognised that effort is required to develop a "culture of communication". One participant recognised that "what is needed is a system which promotes rapid, reciprocal feedback". Referral protocols were proposed to facilitate improved communication. Mental health professionals acknowledged a need to clarify and publicise their activities and functions to general practitioners.

2. Diabetes care network

Diabetes care health professionals emphasised the importance of "giving and receiving of good-will". The comment was made that "We are all very sensitive about what other people say about us. We need to be careful what we say about other professionals. Some people put themselves further up the status scale than others. By criticising others, they feel superior". This attitude was regarded as counter-productive to good working relationships and the development of general practitioner - health professional alliances. Personal contact with general practitioners was seen as important to promoting improved working relationships. A member of the expert panel proposed that health professionals explore how to improve working relationships with general practitioners with whom it is most difficult to work (ie. to move beyond working with the people with whom it is most satisfying).

Manager validation and comment

The interviews with chairmen/managers were conducted to gain an administrative level response to alliance maintenance and to qualitatively examine the utility and application of the findings gained at the operational level. In addition, the findings gained from managers provided opportunity to explore the extent to which leaders of exchange categories perceived a need to equip constituents to influence the flow of resources within the respective networks.
Three Chairs of medical divisions were interviewed, each was a fellow of his specialist college and all were highly respected clinicians with many years experience in their field (eg. general practice, psychiatry, internal medicine). In addition the Coordinator of Community Mental Health Services and the Coordinator of the Diabetes Education Centre were interviewed. The former is a registered psychiatric nurse with many years of experience who also holds a Master of Science degree. The Director of the Diabetes Centre is a registered nurse with five years experience and a Master of Public Health degree.

1. Chair of the Division of General Practice

The Chair of the Division of General Practice revealed that general practitioners in the region have been loosely organised under the umbrella of an association for 10 years and in the past 12 months have gained divisional status. Being a Division of General Practice means they receive an annual grant from the Federal Government of approximately $170,000 dollars. The Division is an incorporated company organised as “a cooperative of single-minded individuals” with a five member executive who elect the chairperson. Approximately 45 per cent of general practitioners have become members of the Division. Some general practitioners perceive the Division to be a “government plot to take over general practice and the members of the executive are seen as government agents”. The functions of the Division are to represent the interests and opinions of general practitioners through liaison with other groups. The two groups of highest priority are the Regional Health Authority, particularly the agencies involved in providing community health services and specialist divisions of medicine which are seen as having substantial influence in the policies of the Regional Hospital. In addition, the Division liaises with a range of local government and non-government organisations and with medical organisations, such as the Australian Medical Association at the State and Commonwealth level. Secondly, the Division has a role in coordinating professional development activities for general practitioners in cooperation with the medical education arm of the Royal Australian College of General Practice, the local University and other Universities.
with medical schools. The Chairman also indicated that the Division has a role in promoting “whole person care and continuity of care through research and information exchange”.

2. Interviews with Chair of the Division of Psychiatry and Coordinator of Community Mental Health Services

The Chair of the Division of Psychiatry also holds the position of Director of Psychiatric Services for the Regional Health Authority. He indicated that there are ten private psychiatrists and four public sector psychiatrists resident within the Region. Furthermore, one of the four public psychiatrists only works one-day per fortnight and another provides very specialised services. He indicated that the public sector psychiatrists are working unacceptably long hours and that there is a desperate need for additional specialist medical expertise. He reiterated his desire to develop formal alliance arrangements with general practitioners. However, given the lack of response from general practitioners at the Research Workshop to enter alliance with the Hospital Psychiatric Unit he is considering training several nurses to function as “medical registrars”. He indicated that the Division of Psychiatry meets monthly with representatives from the other medical divisions, including the Division of General Practice and the Division of Medicine. These meetings are attended by the Chief Executive Officer of the Regional Health Authority. Agenda items at these meetings included clinical and financial matters and the Director regards attendance at these meetings as very important.

There are four public sector mental health agencies, the largest has a staff of 13 and the smallest, a staff of two. The predominant culture was described as a “multidisciplinary team” culture. The Crisis Care Team is the largest agency and its functions are particularly demanding because the Team provides a 24 hour service, seven days of the week and deals with a severely disabled group of clients. Groups with which these mental health agencies have exchanges are numerous and include families and clients, private psychiatrists, general practitioners, the public hospital and many other government
and non-government organisations such as the police and welfare organisations. Groups perceived as most important in helping mental health agencies to achieve their objectives are the public hospital, private psychiatrists and general practitioners. The Director would like to see future changes including adequate information from psychiatrists and general practitioners to mental health professionals about referred clients, improved formal exchanges with general practitioners, improved hospital discharge procedures, the development of a computerised information system which would provide the mental health network with a comprehensive data base, and the development by general practitioners and private psychiatrists of a monitoring system for detecting seriously mentally ill patients who fail to keep appointments. It was considered that the latter innovation would reduce the number of calls upon the Crisis Care Team.

3. Interviews with Chair of the Division of Medicine and Coordinator of the Diabetes Education Centre

The Chairman of the Division of Medicine indicated that his organisation is 20 years old and that its membership numbers 23. All office bearers are voluntary and the Chairman is elected democratically. Like the Division of General Practice, the organisation is best described as a cooperative. Meetings are held monthly and the office bearers receive administrative support from the public hospital. The functions of the Division are political and educational. With respect to political activity, the Chairman indicated that the Division's role includes the maintenance of individual privileges and hospital privileges within the public system for physicians. Educational activities concern the maintenance of standards. Like the Division of Psychiatry, the monthly Clinical Services meeting with the Chief Executive Officer of the Regional Health Authority is regarded as very important. The groups most important to this Division are those which control the public hospital. Exchanges with general practitioners and staff of the Diabetes Education Centre are regarded as less important. However, it was acknowledged that, for individual members, exchange with these two organisations is important. The Chairman perceived a need for general practitioners to have a greater role in the public hospital. He also indicated that economics prevents more collaboration between physicians and general
practitioners: “everyone is too busy to collaborate”. As with the mental health network this leader would like to see a comprehensive information system developed which would facilitate research on health outcomes and information exchange.

The Coordinator of the Diabetes Education Centre described her organisation as a team which is embedded in the hierarchy of the Regional Health Authority. The purpose of the Centre is to “assist diabetic patients and their families to use a holistic approach to the management of diabetes” through acting as a referral resource, providing education to individuals and families, conducting community awareness programs and undertaking research projects in cooperation with the Division of Medicine and the Division of General Practice. Exchanges of most importance to the Centre are those with community health organisations, the Division of General Practice and the Division of Medicine. Exchanges between these organisations occur at formal and informal levels. As with the other organisations, this group would like to see a network-wide information system developed.

Summary

Strong endorsement of the validity of the study findings was provided by the meetings with key informants. Research Workshops were well attended by medical and health professional leaders.

The stipulation that separate meetings be held for doctors and health professionals reflects the sensitivity of interface between small business generalists and specialists about their exchange relationships and the cultural divide between doctors and health professionals.

Discussions by doctors and health professionals about the mental health network confirmed 1) differences in the type of client cared for by private sector and public sector organisations, with the public sector caring for more seriously disabled clients, 2) dissatisfaction with communications across public sector-private sector organisations, and 3) the shortage of medical resources to care for people with serious mental illness.
Similarly, workshop discussions confirmed that in the diabetes care network, dissatisfaction exists with exchanges concerning 1) the quality of some referral letters, 2) the failure of some physicians to return patients to general practitioner care, 3) the manner in which some physicians communicate with patients, and 3) poor communications between doctors and health professionals.

Interviews with Chairs of medical divisions indicated that these organisations act as trade associations in that their primary functions are to protect the interests of their members. For example, the Division of General Practice regards liaison with the Regional Health Authority Director of Community Services, who controls the use of public resources in the provision of community services, and the Division of Medicine which largely controls the use of hospital resources, as most important. This Division had also developed collaborative research projects with the Diabetes Education Centre. However, no comparable links have been developed with mental health professional agencies.

The Chairman of the Division of Psychiatry wears two hats; one private sector and one public sector. However, he was predominantly concerned with the challenge of adequately resourcing public sector services.

The Division of Medicine which represents the interests of many specialists holds considerable influence over the use of resources within the Regional Hospital. The groups most important to this organisation are those which can assist it to maintain its influence over hospital resources.

Most managers perceive a need for the development of medical and management information systems which facilitate across-network monitoring of utilisation patterns and health outcomes.
STAGE 6: ALLIANCE MAINTENANCE IN A CITY NETWORK

This section reports information gained from a focus group of city generalists and from interviews with associated public sector specialists.

Industry environment

The population of the City Region is approximately 734,726 and, according to three indicators, the people are healthier than those in the Urban Region (Table 50).

Table 50: Population health indicators for the Urban Region and the City Region

<table>
<thead>
<tr>
<th>Health Indicator</th>
<th>Urban Region</th>
<th>City Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standardised hospital separation rate</td>
<td>90.6</td>
<td>70.6</td>
</tr>
<tr>
<td>Standardised mortality ratio</td>
<td>98.6</td>
<td>90</td>
</tr>
<tr>
<td>Health Service index*</td>
<td>99.8</td>
<td>80.7</td>
</tr>
</tbody>
</table>

* The health service need index is a composite measure of population health service need which takes into consideration mortality, rural-urban advantage and other socio-economic factors (New South Wales Health Department, 1993).

The general practitioner/population ratio for Sydney is estimated to be 1:659 making this location one of the best resourced in Australia (Commonwealth Department of Health, Housing and Community Services, 1992: 55-75). Similarly, with respect to access to private psychiatrists, this Region is among the most advantaged in New South Wales (New South Wales Health Department, 1994: 27). Furthermore, unlike the Urban Region and the Rural Region, people in this City Region have ready access to services outside the Region. Hence, it is expected that among small business generalists and specialists there is likely to be considerable competition for patients.

The Regional Hospital of interest and the associated Community Adult Mental Health Service receive referrals from a population of 170,000. The services provided by these
organisations include a general hospital inpatient unit (15 beds) with back-up beds available at a nearby psychiatric hospital, two community mental health agencies which include a 24 hour, seven days a week, crisis care service, a mobile community management team which provides assertive, home-based skill training and case management, community-based residential services (42 beds) and rehabilitation services, including a living skills centre and vocational training and family training programs.

**Response: convenience sample**

Eleven general practitioners participated in a focus group and completed the General Practitioner Questionnaire. Participants were known to be interested in mental illness and some had links with the public hospital psychiatric service. The group does not represent the City Region and their responses may be biased in the direction of favourable attitudes towards alliance and towards collaboration with public sector organisations.

In addition to the focus group with general practitioners, interviews were conducted with the Director of Psychiatry for the City Region, a senior psychiatrist, and the Chair of the Division of General Practice. These three leaders had recently begun discussions concerning the development of a mental health service - general practitioner formal “shared care” program. Hence, it was assumed that the public sector psychiatric unit in this Region was experiencing similar problems to those experienced in the Urban Region. However, it appeared that in this Region the psychiatric unit had managed to interest some general practitioners in alliance which suggests that exchanges between general practitioners and the public hospital in the City Region were regarded as more rewarding by some general practitioners than in the Urban Region.

**Profile of respondents**

No differences were observed between the profile of general practitioner respondents in the City Region and general practitioners in the Urban Region (Appendix 5). The Chair of the Division of General Practice is a woman with 14 years experience and she worked
part-time in private practice and part-time as a salaried employee of the public hospital. The Director of Psychiatric Services is a well respected senior Fellow of the Royal Australian and New Zealand College of Psychiatrists with more than 30 years experience. He works part-time in private practice and part-time as Director of the public sector psychiatric services. The senior psychiatrist is also a Fellow of the Royal Australian and New Zealand College of Psychiatrists. She has 24 years experience as a psychiatrist and she is a full-time salaried employee of the public sector psychiatric services.

**Identified mental health trends**

Identified trends in the care of mentally ill people include an increase in the number of people with mental illness who are unable to afford to consult a private psychiatrist, an increasing need for community based services for clients and support services for carers, the need for more supervised accommodation and a need for more community based social workers. Among general practitioners, the identified trends are a growing need for support from psychiatrists, including rapid telephone access for emergency care and the development of alliance or “shared care” arrangements.

**Urban Region/City Region differences**

The survey of the 11 city general practitioners produced a list of 30 psychiatrists and five community mental health service agencies. This is almost twice the number of psychiatrists produced by 28 general practitioners in the urban region.

As was expected, the city based general practitioners indicated that they manage more patients with severe mental illness than the general practitioners in the urban region (Appendix 6.1). Furthermore, city generalists reported that more patients were functioning poorly (Appendix 6.2) and 82 per cent of city generalists, compared with 60 per cent of urban generalists expect to have a continuing involvement in the care of all referred patients. Consistent with managing more severely disabled psychiatric patients,
more city generalists indicated having telephone-only exchanges with the psychiatrist who most complies with norms of practice governing exchange relations.

Ten of the eleven city general practitioners indicated that they had alliance arrangements with private psychiatrists (Appendix 6.3). Eight said they had alliance arrangements with mental health professionals (Appendix 6.4), and three of the eleven had alliance arrangements with a hospital psychiatric unit. On average, city generalists had alliance arrangements with two private psychiatrists and one or two community mental health agencies. Hence, while more city general practitioners have alliance arrangements the pattern of private sector/public sector alliance arrangements is similar to the pattern in the urban region. However, city general practitioners perceive that fewer patients are returned by psychiatrists to their care (Appendix 6.5), supporting the notion that competition for patients in the city region is greater than in the urban region.

