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# Adding Value to Public Hospital Pathology: Identifying Key Attributes that Requestors Associate with Quality

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**Description**

Pathology services are undergoing a period of dynamic change in the Australian health market. As costs continue to be rationalised there has been an increasing requirement to quantitate and improve the clinical utility and value of pathology in healthcare delivery.

Through literature review we propose a model to assess how this service is valued by clinicians and the dimensions that influence the perception of quality.

A number of concepts of service delivery are examined and their applicability to pathology service discussed. From these 14 dimensions are proposed as having substantial influence on the perception of the quality of pathology services by clinicians, which are classified into pre-existing contributors, service quality dimensions and personal perception.

**Location**

iC - SBS Teaching Facility

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# Adding Value to Public Hospital Pathology: Identifying Key Attributes that Requestors Associate with Quality.

## *Development of a Conceptual Framework for Assessment of Quality by Clinicians*

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*Abstract*

Pathology services are undergoing a period of dynamic change in the Australian health market. As costs continue to be rationalised there has been an increasing requirement to quantitate and improve the clinical utility and value of pathology in healthcare delivery.

Through literature review we propose a model to assess how this service is valued by clinicians and the dimensions that influence the perception of quality.

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*Introduction*

Healthcare creates a supplier induced demand. The better the healthcare and the more accessible the service, the more it is used by the consumer. As a result medical care has become the most integral, utilised and expensive public service in developed countries.

Australia in particular has seen a substantial increase in healthcare demand. A report by the Australian Institute of Health and Welfare, (Health Expenditure Australia 2007-8), shows total health expenditure in Australia in 2007-8 was $104 billion, representing 9.1% of gross domestic product (GDP). This report also shows average annual growth in health expenditure for the decade ending 2008 was 5.2%, compared with an average growth in GDP of 3.5% pa.

In an attempt to reduce this increasing burden the Australian Federal Government announced as part of 2009-2011 health budget reforms, plans to vastly decrease the costs associated with a number of medical benefits including pathology testing as well as implement moves to allow greater competition amongst pathology providers (Budget 2009-2010, Department of Health and Aging, Australian Government).

While ideally the management of any healthcare sector should be patient outcome focused it is inevitable, especially in light of the current economic conditions, that the justification of costs can become paramount. This however represents a challenge for many aspects of medical service delivery, especially pathology testing. Defining costs in pathology is often difficult and subjective. Variables such as; patient admission to hospital, length of stay, and drug administration and dosage are usually

reliant on pathology results must be taken into consideration, however these can often be hard to quantify in both monetary terms, and the extent in which they are directly related to pathology results.

The inability to calculate and rationalise costing in this area is further compounded by the fact that the consumer of the service being the clinician or requestor as well as the end user (the patient) does not directly pay for the service. It is common that the clinician has no idea of the cost associated with any test they request. This lack of awareness effectively means there is little incentive to reduce the number of tests ordered (Gopal Rao, Crook et al. 2003) and that the cost of this service pays little to no part in the requestors psychosomatic association with pathology testing. Hence looking at pathology services from other service industry models which have shown, value is proportional to quality divided by cost, (Forsman 1996; Cronin, Brady, Hult 2000) it is possible to see that if the consumer perceives no cost associated with a service, than the value of the service is directly proportional to the perceived quality of the service.

Subsequently identifying ways to improve this service through value creation and quality improvement will provide a more accurate and relevant benchmark for consumers of the service, where cost has little to no impact.

### *The Value of Pathology Services*

Value can be defined in terms of a consumers perception of cost, quality, benefit, and social psychology (Kuo 2009). While most service providers usually have direct contact with their customers and stakeholders and are such “they are uniquely placed to influence as well as respond to their customers” (Rynja & Moy 2006), the supplier/consumer relationship in pathology services is atypical. In this situation the clinician (consumer) is the intermediary between the patient and the laboratory, however often the only contact between the pathology service and the requesting clinician is via computerised inputs and outputs. As such requestors are often not viewed as “customers”, even though they both initiate and consume the service.

How this affects