No differences were observed between the urban and city samples of general practitioners with respect to satisfaction with the care provided by private sector specialists and with communications. Surprisingly, city-based general practitioners were less satisfied with access to private psychiatrists than their urban colleagues (Appendix 6.6). Respondent comments indicated that “If they are good, access is poor for appointments and where there is availability, patient satisfaction is problematic”.

A further unexpected finding was that the eleven city generalists reported being less satisfied on all three measures (patient care, communication and access) with exchanges with public hospital psychiatrists than were general practitioners in the urban region (Appendix 6.7).

**Issues of concern to city based generalists**

The focus group raised four sets of issues. Of greatest concern to the group was the failure of some psychiatrists to comply with norms of practice, particularly the return of patients and the provision of feedback. The third concern focused on exchanges with
public sector organisations and the fourth item addressed the role of the Division of General Practice.

1. Return of patients

These 11 doctors firmly believe that the city is different from rural or urban locations. The comment was made “There is a big difference between the behaviour of specialists in rural and city areas. In rural areas specialists act more as consultants. In the city, it is more convenient for the patient to go to the specialist and the specialist is more likely to arrange return visits, thereby, bypassing the general practitioner”. Further comments emphasised the depth of feeling about non-returned patients: “Many regard themselves as ‘come-back people,’ that is, they take-over the care of the patient”, “Some specialists tend to refer-on to a further specialist, without any reference to the general practitioner. This is unethical behaviour”, “Cognitive specialists make less money per patient visit than do proceduralists, hence, they tend to hang on to patients more and to have more return visits”. For this group of general practitioners, return of patients is very important. This fact helps to explain the difference between generalists in the urban and city regions in terms of perceptions about the number of patients returned.

2. Communication

As in the Urban Region, information exchange was regarded as very important, particularly telephone access. Further desirable specialist behaviours included approachability, and the provision of informative feedback within a week. The group indicated that it is not easy to find psychiatrists who comply with expected norms of practice and who meet the requirements of the patient. As stated by one general practitioner “I have one or two special psychiatrists who I use all the time and these are people who act as consultants, that is they return patients, provide educative feedback and are available for consultation”. Further comments included “When I find a good one I stick with him/her”, “I select one on the basis of results based on what the patient wants and whether they return patients to me and talk to me. I thought I had a good one but he
has let me down so I am now looking for someone else to develop an alliance with”, “One of the important issues in alliance relationships is communication and the clarification of who is responsible for managing the patient. A good consultant ensures that this happens”. The stigma attached to mental illness was seen as a barrier to good information exchange between generalist and specialist. The comment was made “Sometimes patients do not want the psychiatrist to tell anyone about their illness - not even the general practitioner. If the general practitioner is deprived of information he/she cannot practice whole patient care which is based on the development of trust”.

3. Exchanges with public sector hospital and community mental health services

In the focus group general practitioners were asked to comment on the good news and the bad news of exchanges with public hospitals. For this city based group of general practitioners the bad news far outweighed the good news with respect to exchanges with public hospitals (Table 51). While public hospitals are respected for the dedication and quality of their staff, they score poorly on all indicators of norms of practice governing exchange relations.
Table 51: Exchanges with public hospitals: the good news and bad news for generalists

### The good news

- **Quality patient care**
  - Commitment to poor patients in crisis.
  - Specialists are more accessible and have emergency 24 hour back-up services.
  - It allows acute emergencies to be reviewed quickly.
  - The staff are more dedicated - less driven by the $ and are more academic.

- **Respect**
  - The Hospital has a good reputation in the community.

### The bad news

- **Communication**
  - Communication is poor - specialists leave this to the registrars and residents.
  - Often there is no communication to the general practitioner - even when patients are discharged with a discharge summary it is usually prepared by a junior staff member and is totally unhelpful to the general practitioner for continuing care.
  - The feedback to general practitioners is inadequate - the patient gets lost in the system, hence, returns to the community and does not receive comprehensive care.

- **Quality of care**
  - Access is slower than in the private sector and continuity of care is poorer.
  - Access for general practitioners to inpatients and inpatient information is poor.
  - Consultations are often of a poor quality because most work is left to the registrars.

- **Trust**
  - Many specialists cross-refer without reference to the general practitioner.
  - The specialists are more inclined to take-over the care of the patient and exclude the general practitioner.
  - Public sector psychiatrists espouse shared care but do not practice it.

- **Respect**
  - General practitioners feel excluded from the public hospital - it has an elitist atmosphere.

General practitioners were also asked to comment on their reasons for infrequent use of mental health professionals. Four reasons were given; the first was that some generalists were unaware of the services offered by mental health professionals. Secondly, there were problems with gaining feedback from health professionals (eg. no feedback at all, delayed feedback and poor quality feedback). The third reason was that some mental health professionals saw themselves as case managers and sought to take-over the care of patients without reference to the general practitioner. Finally, the cost to patients of consulting a private psychologist was said to be as great as the cost of consulting a private psychiatrist and the visit to the psychologist was not covered by Medicare. This applied even when the psychologist was the most appropriate referral. Hence, the patient had to
pay the full cost of the visit to the psychologist and most patients believe that medical care should be free.

4. Strategies required to enhance the position of general practitioners

When asked about the actions that the Division of General Practice should be pursuing, general practitioners focused on three issues. Of greatest importance was the failure of private medical specialists to comply with the norms of practice governing exchanges. Suggested strategies included “educate consultants not to cross-refer”, “inform each other of specialist facilities available and communicate our judgements to them - and let specialists know that we are judging them”, “educate specialists on etiquette and general practitioner economics”. Further comments addressed strategies designed to improve communications between consultants and general practitioners and included “encourage formal and informal meetings with consultants”, “arrange education meetings involving consultants about new medication regimens - especially in a climate of litigation”, “encourage consultants to use the telephone or the fax machine to improve general practitioner referral information”. Other strategies related to exchanges with public sector health care organisations and included the need to “develop more power on the Hospital Medical Board”.

Summary

Compared with the rural and urban regions, the city region is well endowed with generalist and specialist mental health services. Furthermore, the people enjoy better health and have access to a wide range of services both within-region and beyond the borders of the region. However, despite the greater affluence of the region, providers perceive a need for additional mental health services, reflecting changes in methods for the treatment of mental illness.

Comparisons between the city region sample and the urban region sample suggest that the city group of doctors had access to more psychiatrists and mental health professionals,
that they care for more patients with serious mental illness, that in exchanges with psychiatrists greater use was made of the telephone and that they were in-alliance with more psychiatrists and mental health professionals.

Consistent with the notion that there is greater competition for clients in a "doctor-crowded" city environment, the city region generalists reported having fewer of their patients returned. These findings suggest that in the city environment small business specialists are more likely to behave opportunistically with respect to exchanges with general practitioners. Consistent with this conclusion is the fact that general practitioners would like to see the Division of General Practice taking action to encourage specialists to return patients.

Unexpectedly, the city sample of general practitioners was less satisfied with access to private psychiatrists. Furthermore, despite purposeful selection of doctors known to have begun alliance discussions with the public hospital, city region doctors were less satisfied with the care provided to patients and with communications with public sector organisations. The qualitative findings indicate that on all measures of performance, the public hospital and the public sector health professionals fail to comply with the norms of practice associated with exchanges between small business generalists and specialists in the health industry. Consistent with these findings is the fact that general practitioners perceive a need for joint political activity in order to have greater influence over the mediation of resources within the regional network.

With respect to norms of practice governing alliances, the findings lead to the conclusion that the norms of "gold standard" practice governing exchanges in rural, urban and city locations are very similar and that failure by public sector organisations to comply with these standards acts as a barrier to across-sector alliance development and maintenance and consequently to improved service integration.
7. DISCUSSION

This thesis has addressed continuity in interorganisational cooperation. The research question was “How are generalist-specialist alliances maintained?” A systems framework (Chapter 4) was developed to represent influences acting on alliances involving small business and public sector generalist and specialist organisations in the health industry. Underpinning the framework was the assumption that alliances occur within the context of a network of business exchanges in which the parties have opportunity to change alliance partners. Furthermore, it was assumed that decisions concerning continuity in alliance are constantly being made based on past experiences.

Essential to my framework (p 147) was the proposition that level of interdependence is related to alliance activity. The study confirms the positive association, noted by Cook (1977), between level of interdependence and alliance activity. In addition, it was proposed that established alliances are maintained by three variables, namely, satisfaction with the exchange relationship, organisational interdependence, and compliance with norms of practice. The study finds that these factors all contribute to alliance maintenance in the exchanges that were examined. Furthermore, it was considered that situational factors would influence, to some extent, alliance activity and its maintenance. Following my systems framework (p 147), situational factors of importance were thought to include “industry environment”, “medical condition”, “funding arrangements” and established “patterns of exchange relations” within a network.

A case study design proved to be a suitable scaffold for the sequential analysis of complex social phenomena at the network and at the alliance level. Inevitably, small numbers and the snap-shots provided by cross-sectional data gathering limit the generalisability of findings and, in particular, the extent to which causality can be determined.
An alliance was defined as “a relatively enduring, voluntary, cooperative arrangement for mutual benefit in which the actors have an informal or formal understanding concerning the way they manage their exchange relationship” (p 4). A network was defined more broadly as “as a regional cluster of legally separate organisations which have opportunity for voluntary work-related exchanges” delimited by medical condition. The literature does not distinguish consistently between alliance and network and so the definitions are not entirely unambiguous nor would they be universally approved. Nevertheless, there is general agreement that network means a “web-like” structure which links actors for some common benefit. Similarly, there is growing consensus that an alliance is a collaborative relationship which may develop within a network of business exchange relationships. The quality of the alliance relationship is generally considered to be more enduring and binding than mere network membership.

In this Chapter, I first discuss the study findings in terms of the four propositions developed in Chapter 4 concerning the factors that maintain alliances. This is followed by discussion of the descriptive findings about the environment of the regional networks in which informal generalist-specialist alliances were discovered and the likely impact of these external factors on alliance maintenance. The sequence of this latter discussion is consistent with the questions guiding the collection of qualitative data as presented in Table 7 (p 175). Finally, the strengths and weaknesses of the research design and methodology are discussed including an examination of the level at which alliance maintenance was analysed.

**ORGANISATIONAL INTERDEPENDENCE AND ALLIANCE ACTIVITY**

Proposition 1: “Within a regional network in which the actors have the opportunity to select collaborators, degree of alliance activity is positively associated with organisational interdependence”.

The most obvious measure of interdependence between any two organisations is the volume of traffic or exchange between them. This research has reasoned that alliances are
most likely to emerge between organisations which have already established business exchanges with one another, presumably based on bilateral judgements of interdependence. The notion that volume of exchange is linked to alliance activity is consistent with Cook's (1977) proposition that "fields characterised by relatively high degrees of interdependence could be predicted to exhibit higher levels of interorganisational activity" (p 69). This study confirms this proposition in two ways. First, at the level of the network, greater generalist alliance activity was observed in the diabetes network in which the volume of exchange was higher. Secondly, at the level of the alliance, the degree of generalist-specialist interdependence was positively associated with alliance activity.

Of importance to individual small business generalists is the maintenance of a viable patient load for economic survival. Developing a good reputation among patients is essential to maintaining patient load. A general practitioner who is known to be well connected with medical specialists is likely to attract more patients. However, herein lies a dilemma for the generalist. Referrals to specialists contribute to one's reputation as state-of-the-art practitioner, but except in rare situations, the generalist does not wish to lose these patients to specialists. Similarly, medical specialists need to maintain a viable patient load and gain more business through developing a good reputation among patients and general practitioners. The specialist's dilemma is to optimise economic gain by getting as many referrals as possible while avoiding contact with generalists who make "poor referrals" or who are of poor reputation. Hence, it can be argued that both generalists and specialists in the private sector will seek to 1) exchange with, and 2) enter alliances with people who assist them to enhance their reputation while not diminishing their power to attract patients. Other things being equal, alliance resolves an important dilemma for both.

As the number of generalists referring to any one specialist in the network increases, the specialist's need for additional patients decreases and the power of the individual general practitioner decreases correspondingly. Hence, the maintenance of an alliance depends,
in large measure, on the extent to which the specialist values the alliance and the reputation and economic damage that he/she is likely to incur if he/she behaves in a manner that is likely to terminate the alliance. If the specialist perceives that the general practitioner is well connected and highly respected by his/her colleagues then he/she is less likely to act in a manner that could damage the alliance. In other words, at the interpersonal level, this exchange relation can be said to be “balanced” in that each party holds relatively “equal power” (Cook, 1977: 67). Conversely, if the general practitioner has little influence among his/her colleagues then the specialist may not place great importance on complying with the norms of practice governing the alliance. Hence, the relationship could be perceived as being “unbalanced” and the alliance is more likely to fail. The findings of this study suggest that an alliance which is satisfying to both generalist and specialist occurs in a situation in which each holds the other in reasonably high “professional” regard.

It follows that the most influential generalists and specialists in the regional network are likely to be in-alliance while the less powerful generalists are less likely to be in-alliance or may seek to form alliances with less influential specialists, such as those external to the regional network. In this study approximately 50 per cent of generalists and specialists were in-alliance and interviewed generalists and specialists indicated that they were only prepared to form an alliance with a colleague who met their “gold standard” expectations. Hence, these findings raise interesting questions concerning 1) the relationship between level of expertise, compliance with norms of practice and ability to influence the flow of resources within a network, and 2) the contribution that alliances make to maintaining and improving the level of generalist and specialist competence.

**SATISFACTION AND ORGANISATIONAL INTERDEPENDENCE**

Proposition 2: “Within a regional network in which the actors have the opportunity to select collaborators, level of actor satisfaction is positively associated with organisational interdependence.”

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Two sources of quantitative data support the proposition that satisfaction is positively associated with organisational interdependence. Generalists from both networks were significantly more satisfied with exchanges with medical specialists with whom they had a high volume of exchange than specialists with whom they had fewer exchanges (Table 38). Secondly, a positive correlation was found between generalist volume of exchange with diabetes health professionals and generalist satisfaction (Table 39). In addition, qualitative data from the pilot study in the rural region (Tables 15 and 16) and the urban mental health network support the proposition in that the three most satisfied exchange categories in both networks are those with the highest volume of exchange (Tables 25 and 26). These findings confirm social exchange theory with respect to Homans’ success proposition and stimulus proposition.

It is hardly surprising to find that small business doctors have more business exchanges with specialists with whom they are most satisfied. This aspect of social exchange theory is well understood and accepted. The contribution of this study is to specify the overt factors in alliance activity which contribute to participant satisfaction, namely, the “satisfiers” and “dissatisfiers” of importance to general practitioners. These are somewhat different to those normally associated with “social” exchange theory in that they have a strong business orientation. Specialists, on the other hand, tend to emphasise the social rewards of the exchange relationship, suggesting that their economic position is more secure than that of general practitioners.

Satisfiers for general practitioners include the receipt of positive feedback from patients and carers following a referral to a specialist, because satisfied customers are likely to be loyal customers. Negative feedback from customers is a powerful dissatisfier. Secondly, generalists place a high value on acquiring new knowledge and skills about a specialist area of medicine which they can apply to the care of patients. They gain intrinsic satisfaction from increasing their expertise, and they gain economically by not having to refer some patients with a similar problem in the future. Thirdly, general practitioners derive satisfaction from having their patients returned by specialists, since
this implies that the specialist believes the generalist has the ability to care for the patient. That is, it is rewarding for the generalist to receive a vote of confidence in his/her professional competence. More importantly, return of patients means that the generalist, does not lose control over on-going care and the associated income. A further satisfier for generalists is the confidence, reassurance and reputation gained from having a relationship with a specialist which ensures ready access to support. A dissatisfier for generalists is conflict with specialists. Hence, an exchange relationship which is relatively free of conflict is valued. Finally, general practitioners value a relationship with a specialist which allows them to see more patients, that is, exchange with the specialist is cost-effective.

Medical specialists value exchanges with general practitioners that result in increased patient satisfaction and improvements in the quality of care. This is good for business and is professionally satisfying. Like general practitioners, medical specialists value educative communications; specialists like to be kept informed about recent trends in general medicine. Some specialists gain satisfaction from acting as teacher and mentor to general practitioners and health professionals. Specialists also value exchanges with general practitioners which result in more referrals appropriate to their expertise. As with general practitioners, conflict in an exchange relationship is a dissatisfier and relationships that are relatively free of conflict are highly valued. Finally, small business specialists, like small business generalists, value a relationship which enables them to manage more patients.

Health professionals place high value on educative communications, exchanges which improve patient care and low levels of conflict. Unlike small business doctors, health professionals value exchanges which result in lower utilisation of their services through more appropriate referrals. A dissatisfier for mental health professionals is “dumping” by small business generalists and specialists of difficult patients on their service. Health professionals value exchanges which indicate that their specialist expertise is recognised and respected. Furthermore, communications by doctors which emphasise differences in
social status and marginalise the contribution of health professionals act as powerful dissatisfiers. Hence, the social aspects of exchange are important to health professionals. This is not surprising since society tends to be ambivalent about the role and status of health professionals. Recognition from high status doctors, particularly medical specialists, is therefore likely to be rewarding. Since most health professionals are in the salaried workforce, they have no reason to look for personal economic rewards in network exchanges.

Hence, while all exchange categories seek social and economic gains from exchanges with other providers (a finding consistent with that of Larsen, 1995), the emphasis varies according to professional group, funding arrangements and level of remuneration.

The likely implications of these findings for continuity in interorganisational cooperation are as follows: 1) funding arrangements, level of remuneration and professional status have a substantial impact on the rewards which the respective parties seek from an alliance; 2) unless both parties are satisfied with an alliance the level of interdependence will fall and the alliance will cease; 3) it is not equality in the distribution of costs and benefits which maintains generalist-specialist alliances but that each party receives from the alliance the specific rewards that are important to them; 4) there is no mechanism by which alliance partners within regional networks can assess fairness in the distribution of costs and benefits, given there are no shared reports of inputs, outputs and outcomes. What each party can, and does, assess is the extent to which they receive the specific rewards that they seek from alliance. Hence, if an alliance is to endure it is important that each party understands and addresses the particular set of rewards sought by the other party.

It would have been surprising to find that volume of exchange is not correlated with satisfaction. The contribution of this study is to specify the overt factors in alliance activity which contribute to participant satisfaction. Furthermore, the research confirms that underlying a sentiment, such as satisfaction, is a sub-stratum of observations by the
actor (individual or organisation), on the basis of which reward attainment is judged. Furthermore, this kind of estimating of costs and benefits is a dynamic process such that each individual exchange has to provide its own measure of reward or else the on-going alliance is put in jeopardy. It is the observed interaction between satisfaction of alliance participants and volume of exchange which points to the vulnerability of alliance; it appears that no generalist-specialist alliance is stronger than the most recent exchange. In the light of this conclusion it is clear that a mechanism is required to ensure that exchanges meet the benchmark of providing participant satisfaction.

ORGANISATIONAL INTERDEPENDENCE AND COMPLIANCE WITH NORMS OF PRACTICE

Proposition 3: “Within a regional network in which the actors have the opportunity to select collaborators, degree of organisational interdependence is positively associated with compliance with norms of practice governing exchanges”.

In this study norms of practice were defined as relatively consistent patterns of behaviour which enabled the exchange partners to achieve their own goals and meet the expectations of the other partner. The study found support for the proposition that organisational interdependence is positively associated with compliance with norms of practice. Three sources of quantitative evidence supported this proposition. Across two networks generalist volume of exchange with medical specialists varied significantly with perceived specialist compliance with norms of practice (Tables 40 and 42). In addition, a significant and positive association was found between generalist volume of exchange with mental health professionals in the two networks and the provision of feedback (Table 41).

These findings are consistent with social exchange theory which predicts that the more important an exchange relationship, the more likely the partners are to comply with behaviours which, from past experience, produce rewards from the relationship. In addition, the study contributes new knowledge concerning factors which govern alliances between generalists and specialists, private sector and public sector. Norms of practice
are widely agreed specifications for how practitioners should act for optimal professional process and outcome. In relation to alliance maintenance, norms of practice refer to the views of practitioners in the health industry as to how the interface with other practitioners should desirably be managed. In this respect, greater consensus, or clearly defined “norms” were found among medical generalists and specialists than between medical and non-medical practitioners. Norms of practice have much in common with the social controls described by Powell (1990) and Larson (1992) governing entrepreneurial networks and “network dyads” (p 98) in industries other than health, such, as telephone equipment, clothing and computer hardware. Certain norms of practice were found to apply to all alliances, while, some notable differences were evident between alliances in the private sector and across-sector alliances.

Irrespective of basis of funding, all exchange categories indicated that norms of practice included timely and informative communications, the provision of competent care to “shared” patients and activities associated with the maintenance of trust. Three headings are used to discuss similarities and differences in findings on organisational interdependence and norms of practice, namely, timely and informative communications, trust and credibility and supportive culture.

1. Timely and informative communications

Norms of practice governing networks and alliances reported in the interorganisational literature include frequent communications and information sharing (Kaluzny, 1991; Limerick and Cunnington, 1993; Bruce, 1995). This study confirmed the importance of these findings for alliance maintenance. Decisions about whether to continue in an alliance involved judgements about 1) the quality of written and verbal communications, and 2) the timeliness of feedback. With respect to the quality of the feedback from specialists, generalists valued communications which enhanced their knowledge and level of expertise. With respect to the timeliness of the feedback provided by specialists, “gold standard” specialists provided feedback within one week and the majority of medical
specialists complied with this norm. However, some public sector health agencies and hospital units did not meet this standard and generalist volume of exchange with these agencies was significantly diminished. This finding is consistent with social exchange theory which maintains that the shorter the time between action and reward, the more likely the actor is to repeat the action in the future. Most medical specialists understand the importance of compliance with this norm of practice while some public sector health agencies and hospital units apparently do not. The likely reasons for these differences are discussed below.

Of importance to specialists was the quality of the referral letter from a general practitioner, including its technical content and its grammatical and personal appeal. In addition, specialists expected their generalist alliance partner to keep them informed about patient outcomes, about problems which arise and about new developments in primary care. These findings extend the traditional concept of generalist referral to specialist which assumes communications cease when the specialist writes back to the general practitioner thanking him/her for referring a patient and indicating the treatments he/she prescribed etc. The findings of this study indicate that with respect to patients with serious chronic conditions, the norms of practice governing alliances include interactive communications which are on-going and do not always involve a patient referral.

Among the factors leading to failure of alliances were misunderstandings over who was doing what for patients, differences in opinion about diagnoses and treatments, an unacceptable amount of time spent in telephone consultation (for which there was no remuneration), patients falling through the “gap” or duplication of services, and a loss of independence through becoming dependent on another service provider. All exchange categories associated breakdowns in communication with alliance failure. In other words, the study provides two kinds of evidence to support the proposition. Not only was volume of exchange higher in exchanges characterised by consistent compliance with norms of practice, but where volume of exchange was low or had ceased, there was associated confusion over roles and poor compliance with norms.
2. Trust and credibility

The interorganisational literature refers to a set of "hard" and "soft" issues essential to alliance maintenance among which is the development of trust (Limerick and Cunnington, 1993; Ganesan, 1995; Ring and Van de Ven, 1995). This factor was particularly important to small business generalists and specialists and was rarely mentioned by public sector specialists. Furthermore, trust had a "hard" edge rather than a "soft" edge. That is, trust was related to actions, or delivering as expected, rather than sentiments. For example, general practitioners associated trust with the return of patients by medical specialists. As stated by one general practitioner, "I do not refer any more patients to a specialist who fails to return a patient."

It is argued that trust/distrust is a conclusion arrived at by a participant in an alliance about their alliance partner, based very largely on the extent to which the partner has complied with norms of practice. When asked about their evidence for judging the costs and benefits of alliance, generalists and specialists referred to trust, credibility and to norm compliance behaviour. They seemed to make little distinction as if the connection between "delivering as expected" and "trust" was instantaneous. This finding demonstrated the close link between practices of one alliance partner and personal judgements of that practice by the other. Furthermore, there is no evidence that the process of determining trustworthiness of an alliance partner is any different, if the partner is an individual practitioner or an organisation. In both cases, trustworthiness/credibility seems to be determined on the basis of compliance with norms of practice.

Both general practitioners and medical specialists considered that speaking well of the other to patients was an important basis upon which trust could be built. Both groups used patient feedback as an indicator of the extent to which the exchange partner could be trusted. For example, a general practitioner reported that a specialist tore up his referral
letter in front of the patient and dropped it in the waste paper bin. As a result of this feedback from the patient, the generalist decided not to refer any more patients to the specialist. In addition, exchange partners use patient satisfaction as an indicator of the extent to which the partner can be trusted to do well by patients. As stated by one doctor, “The general practitioner gets blamed for the specialist to whom he/she refers a patient.” Specialists value their reputation among patients and prefer to form alliances with generalists whom they trust to do well by patients. As with trust built on the return of patients, trust based on patient feedback has a “hard” business edge as well as a “soft” social exchange component in that satisfied patients are patients who are likely to be loyal to both generalist and specialist. This finding is consistent with the findings of Ganesan (1995) who found that, in buyer-seller relationships, decisions about remaining in a relationship were based on “objective evidence of reliability” (p 47) rather than on beliefs about the motives of the partner.

Thus, the present study found that, despite the considerable benefits of being in-alliance, generalists were quite prepared to terminate a long-standing alliance if a specialist failed to return a patient or communicate. Furthermore, while there was a significant positive relationship between volume of exchange between generalists and specialists and alliance activity, no relationship was found between volume of exchange and the length of time that a generalist had known a specialist. Hence, compliance with norms of practice is a stronger determinant than familiarity of generalist intention to continue an exchange relationship. It would seem that in generalist-specialist alliances the time between “emergence”, “maturity”, and “critical-crossroads” may be quite short (Zajac and D'Aunno, 1994: 283-287).

3. A supportive culture

To date, the literature on interorganisational cooperation does not specify the elements of a culture supportive of alliance formation and maintenance, though Bruce and Leverick, et al. (1995), suggest that alliances are unlikely to be sustained in the absence of an
appropriate shared culture. Some steps have been taken in this study to specify elements of a culture supportive to alliance maintenance in the health industry. One vehicle for achieving this has been to identify alliance partner activities which alliance participants “respect”. It was reasoned that in a professional network of exchanges, actors seek respect of their alliance partners and will comply with norms of practice in order to gain and maintain respect. Furthermore, it was assumed that alliances are more likely to be maintained with partners for whom an actor has respect. It is a question for debate as to which practices promote respect among professional alliance partners and, to this extent, contribute to the formation of a culture supportive of alliance activities.

In the first place, medical specialists did not mention received respect but general practitioners and health professionals accorded a high priority to receiving respect. This finding suggests that medical specialists are comfortable with their status and they assume that exchanges with them will be undertaken in a manner appropriate to their professional status. For health professionals, respect related to the manner in which doctors (generalist and specialist) communicated with them. Measures of respect included written and verbal communications as evidence that the doctor held the agency in high regard. A poorly written referral letter or a dictatorial or superior attitude were indicators of a lack of respect. Consistent with the team-culture of the community health agency, staff expected the generalist to act in a manner which indicated health professionals were equal members of an alliance.

Generalists were of the view that alliance maintenance was dependent, to some extent, on whether they had developed respect for the contribution made by a specialist to the care of patients within a network. This finding is consistent with the principle of “distributive justice” (Homans, 1974: 249) which maintains that a person who receives greater rewards because of their superior expertise is expected to “devote his/her expert knowledge to the services of others” (p 346). In the urban region, the most highly respected specialists were those who contributed to educational activities. Hence, it is
reasoned that general practitioners value the development of a learning culture. While articles have been written on the contribution and role of general practice in multidisciplinary primary health care (Strasser, 1992), little work has been done on the educational role of specialists. This is an area where further research may have a substantial influence on work-flow exchange, given the powerful position which medical specialists hold within the regional network. This issue is discussed at greater length below.

The implication of these findings for continuity in interorganisational cooperation is that norms of practice govern exchanges and the norms vary from group to group. Hence, in the process of establishing collaboration it is important that the parties 1) clarify the practices which each considers should govern the exchange relationship, 2) develop processes and procedures to ensure compliance, and 3) commit resources to these activities so that procedures and processes can be monitored and reported in a timely manner to all participants.

COMPLIANCE WITH NORMS OF PRACTICE AND ACTOR SATISFACTION

Proposition 4: “Within a regional network in which the actors have the opportunity to select collaborators, compliance by the partners with the norms of practice governing exchanges is positively associated with level of satisfaction with an exchange relation”.

Quantitative and qualitative evidence from networks in three locations support the proposition that actor satisfaction is related to compliance with norms of practice. The hypothesis that “Generalist satisfaction with the care provided to patients by medical specialists is positively associated with specialist return of patients” was supported with respect to generalist satisfaction with the care provided by physicians (Table 48). In addition, support for the hypothesis “Generalist satisfaction with communication is positively associated with the percentage of patients for whom the generalist receives feedback from specialists” was found in both urban networks in relation to health professionals (Tables 46 and 47). Compliance with this norm of practice by health
professional agencies is associated with improved generalist satisfaction and an increase in the volume of exchange. Furthermore, failure by hospital units and health agencies to provide generalists with feedback about referred patients is associated with dissatisfaction and low levels of interdependence.

No relationship was found between generalist satisfaction and the provision of feedback by medical specialists. This is most likely because the majority of medical specialists provide feedback about referred patients while, among health professionals, the provision of feedback is patchy (Table 44). Furthermore, most generalists were satisfied with communications with medical specialists (Table 45).

As already indicated, the rewards that generalists seek from exchanges with specialists, including public sector doctors and health professionals, are improved customer satisfaction and loyalty, access to new knowledge and skills and increased confidence in managing patients with complex problems. Failure by specialists to provide feedback is perceived by generalists as indicating a lack of respect for them and their role.

As consequence of non-compliance by some doctors or health professionals with norms of practice is the possibility that a group may develop a “culture of distrust”, or even active dislike of the other group. Furthermore, shared cultural attitudes may have developed over a long time and may be resistant to change. However, the findings of this study suggest that actions are more powerful than attitudes and that compliance by health professionals with norms of practice governing exchanges between generalists and specialists results in a change in generalist behaviour. The challenge for policy makers and managers who seek to promote alliances and the vertical integration of health services is to increase public sector specialist compliance with the norms of practice valued by private sector generalists.

According to Pfeffer (1978) it is the power-brokers of an organisation who largely determine where resources will be deployed. Hence, it follows that if the managers of
public sector agencies give a low priority to exchanges with general practitioners, then few resources will be allocated to make the venture work despite the best intentions of individual health professionals. For example, in the diabetes network the health agency management had taken deliberate action to ensure the provision of feedback. As a result, 65 per cent of general practitioners reported receiving feedback for all patients. Conversely, only 26 per cent of generalists reported receiving feedback for all patients referred to mental health agencies. Interventions to improve working relationships between private sector and public sector organisations is an interesting area for further research in the health industry.

Having discussed the findings pertaining to the four research propositions, I now discuss the findings concerning situational factors and their effects on alliance maintenance. Each of the following four sections addresses one of the research questions used to guide the collection and analysis of data relevant to describing each network.

**INDUSTRY ENVIRONMENT AND GENERALIST-SPECIALIST ALLIANCES**

Question 1: “How does industry environment as defined by location (rural/urban/capital city) influence observed generalist-specialist alliances?”

The industry environment was not studied directly in this research. Information was derived from interviews with generalists and specialists and from planning documents about the three regions in which interviews were held. The environment was deliberately different in each case as a result of a design decision to investigate rural, urban and city experience. The question was the extent to which the three case-sites would deliver different information on alliance maintenance. It could be reasoned that the environment determines to some extent the quality of alliances between generalists and specialists. Competition for patients for instance is a constant irrespective of environment. In rural areas, however, scarcity of resources influences generalist-specialist activity in ways not found in the city.
The literature indicates that, in situations of resource scarcity, organisations may pool resources in order to achieve mutual gain (Zajac and D'Aunno, 1994: 274-293) while in highly competitive situations, organisations may cooperate to reduce uncertainty over resource acquisition and to improve their adaptive efficiency (Alter and Hage, 1993: 39-40). The qualitative findings arising from the pilot study and the focus group with city-region generalists are consistent with these propositions. In the disadvantaged rural region, all but one general practitioners were in-alliance with a physician and each valued the arrangement. Being in-alliance was seen as beneficial because it assisted them to meet the needs of clients, a finding consistent with the notion of pooling resources. However, this was not the case in the well-resourced city network. While all generalists in this location reported being in-alliance with psychiatrists, the driving force for these arrangements seemed to be the return of patients. Hence, in this location generalists and specialists may be said to be reciprocally interdependent and alliance is a means for generalists to increase power and reduce economic uncertainty (Zajac and A'Aunno, 1994: 282) through maintaining a viable patient load. Specialists who failed to return patients were perceived by generalists as opportunistic and untrustworthy. This is a finding consistent with transaction-cost theory which maintains that organisations move away from market exchanges to more formalised modes of exchange in situations involving small numbers of exchanges combined with high risk of being exploited (Williamson, 1975: 256; Powell, 1990).

Further evidence that alliance activity is influenced by competition for patients emerged from the urban two-case study. Generalist alliance activity was higher in the diabetes network where there was greater competition for patients. It is not clear why there was greater competition in this network but it may have to do with the perception of generalists about the two patient conditions. Diabetes is acknowledged to be an important medical condition, while perceptions about mental illness are mixed. Many general practitioners in the urban region, for instance, were not confident dealing with serious mental disorder. Twenty per cent of generalists were not interested in having patients
returned by psychiatrists. On the other hand, most were comfortable managing patients with older-onset diabetes mellitus and expected that they would be involved in on-going care. Furthermore, either alliance reduces specialist opportunistic behaviour or specialists who ethically return patients choose to develop alliances. The study found a significant relationship between generalists in-alliance with physicians and the return of patients (Table 37). While there is a clear implication that alliance experience improves patient return by specialists, the cause and effect is not clear.

It is likely that competition for patients is a powerful force for alliance formation among small business generalists and specialists, and the return of patients by specialists is an important determinant of alliance maintenance. Alliance, once established, sets up a kind of peer review which is unusual in professional practice. Generalists and specialists accept a level of scrutiny of their activities by their alliance partners in return for business benefits. In turn, the alliance relationship seems to exert an influence on the actions of the partners which supports the proposition that increasing interdependence leads to practices that strengthen the relationship. The potential impact of alliance on generalist-specialist behaviour is an important issue to be addressed in future research.

In contrast to the interorganisational literature (Thompson, 1967; Zajac and D'Aunno, 1994), this study found little support for the proposition that the governance of small business generalist-specialist alliances varies according to the type of interdependence which exists as defined by the availability of generalist-specialist resources. Irrespective of location (rural, urban, city), small business generalists and specialists were agreed as to the coordination processes that were important to alliance maintenance. These findings suggest that the norms of practice governing exchanges between doctors are well understood and accepted by the group. In other words, the “medical group” could be described as highly cohesive (Yuill, 1970). Furthermore, the existence of norms of practice supports the view which this research has advanced, namely, that medical generalists and specialists manage autonomous small businesses, but they share in important respects an organisational culture. Secondly, the findings suggest that funding
arrangements are more important than the availability of external resources in determining the norms of practice. Further support is found in the finding that there was little agreement as to the “rules” governing across-sector (private-public) exchanges. Across sector exchanges were characterised by differences in funding arrangements, professional background and organisational structures and cultures.

MEDICAL CONDITION AND GENERALIST-SPECIALIST ALLIANCES

Question 2: “How does medical condition (diabetes mellitus/mental illness) influence the nature of generalist-specialist alliances?”

Two chronic illnesses were selected because of the widely held view that the medical condition of the patient is a prime determinant of work-flow exchanges. Serious mental illness and older-onset diabetes mellitus frequently require interorganisational cooperation among generalist and specialist organisations. No within-network or between-network differences in exchange patterns were observed with respect to general practitioner background including years of experience and postcode of practice. However, medical condition was found to contribute to differences between networks in several ways, specifically, the number of patients that generalists and specialists manage at any one time, the level of interdependence among exchange categories and, to a limited extent, the norms of practice governing exchange relations.

General practitioners manage twice as many patients with mental illness as patients with older-onset diabetes, and 50 per cent of them refer most of their patients with serious mental illness to specialists while only 20 per cent refer most patients with older-onset diabetes. Hence, psychiatrists have fewer general practitioners referring patients to them on a regular basis. A psychiatrist with approximately 20 generalists regularly referring has a full work load and has little need to attract additional work. Physicians on the other hand receive referrals from many general practitioners and their patient case load is much larger. According to social exchange theory, this ought to mean that fully-occupied
psychiatrists would not be rewarded by further referrals while physicians would have a higher satiation threshold. This could be the case, but, no evidence was found that psychiatrists grow disinterested and, in the process, pay less attention to the norms of practice governing exchange relationships. In fact, generalists reported that as an exchange category, psychiatrists paid greater attention to these matters than physicians. This apparent contradiction of social exchange theory requires further investigation. It could be that psychiatrists in the urban region had a long term perspective in regards to maintaining the rewards of patient flow, even though it could result in too many referrals from time to time.

Exchanges between generalists and health professionals were fewer than with medical specialists. Differences were also observed in the volume of exchange that generalists had with categories of health professional, fewer with mental health agencies than with diabetes agencies. One possible explanation for this difference is that a number of general practitioners were unaware of the services provided by mental health agencies while all doctors were aware of the services provided by diabetes care agencies. Health professionals in the diabetes network have been effective in raising awareness among generalists about the services they offer while mental health professionals have paid little attention to this issue. This finding is consistent with that of Berry (1993) who concluded that there is need for mental health professionals to market their services. Furthermore, it suggests that power-brokers in the public sector mental health hierarchy place a low priority on exchanges with general practitioners while power-brokers related to the diabetes network give high priority to exchange. However, differences in volume of exchange may also be associated with differences in the complexity of mental illness in public sector organisations compared with older-onset diabetes. This study did not attempt to dissect variance in exchange arising from complexity of condition, though it is obviously an important factor given the reported difference in the level of functioning of mentally ill patients cared for by public sector doctors and patients cared for by private sector doctors with the latter caring for those less severely disabled.
Two differences in methods of coordination associated with medical condition were observed. In the first instance, psychiatrists made greater use of the telephone than physicians in communications with generalists. This finding is consistent with the challenges of caring for people with serious mental illness. For general practitioners the responsibility can be stressful and timely telephone access to psychiatrists is seen as important. However, with older-onset diabetes, coordination depended more on written communications. These findings are consistent with coordination by mutual adjustment (Thompson, 1967; Galbraith, 1974; Mintzberg, 1983) and with the proposition that care-complexity increases the likelihood of interaction and participatory decision-making (Comstock and Scott, 1977). Qualitative evidence also supported this proposition. For example, mental health professionals favoured the use of clinical protocols to coordinate exchanges with general practitioners because of the risk of patients “falling through the gap”. The findings of this study raise questions for further research about the efficacy of various methods of interorganisational coordination associated with medical condition and care complexity.

MEDIATION OF RESOURCES WITHIN NETWORKS

Question 3: “Within a network, do particular exchange categories ‘mediate’ the flow of resources?”

Within each regional network three “exchange categories” were identified, namely, small business generalists, small business medical specialists and public sector health agencies. In the urban two-case study, small business general practitioners were by design, a category common to both networks. The network for care of people with mental illness was larger (126 organisations of which 41 were included in the study) and more diverse in terms of the professional disciplines represented than the diabetes network which contained 118 organisations of which 39 were included in the study.

An examination of the pattern of exchange within both networks revealed that the volume of exchange between medical generalists and specialists was greater than between medical
generalists and health professionals. Generalist and specialist doctors share much in common associated with their education, organisational structures and cultures and funding arrangements. It is well understood that education leads to shared values and practices. Similarly, organisational affiliation is associated with shared values and common interests. For example, doctors who choose to work in the private sector are commonly thought of as sharing values and ideologies associated with private enterprise organisations. Furthermore, there is some evidence to suggest that some private sector doctors lack respect for their salaried colleagues in the public sector. Whether in group practice or solo practice, small business medical organisations are characterised by several offices equipped for patient consultations and treatment and patient waiting rooms, and administrative staff employed to manage appointments, files and accounts. Some practices also employ nursing staff and allied health professionals. The culture of these organisations is service oriented and most doctors who work in them combine the roles of owner, manager and service provider. Hence, they have a direct interest in the financial welfare of their organisation.

This is not the situation with public sector specialists, who, in the main, are salaried employees from diverse educational backgrounds. Some have a medical education and many come from nursing or allied health disciplines. Furthermore, the structure, processes and culture of the public sector hospital unit or health agency are very different to the small business medical practice. Hierarchical authority is the norm and staff gain status and salary increases by climbing the hierarchical ladder. Hence, the formal and informal norms governing the hierarchy are important and the culture is that of the professional bureaucracy. A team culture prevails in the community health agency in which the group places a high value on task achievement and democratic decision-making. This culture was evident in both networks in that all team leaders chose to provide the researcher with a group response rather than provide the "manager's" perspective.
Differences between private sector and public sector organisations in the health industry are variables which have contributed to observed differences in exchange rates across sectors. Most generalists show a clear preference for exchanges within the private sector and, when exchanges occur across-sector, generalists are less satisfied with the transaction. This issue is addressed further in the section titled “Funding arrangements and the structure of alliances”.

Figure 7, indicates a bi-modal pattern of work-flow exchanges associated with funding arrangements within the mental health network. Private psychiatrists report frequent exchanges with private sector generalists, public sector hospital units and health agencies. Furthermore, as already indicated they report managing a less severely disabled group of clients than public sector psychiatrists. Provider preferences concerning medical condition appear to influence the pattern of work-flow exchange. This proposition was further supported at the “participant validation workshop”, where the Regional Director of Psychiatry made a strong case for more private sector involvement in the care of the severely mentally ill.
Private sector medical specialists occupy a central location in each network (Figures 7 and 8) and factors other than medical condition contribute to their position. Hence, psychiatrists and physicians are well positioned to exert power over the flow of resources in their networks. In the diabetes care network there was a greater volume of exchange between all exchange categories and the health professional agency is well positioned to influence the flow of resources (Figure 8). This is a good example of Provan and
Milward's (1995), principle, that because there is a limit to the number of organisations with which one can maintain effective linkage, higher levels of integration are more likely in smaller, more homogeneous networks.

Figure 8: Patterns of exchange within the diabetes network

There are several theoretical explanations for the powerful position held by medical specialists within each network. According to Pfeffer (1978) horizontal differentiation may occur within a workforce as a result of increasing specialisation and disparity in level of remuneration. Members of the workforce with specialist expertise, which is highly valued and in scarce supply, acquire power due to their ability to choose from whom to
accept or reject exchanges. Furthermore, higher levels of remuneration and status are associated with the accumulation of wealth. Medical specialists are among the highest income earners in Australia and as such they enjoy high social status. Social exchange theory predicts that individuals of a lower social status group will seek to exchange with people of a higher social status (Homans, 1974: 317-318). Hence, health professionals and general practitioners are more likely to initiate exchanges with medical specialists than with each other. Furthermore, differences in funding arrangements, ideology, values and social norms associated with professional training militate against general practitioner and health professional exchanges. Interestingly, these professional-culture differences do not appear to apply to exchanges between medical specialists and health professionals. Here the social status difference is so great that little dissonance is aroused by contact between the two exchange categories. Specialists and health professionals consequently, are perhaps more free to focus their energy on collaborative task activity. Furthermore, because of their specialist role they may share a common language and professional interests.

Resource dependency theory predicts that in the private sector, the relevant parties will seek to gain greater market security by not becoming overly dependent on any one resource source (Zajac and D'Aunno, 1994: 274-293). However, general practitioners, as initiators of referrals, have little opportunity to influence resource flow in their direction from other members of the network. Furthermore, the more that patients access services through other organisations and agencies, the less power general practitioners hold with respect to the flow of resources. Medical specialists, on the other hand, are in an excellent position to influence the flow of resources in their direction from general practitioners, specialist hospital units and health professionals (Figures 7 and 8).

The exchange category, medical specialist, occupies a central location and general practitioners compete with one another and with health professionals for the resources of the specialists (Figures 7 and 8). Cook (1977) maintains that bilateral negative connections occur where organisations are "linked by an inverse function such that an
increase in the frequency or magnitude in one exchange leads to a decrease in the frequency or magnitude of exchange in the other (or vice versa)” (p 69). Hence, as the number of generalists increases and the number of specialists remains constant, competition for specialist resources increases. In this situation, members of the less powerful exchange category are likely to form coalitions to bring about a balance of power, with increased power gained through joint activity. The findings of this study confirm Cook’s proposition. For example, general practitioners in the highly competitive city environment and the somewhat less competitive urban environment had recently established Divisions of General Practice to take political action to address the growing power imbalance in the resource exchange ratio between themselves and private sector and public sector specialists. This was not the situation in the rural location where general practitioners had not formed a Division of General Practice and where the parties perceived alliance as a means of pooling the limited resources available.

A further means by which general practitioners can reduce an imbalance in power with medical specialists is to introduce additional resources into the network. For example, general practitioners may begin to specialise and exchange among themselves. However, Cook (1977) warns that “if the same resources are introduced into the network by B1 and B2, and the resources are uniformly distributed among B in the network, a form of exploitation occurs maintaining A’s position of dominance and B1 and B2 remain competitors to their own eventual disadvantage” (p 73). This power-balancing strategy was evident among general practitioners in the urban diabetes network. For example, the Division of General Practice reported that several of its members had been successful in gaining government grants which provided for the introduction of specialist health professional services under the control of general practitioners. The findings of this study concerning patterns of interdependence and the direction of exchanges indicate that within the regional network, medical specialists hold power of position and that efforts by some generalists to enhance their power by, say, employing a health professional are are not likely to change the situation. Such changes may increase the competitiveness of the
entrepreneur initially, but his/her long-term viability depends on access to medical specialists who retain most potential to exert influence across the network.

**FUNDING ARRANGEMENTS AND THE STRUCTURE OF ALLIANCES**

Question 4: “Do alliances involving public sector and private sector organisations differ from alliances involving only private sector firms?”

Substantial differences were observed in the structure of small business alliances and inter-sector (private-public) alliances.

Irrespective of funding arrangements all alliances were characterised by informal agreements between two or more parties to share the care of patients with each provider maintaining autonomy and ownership. Alliances differed from traditional patient referrals in several ways. First, communications between generalist and specialist extended beyond a referral letter and feedback from the specialist to on-going interactions between the partners. Importantly, the generalist kept the specialist informed as to outcomes of treatment and the specialist was available to the generalist for telephone consultation. Secondly, the roles of each partner were clearly understood resulting in a balance in the relationship and “smoother” negotiations on diagnosis and treatment options.

**Small business alliances**

With respect to alliances involving small business generalists and specialists, the role of the specialist was defined as consultant to the generalist who maintained on-going responsibility for patient care. In this way the generalist reduced risk of losing the patient to the specialist and the specialist understood that to gain further referrals he/she needed to be available for consultation. Generalists were prepared to terminate an alliance with a specialist on learning that the specialist had acted in an opportunistic manner or had criticised the generalist or had failed to satisfy the patient. Hence, for the generalist trust in the specialist plays a vital part in alliance maintenance. On the other hand, the
generalist understands that to maintain the goodwill of the specialist he/she must 1) refer additional patients, and 2) keep the specialist informed about shared patients. The specialist decides whether he/she can trust the generalist to do well by patients on the basis of feedback. Hence, in the small business sector alliances provide a structure by which generalists and specialists, in a symbiotic exchange relationship, share information and power in an acceptable manner.

**Inter-sector alliances**

Substantial differences emerged in the structure of alliances involving small business doctors and alliances between small business doctors and public sector health agencies. Alliances in the small business sector were characterised by cooperation between individuals. Inter-sector alliances involved agreement between a small business generalist and a hospital unit or health agency team. Hence, inter-sector exchanges tended to be less personal. For example, while all interviewed generalists knew the names of the medical specialists with whom they had exchanges, very few knew the names of the staff of health professional agencies.

The few inter-sector alliances that were discovered were characterised by specialist agency compliance with generalist defined norms of practice and generalist compliance with agency defined criteria. Hence, as with small business sector alliances, the parties seek to establish balance in the relationship through compliance with norms of practice. However, in the private-public exchange, the nature of the interdependence between the parties is unclear as is the nature and distribution of power. The generalist expects the alliance to enhance his/her business; an expectation consistent with reciprocal interdependence. The public agency is interested in forming alliances in order to reduce costs; a notion consistent with pooled interdependence. With respect to the distribution of power, the status differential between general practitioner and allied health professional implies a difference in power at the level of individual exchange. However, this is ambiguous, given that many specialist allied health professionals hold expertise which the
general practitioner does not have. Furthermore, the exchange between small business doctor and health agency is more complex than the private-sector exchange because the agency is part of a publicly funded, regional health authority. Hence, while the generalist doctor may hold some professional authority, the health professional agency employs the full authority of the professional bureaucracy.

Differences in values and ideologies between small business medical organisations and public sector organisations also militate against continuity in inter-sector alliances. For example, while an individual health professional may work hard to develop alliances with general practitioners, once he/she moves to another position within the health authority other individuals may not share similar values and priorities. Support for this proposition came from some generalists who indicated that the high turn-over of staff in public sector organisations made it difficult for them to establish good working relationships with the staff of the unit or agency. This was not the situation with alliances in the private sector where ownership of the practice provided stability in exchange relationships.

Despite these structural and cultural differences, small business generalists applied the same criteria to the governance of alliances with public sector organisations as they applied to alliance arrangements with small business medical specialists. That is, they expected prompt and educative feedback, the return of patients, low levels of conflict and satisfied customers. While many public sector organisations appeared to not understand or not share these norms, in situations where they complied with generalist defined norms of practice the level of inter-sector exchange and alliance activity was increased. However, this study can only indicate the private/public sector dichotomy for alliance maintenance. A more exhaustive study of interorganisational cooperation across public/private sectors is obviously required.
LEVEL OF ANALYSIS

Often when alliances are studied, the focus of interest tends to be on the administrative or policy level. In this study, the focus has been the operational level. This decision was due to the nature of generalist-specialist alliances in the industry under study, significantly, exchanges between small business medical firms. Alliances between small business doctors are fashioned to a large extent by the skill of the individual partners. However within each network, established alliances involving small business generalists and specialists and public sector health professionals were also discovered. In this situation alliances were more complex involving an agreement between an individual doctor and a specialist health agency.

The decision was made to obtain an organisational viewpoint from both types of organisations from survey and interview with individual members of the firm or agency. However, first the researcher considered other options. For example, consideration was given to gaining standard form responses to questions about exchanges from all members of a firm or agency. Using this approach analysis would have required the creation of a single organisation response, probably by averaging individual responses. Secondly, thought was given to gaining an organisational response using "focus group" meetings with each small business firm and health professional agency and hospital unit. Using this approach, analysis would require an interpretation by the researcher of the predominant organisational view. These alternatives were rejected for two reasons. First, they are both resource intensive. However, of greater importance was the potential of both methods to introduce error into the data. In relation to the standard-form-survey of all small business or agency members, error would be introduced from members who have very little to do with alliance maintenance. For instance, receptionists, accountants, physiotherapists etc., may have views on exchange which have nothing to do with the way that firm exchanges, because those particular members are not exchanging. In relation to organisation focus-group discussions, the threat to validity lies in the
requirement for the researcher to interpret the organisational “mind” based on group conversation.

It is not known what bias was introduced into the data because “organisational” representatives were polled. However, the three main types of organisations - generalist and specialist firms and public sector agencies - demonstrated very clear internal consistency in their responses, leading to the conclusion that a valid “generalist firm”, “specialist firm”, and “public sector agency” viewpoint was achieved. Public sector agencies in both the mental health and the diabetes networks opted to provide a group response. The questionnaire was completed at an agency meeting with all members present having input if they chose. The decision by managers of these public sector agencies to provide an agency response rather than an individual response suggests that these larger organisations have greater difficulty in liberating individual “team members” to 1) speak on behalf of the organisation, and 2) engage in alliance activity. The individual in the public sector organisation is apparently more constrained by intra-organisational loyalties and duties suggesting that the larger the organisation involved in alliance activity the more complex the research task of gaining an operational perspective of alliance maintenance. It would be possible and useful in future research, to gain first an agency consensus response so that the responses of individuals could be compared with that of the group. This strategy was not employed in the present study, but would be a way of specifying the likely error associated with organisational data-gathering from one representative.

LIMITATIONS OF THE RESEARCH DESIGN AND METHODOLOGY

The research design outlined in Figure 6 (p 177) worked well in-so-far as I was able to compare alliance maintenance across two regional networks with different task-technologies within the same industry environment. Furthermore, data from two regional networks in other locations provided opportunity to explore, in a limited manner, the effects of industry environment on alliance maintenance. The case study approach to
research derives validity and reliability by employing multiple methods of data collection and accumulating information on the study question in a series of data gathering exercises each of which adds new evidence or confirms or refutes earlier work - a so called “chain of evidence” (Yin, 1989: 101). This approach was successful in that data was collected in a sequential manner from regional networks in three locations with evidence pertinent to each research question being gained, as far as possible, from more than one source using quantitative and qualitative methods. However, while quantitative across-network comparisons were desirable, only limited quantitative analysis was possible due to the unrepresentative nature of the samples in two locations. This deficiency however, does not reflect on the study design but indicates problems associated with accessing the population of interest. There were different cultures in each location among general practitioners and differences in the sponsorship of the study in the three locations. This would have been a less than satisfactory situation if it applied to all locations. Fortunately, within the urban region I was able to access two random samples of general practitioners and their network of supporting private sector and public sector specialists which provided opportunity to test hypotheses concerning alliance maintenance. Given that an acceptable response rate was achieved in each of these networks, the findings can be generalised to the health region from which they arise with confidence. However, as indicated by my systems framework they cannot be generalised beyond the regional network. The findings from the studies conducted in the other two regional networks (rural and city) suggest that while the industry environment influences the reasons for alliance formation the dynamics of alliance maintenance are very similar. This conclusion is based on the high level of consistency in response to questions about the norms of practice governing alliances and the influence of non-compliance on level of satisfaction and organisational interdependence.

To the extent that the study has gathered and reported survey data, it suffers from the limitations associated with survey research. For example, the findings rely on the views of practitioners and managers about the volume and nature of exchanges rather than
observations of actual exchanges (Homans, 1974: 18-20), hence, problems with common method variance may occur (Bryman, 1989: 129). Furthermore, relationships between variables should be interpreted as associations rather than as cause-and-effect relationships because of the correlational nature of the survey design (Bryman, 1989: 125-129). Hence, despite the fact that strong positive relationships have been found between the key variables caution must be exercised in interpreting these findings. These problems of internal validity are dealt with to some extent in this study through triangulation of quantitative and qualitative data and the collection of data concerning a single issue from multiple sources using different methods of data gathering. Considerable consistency was observed between data from several sources and where variance was observed this served to strengthen confidence in observed positive relationships. However, a prospective study across a number of years is required to capture cause-and-effect relationships in generalist-specialist alliance maintenance and my systems framework provides a vehicle for such a study based on repeated snapshots of alliances.

The case study approach requires the collection of data from multiple sources including archives, documents and artefacts. Only limited use was made of these sources of data for several reasons. With respect to archival records the available data on patient referrals within networks was unreliable due to differences in the way in which data was recorded and in the importance ascribed to recording information about referrals. Planning documents were a useful source of information concerning the industry environment and the organisations within each network. Two type of artefacts were used namely, referral letters and treatment protocols. Examples of very good and very poor referral letters were observed during interviews with clinicians. However, with respect to treatment protocols few were in use. Health professionals tended to favour the introduction of treatment protocols as a means of improving interorganisational cooperation while general practitioners and medical specialists emphasised the importance of the referral letter.
The target organisations were small business general practitioners and they provided data by which the boundaries of the patient care networks were set. This approach seemed to work well in this study. Consultation with key generalist and specialist informants within each network provided a validity check to the data gained by survey from generalists. Two distinct provider networks (mental health and older-onset diabetes mellitus) were identified by the researcher and generalists, specialists and other key provider informants were agreed as to the important parties belonging to each network. However, the networks gained by using this approach are inevitably medical. Had the departure point been different, say non-government charitable organisations, then the networks and the alliances would have been different to some extent. The network may have included additional players, for instance, but would not have excluded any of the network members identified. Had I asked patients to define the network, a very different network may have emerged. However, irrespective of the group used to define the network, generalist-specialist alliances would probably have been defined and analysed in a similar manner. This conclusion can be stated with confidence because the study gained the alliance perspective from both generalist and specialist organisation. Further validation would involve a case methodology which first interviewed specialists. However, there is little reason to think that this method would materially alter the main factors found to maintain alliances.

The study would have benefited and possibly improved validity by the addition of a customer perspective of the outcomes of generalist-specialist alliances on customer satisfaction and health outcomes; a challenge which Provan and Milward (1995) successfully achieved with respect to organisational networks for care of people with mental illness within the context of the United States health industry. The gaining of a customer perspective is a complex, difficult and resource intensive enterprise which was beyond the resources available to the researcher.

The two urban networks have been described in terms of size, the functions and satisfaction of the various exchange categories, the direction and volume of exchange,
and the extent to which any exchange category mediates the flow of resources. This approach to describing the networks differs from that employed by some researchers. One way of addressing the study would have been to include all members of each network and to have graphed the ties using measures of density and centrality to discuss structural differences. However, this would not have allowed me to address the research question which required attention to alliance activity and maintenance. Rather than focus my attention on the details of the “net”, which would have required the inclusion of all possible members of each network, I chose to select a random sample of generalists and supporting specialists. This enabled me to get to the alliances embedded within each network and make inferences about elements of the networks which were not directly observed. An overall response of 75 per cent and 72 per cent provides a reasonable basis for discussing exchange relationships in the two networks with confidence, including alliance activity, between members of a network.

Despite the above limitations the study has advanced understanding of the nature of generalist-specialist alliances, and the norms of practice governing these very important linkages. Furthermore, it has identified serious problems in exchange relationships between private sector generalist firms and public sector specialist agencies. The improvement of generalist and specialist practices in relation to the patient referral in both intra-sector and inter-sector exchange relationships has potential to increase the rewards for the respective providers and seems likely to improve patient care.
8. CONCLUSIONS, IMPLICATIONS AND FUTURE RESEARCH

This thesis had three aims. The first was to contribute to interorganisational research by developing a framework for an in-depth analysis of alliance maintenance within the context of a regional network. The second was to contribute to interorganisational theory building on factors associated with continuity of alliances. Finally, the thesis sought to contribute to management practice by exploring and describing the norms of practice governing established generalist-specialist alliances in the health industry. Managers who understand alliance norms of practice would be in a good position to influence the rewards pertaining to the parties.

The research question was “Are alliances maintained by organisational interdependence, satisfaction with the exchange relationship, and compliance with ‘norms of practice’?” Generalists and specialists in the health industry have been in the business of managing interorganisational cooperation, based on reciprocal interdependence, for a long time and their experience could provide useful knowledge on alliances. Furthermore, alliances between small business doctors and public sector health agencies have not been studied extensively.

This Chapter outlines the conclusions of the study and suggests areas for future research.

SYSTEMS FRAMEWORK

The study concludes that the systems framework (Figure 5, p 147) is a valid representation of some important variables maintaining alliances within a regional care network across various industry locations. The framework was developed by the researcher to provide necessary orderliness to the diverse and voluminous literature on interorganisational cooperation. The framework was an essential step in designing and implementing the research, since, in the absence of such a conceptual scaffold, it would hardly have been possible to move from network definition to alliance analysis. The
development of the systems framework was an integrating exercise. Throughout the study and data analysis, the framework guided the researcher's thinking and activity.

In relation to complex social phenomena, a simple research study is naturally capable of elucidating only a few factors. The study has presented new information on variables which maintain alliances within a regional provider network, the members and size of which were well validated by reports of a number of participants. The environment of the network however, though represented in the systems framework, was not really studied. Rather, case locations were selected deliberately to examine variance in networks (and alliances) and these environments were described in a qualitative manner. A case study design provides flexibility to incorporate factors such as “industry environment” which are contextually important, but which the researcher does not seek to control in any way. Future research will be able to examine the impact of environment on alliance maintenance in greater detail.

The study concludes that the three variables predicted by the systems framework on the basis of the literature and Stage 1 data are important in alliance maintenance. While it may be considered obvious that volume of exchange and satisfaction are likely to be higher in well maintained alliances (social exchange theory has predicted as much for the past five decades), compliance with norms of practice is not immediately obvious. Interdependence was measured by volume of exchange, or “trading” between alliance partners and other members of the network. Satisfaction was a direct measure of perceptions of profitable outcomes (care and communication) at a given point in time. Norms of practice was measured by return of patients and feedback while compliance with these norms was defined as the extent to which there was a match between expectations of one partner and delivery by another partner.

The study concludes that social exchange theory provides a suitable conceptual basis for a study of continuity in interorganisational cooperation in that it orients the investigator to inquire about the rewards or “pay-offs” which each participant to an alliance receives and
the impact of rewards on actor behaviour. This research has revealed that, in the private sector, the rewards of alliance activity are discernible, quantifiable and based on the business needs of the participants. Judgements about profit or loss, attitudes towards the other participant and sentiments associated with alliance success or failure are largely personal. On the other hand, the motivators for collaborating, the needs for which satisfaction is sought and the content of the transaction are largely to do with meeting the needs of the business. The systems framework provides a structure for observing and documenting the interplay between personal and business orientations. The framework also provides opportunity to explore the effects of broader social phenomena, such as funding arrangements, level of remuneration and social status on the emphasis given by the respective parties to business and personal rewards.

The study concludes that the literature provides a rich source of information on interorganisational cooperation and the characteristics of successful alliances. However, considerable organisation of disparate theories and models is required before a template emerges to support empirical research. Furthermore, while alliance maintenance is represented in the literature as an important issue for empirical studies into the coordination and integration of health services, little work has been done to identify the dynamic processes and components which bring success. While it has been known that rewards apply, and this study confirms the universality of social exchange, the question is how the rewards of successful alliances are mediated by, and to, the participants. Here social exchange theory ceases to be of use on its own and network analysis has little to offer beyond describing contextual factors. This study finds that norms of practice are important in the mediation of rewards. Here, coordination theory and the interorganisational literature in combination with social exchange theory have much to offer.

The study concludes that people make alliances work, whether the alliance involves an individual-to-individual arrangement or an arrangement between organisations. This means that the maintenance of an alliance depends on the management of the interface and
the successful meshing of two or more individuals who have contracted to seek improved benefits to each party through common effort. Where alliances succeed it is because the parties have found an appropriate set of behaviours - "norms of practice" - to provide professional care in a manner that enhances the business outcomes for both parties. Where alliances fail it is because the players have failed to provide professional behaviour of a standard that satisfies the expectations of the other. Furthermore, this set of behaviours provides a structure which allows individuals and organisations to deal equitably with one another under circumstances where equality - which is largely externally determined - is not an option.

The study concludes that research into interorganisational cooperation must accept an unresolved ambiguity which exists in the literature and in practice about whether the individual, the organisation or the network of exchange relations is the more appropriate unit of measurement. Organisations may, by policy development, set themselves to cooperate with other organisations. However, at the operational level, individuals cooperate, network, form and maintain alliances. The systems framework and the case study research design enabled the actors in interorganisational alliances to become visible and the dynamics of alliance maintenance to be explored.

**CONTINUITY IN INTERORGANISATIONAL COOPERATION**

This thesis has contributed to interorganisational theory building with respect to the relationship between norms of practice and reward attainment by parties to an alliance. Norms of practice mediate reward attainment because they are organisationally derived expectations of the way things ought to be done. It follows that bi-lateral compliance with norms facilitates a reciprocal realisation of rewards. However, this study has shown that organisational norms of practice are not necessarily well understood by the various parties to an alliance. It is therefore essential that the parties arrange some procedure to clarify their expectations of the exchange in terms of what each party will undertake to do. However, compliance with norms may not necessarily follow even when the parties have
taken steps to clarify their intentions and goals for one another. Compliance, it seems, depends on the worth of the exchange relationship to each actor and this, in turn, may depend on the power-brokers of an organisation rather than individual service providers. In the small business sector, provider and power-broker are one and the same. However, this is not the situation in the public-sector organisation. This aspect of alliance maintenance requires further research.

The proposition that “an important determinant of alliance maintenance is the worth that the parties place on the alliance” calls into question Emerson's (1972) approach to defining exchange. Emerson seeks to avoid the problems of tautology inherent in social exchange theory by placing the emphasis of analysis on the “exchange relation” rather than the individual actors. However, this study demonstrates that the researcher cannot avoid examining what the actors, individual or corporate, are doing to maintain the relationship.

The study concludes that the norms of practice governing small business generalist-specialist alliances in the health industry in Australia have much in common with the norms of practice reported in the interorganisational literature (Kaluzny, 1991; Powell, 1990; Larsen, 1995). These can be summarised as 1) timely communications, 2) appropriately informative and educative communications, 3) feedback concerning outcomes of actions from each to each, 4) partner actions, rather than sentiments, which lead to the development of trust, 5) partner actions which demonstrate respect for the contribution of the other party, and 6) a communication environment which the parties associate with learning new and useful things and low levels of conflict. Of these six sets of behaviours governing alliances, the development of trust appears to be the most complex. Under this rubric are partner actions which result in customer satisfaction, hence, technical and relational competence are important, and have a very hard business edge.
The study concludes that understanding the benchmark standards of practice which each party to an alliance expects is vital to alliance maintenance in the health industry. However, there is a paradox here in the sense that a “norm of practice” is, by definition, a view held by the organisation or group. Yet, from the findings of this study it is clear that some in the group do not abide by the unwritten rules of the group. Norms of practice are therefore really norms of “best practice”, for there is a lot of practice that is sub-standard, according to generalists, specialists and public sector agency specialists. This is particularly a dilemma when generalists seek to form alliances outside their own discipline i.e., with public sector health professionals. Predominantly, private sector medical generalists expect staff of public sector organisations to abide by the norms of practice governing their exchanges with private sector medical specialists.

The study concludes that alliances are more prevalent and are maintained with greater ease in situations in which the parties share similar funding arrangements, a common culture and where norms of practice governing exchanges in the industry are well understood. In the absence of shared funding arrangements, shared culture and shared norms of practice, the rewards sought by each party are more diverse and alliances are less prevalent, more complex and less easily maintained. Some public sector organisations apparently do not understand, or place little importance on, the norms of practice expected of them by small business generalist doctors given their low level of compliance. This failure to comply leads to generalist dissatisfaction, which in turn, reduces or eliminates exchange. Of course, this sequencing of events implies a cause and effect process which the cross-sectional data gathered in this study does not provide opportunity to assess. In this sense, the systems framework remains a proposal as to how variables operate to maintain alliance for all aspects of the model have not been tested by the research. In particular, the direction of causality among the three variables has not been substantiated. A prospective study across a number of years is required for this purpose.
IMPLICATIONS FOR MANAGEMENT

For policy makers and managers interested in enhancing the vertical integration of health service delivery, the findings of this study suggest that compliance by members of a regional network with norms of “best practice” governing exchanges results in increased interdependence and rewarding outcomes for all parties. It is concluded that managers may take action at two levels. At the level of the alliance, collaboration can be promoted through 1) clarification of the norms of practice which each exchange category considers should govern exchanges, 2) the development of processes and procedures within public sector organisations to improve compliance, and 3) the commitment of appropriate resources to these activities. At the level of the network, it is proposed that strategies should be directed towards enhancing the rewards to all players within a particular patient care system (e.g., the system for care of people with mental illness) through:

- the collection and dissemination of information about patient and carer health outcomes, including satisfaction as to the services provided by all members of the network;

- awareness raising activities to ensure knowledge of the type of services provided by each, including the best way for patients to access services;

- education to improve understanding by all parties of “best practice” norms of practice governing exchanges;

- the development of policies and procedures supported by resources that promote efficient two-way communications between generalists and specialists for clinical problem-solving and feedback about patient outcomes;

- educational programs, including professional development activities, for clinicians in-training and practicing clinicians designed to develop competence in alliance development and maintenance;

- educational programs, including professional development activities, for managers designed to develop knowledge and skills relevant to the changing role of the manager as the action in the health industry moves from “hierarchies to networks and alliances” with an emphasis on the development of a learning culture.
DIRECTIONS FOR FUTURE RESEARCH

Questions raised by this study which could become the basis of future research, include:

- "To what extent is the systems framework, outlined in Chapter 4, able to be replicated?"

- "What is the average lifespan of alliances within regional health networks and what changes occur in the governance of alliances over time?"

- "To what extent do small business specialists facilitate the transfer of knowledge and skills among members of regional health care networks with respect to their area of expertise?"

- "What is the impact, if any, of informal alliances on generalist-specialist competence?"

- "What rewards are sought by specialists in exchanges with general practitioners and what are the norms of practice which facilitate the realisation of these rewards?"

- "How does continuity in alliance modify power differentials between actors?"

- "How do different methods of interorganisational coordination (eg case management, patient held records, clinical protocols, informal alliance) impact on patient outcomes?"

The development of inter-sector alliances are a recent and complex interorganisational relationship, in an early stage of development. The study has discovered that few inter-sector alliances develop and those that do exist are more difficult to maintain than intra-sector alliances. Sentiments of medical generalists about publicly funded health professionals (medical and non-medical) are ambivalent and norms of practice have, for the most part, not evolved to support alliances across private and public domains. In public-private linkage the study has identified difficulties and revealed a need for more extensive research. Questions that such research might address include:

- "Is the volume of exchange between small business generalists and public sector health agencies positively associated with the compliance by public sector organisation with small business general practitioner norms of practice?"
• “To what extent is public-sector organisation compliance with generalist norms of practice related to public sector power-broker values about exchanges with general practitioners?”

• “To what extent is the rewards-driven approach to the vertical integration of health services (outlined above under “Implications for management”) effective in bringing about desired change?”
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4 March 1994

Dear Dr «Salutation»

Research Project: Specialist support for GPs caring for patients with a chronic condition – mental illness

I would like to personally ask you to support this research project.

As you are one of 100 Illawarra GP's randomly selected from our Division's database, your response will be statistically very important. Your information will also enable direct feedback for the Division.

We are attempting to reduce the number of surveys an individual doctor receives each year by hopefully increasing the response from a smaller number of doctors each time an appropriate program is endorsed by your executive.

Your early reply would be most appreciated. Thank you for your assistance.

Yours sincerely

Michael J O'Halloran
Chairman

PS.
The attached questionnaire seeks information about the network of specialists who, from time to time, assist you in the management of patients with serious mental illness. Our definition of mental illness includes persons whose mental functioning is seriously impaired, either temporarily or permanently. While we recognise that psychogeriatrics and drug and alcohol intoxication are very important in general practice, we have excluded these two groups of patients from our study.
ILLAWARRA GENERAL PRACTITIONER SURVEY:

Specialist Support for General Practitioners
Caring for Patients with Mental Illness

The aim of this research project is to improve specialist support for general practitioners.

The study assumes that the GP is the linch-pin in the system linking consumers with local and distal specialists.

All answers are confidential to the researchers. Only aggregated data will be reported.

Please allow up to 15 minutes for completion of the questionnaire. Would you please answer all questions by either ticking the appropriate box, or circling the correct information, or writing in the answer. Please return the completed booklet in the enclosed postage paid envelope within the next two weeks.

Following receipt of your completed questionnaire and analysis of the data you will be invited to attend a meeting of GP’s and specialists to discuss the findings of the study.

The project has been approved by The Human Experimentation Ethics Committee of the University of Wollongong and Illawarra Area Health Service. This Committee requires evidence of informed consent. Your completion of this questionnaire, which is entirely voluntary, will be taken as evidence of your willingness to participate in the survey.

Thank you very much for your cooperation and assistance.

Mary Harris, MPH, FCHSE
Chief Investigator
Please write your answer or tick the appropriate box.

1. Years since graduation  ___________ years

2. Postcode of main practice

3. Vocational registration
   Yes [ ]  No [ ]

4. Male [ ]  Female [ ]

5. Solo practice [ ]  Group practice [ ]

6. Full-time [ ]  Part-time [ ]

7. Method of remuneration:
   Fee-for-service [ ]
   Salaried [ ]
   Both fee-for-service and salaried [ ]
   Other (Please specify) ________________________________

PATIENT INFORMATION

8. Approximately how many patients have you managed in your main practice during the last 12 months with mental illness displaying any of the following sets of symptoms? (Please circle appropriate numbers)

<table>
<thead>
<tr>
<th>Symptom Set</th>
<th>None</th>
<th>1–5</th>
<th>6–10</th>
<th>11–15</th>
<th>16–20</th>
<th>21–25</th>
<th>25 or more</th>
</tr>
</thead>
</table>
| a) Delusions
   Hallucinations
   Serious disorder of thought form
   Irrational behaviour | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| b) Severe depression
   Severe disturbance of mood | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| c) Personality disorder | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
9. Of all the patients with mental illness that you managed in the last 12 months, what percentage were:

<table>
<thead>
<tr>
<th>Level of Functioning</th>
<th>None</th>
<th>25% or less</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>functioning well despite their disability</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>having some problems coping</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>severely disabled</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>don't know</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>

**REFERRALS TO PSYCHIATRISTS**

10. Of all the patients that you managed with mental illness in the last 12 months what percentage did you:

<table>
<thead>
<tr>
<th>Type of referral</th>
<th>None</th>
<th>25% or less</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>not refer to a Psychiatrist</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>refer as a new referral</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>refer as a continuing or repeat referral with GP involvement</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>refer as a continuing or repeat referral with no GP involvement</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>

Other (Please specify) --------------------------------------
11. For what percentage of your "new referrals" to Psychiatrists do you usually receive feedback?

- [ ] No feedback
- [ ] 25% or less
- [ ] 26-50%
- [ ] 51-75%
- [ ] 76-100%

12. Of your "new referrals" to Psychiatrists, what percentage of your patients are returned to your care appropriately?

- [ ] None returned
- [ ] 25% or less
- [ ] 26-50%
- [ ] 51-75%
- [ ] 76-100%

**SHARED-CARE ARRANGEMENTS WITH PSYCHIATRISTS**

13. Do you practise any form of "shared care" arrangement, ie, do you have either a verbal informal "shared care" understanding or a formal written "shared care" understanding with any of the Psychiatrists to whom you refer patients?

- [ ] Yes – an informal "shared care" understanding
- [ ] Yes – a written formal "shared care" understanding
- [ ] No "shared care" arrangements

14. If you answered "yes" to the previous question, would you please write the name/s of the Psychiatrist/s with whom you have "shared care" arrangements. We are seeking this information to gain an understanding of your network of relevant specialists. Your answers will remain confidential to the researchers.

Name of Psychiatrist/s: ____________________________________________________________

______________________________________________________________
15. How often do you use the following services for care of your patients with serious mental illness?

<table>
<thead>
<tr>
<th>Service</th>
<th>Not at all</th>
<th>Occasionally</th>
<th>Frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Psychologist</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Community Mental Health Nurse</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Mobile Treatment Team</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Other (Please specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. For what percentage of your patients do you receive feedback from the above group/s of service providers (ie, those listed in Question 15)?

<table>
<thead>
<tr>
<th>Feedback Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No feedback</td>
</tr>
</tbody>
</table>

Comments please: ____________________________________________________________

17. Do you practise any form of "shared care" arrangement with any of Mental Health Workers?

Yes – an informal "shared care" understanding

Yes – a written formal "shared care" understanding

No "shared care" arrangements

18. If you answered "yes" to the previous question, would you please write the name/s of the Mental Health Worker/s with whom you have "shared care" arrangements. As with Psychiatrists, we want to gain information about the network of other service providers. Your answers will remain confidential to the researchers.

Name of Mental Health Worker/s: ____________________________________________
## SATISFACTION WITH SPECIALISTS

19. During the past 12 months, how satisfied have you been with the **care your patients have received** from the following specialists and service providers? Please circle the appropriate number from (1) to (7) on the scale below (7 = very satisfied):

<table>
<thead>
<tr>
<th>Specialist</th>
<th>Very dissatisfied</th>
<th>Satisfaction</th>
<th>Very satisfied</th>
<th>No Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Private Psychiatrist</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Psychiatrist in Public Hospital</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Clin. Psychologist</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Community Mental Hlth Nurse</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mobile Treat. Team</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify):</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

20. During the past 12 months, how satisfied have you been with **communications** between you and the following specialists and service providers (7 = very satisfied)?

<table>
<thead>
<tr>
<th>Specialist</th>
<th>Very dissatisfied</th>
<th>Satisfaction</th>
<th>Very satisfied</th>
<th>No Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Private Psychiatrist</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Psychiatrist in Public Hospital</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Clin. Psychologist</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Community Mental Hlth Nurse</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mobile Treat. Team</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify):</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
21. This section seeks information about the specialists who assist you to manage patients with serious mental illness. We are looking for two pieces of information:

1) the names of the specialists who assist you to manage patients, and

2) the approximate number of times that you have made contact with them during the past six months. As indicated previously we need the names of specialists so we can understand the network. Your answers will remain confidential to the researchers.

<table>
<thead>
<tr>
<th>Specialist's Name</th>
<th>Approximate number of contacts over the past 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None  1-5  6-10  11-15  16-20  21-25  &gt;25</td>
</tr>
<tr>
<td>Private Psychiatrist</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
</tr>
<tr>
<td>Psychiatrist in Public Hospital</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
</tr>
<tr>
<td>Clinical Psychologist</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
</tr>
</tbody>
</table>
22. Of the psychiatrists you have already named, please select one with whom you have a good working relationship:

Name of Psychiatrist: ____________________________

a) How promptly do you usually receive feedback from this Psychiatrist about "new referrals"?

- [ ] Within a few days
- [ ] Within a week
- [ ] Within a month
- [ ] Longer than a month

b) What methods of communication does this Psychiatrist usually use?

- [ ] Fax
- [ ] Telephone
- [ ] Letter/memo
- [ ] Telephone + letter

c) How would you describe the quality of the information you generally receive from this Psychiatrist?

- [ ] Acknowledges referral with no information
- [ ] Acknowledges referral & says what he/she did
- [ ] Acknowledges referral & says what he/she did and why
- [ ] Acknowledges referral & says what he/she did and why and says what the GP can do

d) From patient feedback, how do you rate the named Psychiatrist's communication skills with patients?

- [ ] Very poor
- [ ] Poor
- [ ] Average
- [ ] Good
- [ ] Very Good

e) What is your assessment of the treatments offered your patients by the named Psychiatrist?

- [ ] Very poor
- [ ] Poor
- [ ] Average
- [ ] Good
- [ ] Very Good

Comments Please: ____________________________________________
23. Using location as a measure, how accessible is each of the following specialists and service providers:

<table>
<thead>
<tr>
<th>Specialist</th>
<th>Locally based</th>
<th>Within 20kms</th>
<th>20 - 50kms</th>
<th>&gt; 50kms</th>
<th>Not accessible at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Psychiatrist</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>Psychiatrist/Public Hospital</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>Clinical Psychologist</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>Community Mental Health Nurse</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>Mobile Treat. Team</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
</tbody>
</table>

Other (please specify specialist):

|                      | (1) | (2) | (3) | (4) | (5) |

24. How satisfied are you with access to each of the following specialists and service providers? Please circle the appropriate number from (1) to (7) on the scale below (7 = very satisfied):

<table>
<thead>
<tr>
<th>Specialist</th>
<th>Very dissatisfied</th>
<th>Very satisfied</th>
<th>No Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Psychiatrist</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatrist in Public Hospital</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clin. Psychologist</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Mental Hlth Nurse</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Treat. Team</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify):

|                      | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
These questions are optional. However, we would really appreciate your views should you care to comment.

25. What gaps, if any, exist in your community for the care of patients with mental illness?

26. What actions do you think should be taken to improve the services provided to patients with serious mental illness?

27. Any other comments?

28. Please provide us with your name and address if you would like to receive feedback about the findings of the survey.

Name: 

Address: 

Thank you for taking the time and effort to complete this questionnaire.
Please return this completed questionnaire in the postage paid, return-addressed envelope by

to:

Specialist Support for General Practitioners Project
Department of Public Health
University of Wollongong
Northfields Avenue
WOLLONGONG NSW 2500

Should you wish further information about this project please contact
Mary Harris: (042) 214077
Please indicate the dynamics of this relationship using the following rating scales:

<table>
<thead>
<tr>
<th>Satisfaction</th>
<th>Very Dissatisfied</th>
<th>Very Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with the care your patients receive</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
</tr>
<tr>
<td>Satisfaction with communications between you</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respect and trust</th>
<th>Very Little</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>The respect you have for the way he/she practices medicine</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
</tr>
<tr>
<td>The amount of trust you have in him/her</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time known</th>
<th>Less than a year</th>
<th>For many years</th>
</tr>
</thead>
<tbody>
<tr>
<td>The length of time you have known him/her</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
</tr>
</tbody>
</table>
Please indicate the dynamics of this relationship using the following rating scales:

<table>
<thead>
<tr>
<th>Satisfaction</th>
<th>Very Dissatisfied</th>
<th>Very Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Satisfaction with the care your patients receive</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
</tr>
<tr>
<td>• Satisfaction with communications between you</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respect and trust</th>
<th>Very Little</th>
<th>Very Much</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The respect you have for the way he/she practices medicine</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
</tr>
<tr>
<td>• The amount of trust you have in him/her</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time known</th>
<th>Less than a year</th>
<th>For many years</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The length of time you have known him/her</td>
<td>(1) (2) (3) (4) (5) (6) (7)</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 3: SAMPLE SIZE ESTIMATION FOR SURVEY OF GENERALISTS IN TWO URBAN REGIONAL NETWORKS

1. Estimation for paired observations

Specifications:

Two-tailed test at the 5 per cent level of the null hypothesis that there is no difference in population means ($m_0 = 0$ and $z_a = 1.96$).

Pilot study data:

The true difference in satisfaction may be as much as 2.5 ($\mu_1 = 2.5$ and $z_\beta = -1.65$); $\sigma_d = \sqrt{\frac{S^2}{d}} = \sqrt{4.3} = 2.07$.

Test statistic (Colton, 1974: 144): $n = \frac{(Z_a - Z_\beta)^2}{\sigma_d^2}$

Required sample size:

$$n = \left[ \frac{(1.96 + 1.65)2.07}{2.5} \right]^2 = 8.9 \text{ (i.e 9 pairs)}$$

2. Estimation for Independent means

Specifications:

$H_0 : \mu_1 - \mu_2 = 0; \; H_a : \mu_1 - \mu_2 = 2.6$

$\alpha = .05; \; \beta = .01; \; \sigma^2 = 9$

Critical regions:

$$\frac{\alpha}{2} = 1.960; \; \beta = 1.282$$

Test statistic: $n_1 = n_2 = 2 \left[ \frac{\left( z_\alpha + z_\beta \right)^2 \sigma^2}{\left( \mu_1 - \mu_2 \right)^2} \right]$  

Required sample size: $2 \left[ \frac{(1.96 + 1.28)^2 \sigma^2}{(2.6)^2} \right] = 27.98; \; n = 28 \quad n_1 + n_2 = 56$
APPENDIX 4: NORMS OF PRACTICE GOVERNING ALLIANCES IN THE TWO URBAN NETWORKS

1. Norms of practice governing alliances in the mental health network

<table>
<thead>
<tr>
<th>General practitioners</th>
<th>Psychiatrists</th>
<th>Mental health professionals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Promptness of feedback</td>
<td>- A good listener and a good communicator.</td>
<td></td>
</tr>
<tr>
<td>- Telephone access</td>
<td>- Writes a good referral letter.</td>
<td></td>
</tr>
<tr>
<td>- Informative and educative communications from the psychiatrist.</td>
<td>- Contacts me by letter or telephone when he/she has a problem (i.e. keeps me informed).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Provides me with feedback about patients between visits.</td>
<td></td>
</tr>
<tr>
<td><strong>Competent patient care</strong></td>
<td>- Has a system for monitoring patient attendance (i.e. if a patient does not turn-up they chase them up).</td>
<td></td>
</tr>
<tr>
<td>- The quality of care provided to patients is up-to-date and of a high standard.</td>
<td>- Is able to assess suicidal patients.</td>
<td></td>
</tr>
<tr>
<td>- Patient feedback indicates that they are satisfied with the care they received including communications with the specialist.</td>
<td>- Is prepared to give time to mentally ill patients.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Someone who is able and willing to keep me up-to-date with general medicine.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Someone who knows their limitations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Someone who looks at the patient as a whole.</td>
<td></td>
</tr>
<tr>
<td><strong>Trust</strong></td>
<td>- Speaks well to patients about the psychiatrist and is honest with patients about their condition and about referring them to a psychiatrist.</td>
<td></td>
</tr>
<tr>
<td>- Returns all patients appropriately.</td>
<td>- Able to be trusted with the care of mentally ill patients.</td>
<td></td>
</tr>
<tr>
<td>- Speaks well to patients about the general practitioner.</td>
<td>- Someone who respects the role of mental health professionals and is willing to be involved in the provision of team care.</td>
<td></td>
</tr>
<tr>
<td><strong>Respect</strong></td>
<td>- Has respect for my role as a psychiatrist.</td>
<td></td>
</tr>
<tr>
<td>- Respect for the way the specialist practices medicine.</td>
<td>- Someone who respects the role of mental health professionals and is willing to be involved in the provision of team care.</td>
<td></td>
</tr>
</tbody>
</table>
# 2. Norms of practice governing alliances in the diabetes care network

<table>
<thead>
<tr>
<th>General practitioners</th>
<th>Consultant physicians</th>
<th>Health professionals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedback within a week.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acknowledges referral and says what he did and why and what I should do.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicates by phone and letter.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to communicate. Tells me if he/she is having problems (i.e. does not wait for six months to let me know).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A referral letter that offers information that I cannot get from the patient (i.e. history, medication, photocopy of results, chronology of major events, issues of relevance).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good two-way communications.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Competent patient care</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Care provided is average to very good.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication skills with patients is average to very good.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Willingness to carry out my suggestions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence; I seek out generalists with a level of competence, someone who is able to discriminate between those patients with real problems.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone who provides good baseline care.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone who can make patients change their lifestyles.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trust</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Returns all patients appropriately.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaks well to patients about me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone who can be trusted with respect to providing an acceptable standard of care and is guided by a suitable set of ethics.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Someone with whom I feel confident in returning the patient to them.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Respect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have respect for the way the specialist practices medicine.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treats health professionals as equals; works with us as members of a team.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acknowledges receipt of communications and our role as educators.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 5: CHARACTERISTICS OF CITY REGION RESPONDENTS

<table>
<thead>
<tr>
<th>Respondents (n=11)</th>
<th>Characteristics of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Small business general practitioner firms</strong></td>
<td></td>
</tr>
<tr>
<td>• Type of practice:</td>
<td>5 solo practice; 6 group practice</td>
</tr>
<tr>
<td>• Years since graduation:</td>
<td>6 10-19 years; 5 &gt; 20 years</td>
</tr>
<tr>
<td>• Gender:</td>
<td>7 male; 4 female</td>
</tr>
<tr>
<td>• Vocationally registered:</td>
<td>11 yes</td>
</tr>
<tr>
<td>• Practice hours:</td>
<td>9 full-time; 2 part-time</td>
</tr>
<tr>
<td>• Method of remuneration:</td>
<td>10 fee-for-service; 1 fee-for-service and salaried</td>
</tr>
</tbody>
</table>
APPENDIX 6: CITY REGION-URBAN REGION COMPARISONS

Table 1: Patients managed during the previous twelve months with severe depression/severe disturbance of mood

<table>
<thead>
<tr>
<th>Location</th>
<th>Number of patients managed</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban region</td>
<td></td>
<td>6-10</td>
<td>1.4</td>
<td>28</td>
</tr>
<tr>
<td>City region</td>
<td></td>
<td>16-20</td>
<td>1.9</td>
<td>11</td>
</tr>
</tbody>
</table>

Mann Whitney U-Test; p<0.05

Table 2: Number of generalists reporting that their patients with mental illness were functioning well

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage of patients functioning well</th>
<th>None</th>
<th>25% or less</th>
<th>26-50%</th>
<th>51-75%</th>
<th>76-100%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban region</td>
<td></td>
<td>-</td>
<td>4</td>
<td>6</td>
<td>11</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>City region</td>
<td></td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>10</td>
</tr>
</tbody>
</table>

Mann Whitney U-Test; p<0.05

Table 3: Number of generalists with alliances with psychiatrists

<table>
<thead>
<tr>
<th>Location</th>
<th>Alliances with psychiatrists</th>
<th>Yes</th>
<th>No</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban region</td>
<td></td>
<td>12</td>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>City region</td>
<td></td>
<td>10</td>
<td>1</td>
<td>11</td>
</tr>
</tbody>
</table>

Mann Whitney U-Test; p<0.01
Table 4: Number of generalists with alliances with mental health professionals

<table>
<thead>
<tr>
<th>Location professionals</th>
<th>Alliances with mental health</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Urban region</td>
<td>3</td>
</tr>
<tr>
<td>City region</td>
<td>8</td>
</tr>
</tbody>
</table>

Mann Whitney U-Test; p<0.01

Table 5: Percentage of patients returned to generalists care by psychiatrists

<table>
<thead>
<tr>
<th>Location psychiatrists</th>
<th>Patients returned by</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>Urban region</td>
<td>51-75%</td>
</tr>
<tr>
<td>City region</td>
<td>26-50%</td>
</tr>
</tbody>
</table>

Mann Whitney U-Test; p<0.05

Table 6: Generalist satisfaction with access to small business psychiatrists

<table>
<thead>
<tr>
<th>Location very</th>
<th>Satisfaction (7= very satisfied; 1= dissatisfied)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>Urban region</td>
<td>5.8</td>
</tr>
<tr>
<td>City region</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Mann Whitney U-Test; p<0.05
Table 7: Generalist satisfaction with public hospital psychiatrists

<table>
<thead>
<tr>
<th>Satisfaction measure</th>
<th>Location</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban (n=28)</td>
<td>City (n=11)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Satisfaction with access</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Very satisfied to satisfied</td>
<td>78%</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>- Mid-range satisfaction</td>
<td>11%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>- Dissatisfied to very dissatisfied</td>
<td>11%</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>- Mean</td>
<td>5.2</td>
<td>3.6*</td>
<td></td>
</tr>
<tr>
<td><strong>Satisfaction with patient care</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Very satisfied to satisfied</td>
<td>56%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>- Mid-range satisfaction</td>
<td>24%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>- Dissatisfied to very dissatisfied</td>
<td>20%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>- Mean</td>
<td>4.68</td>
<td>4.2*</td>
<td></td>
</tr>
<tr>
<td><strong>Satisfaction with communication</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Very satisfied to satisfied</td>
<td>48%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>- Mid-range satisfaction</td>
<td>28%</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>- Dissatisfied to very dissatisfied</td>
<td>24%</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>- Mean</td>
<td>4.5</td>
<td>4*</td>
<td></td>
</tr>
</tbody>
</table>

* Mann Whitney U-Test; p<0.05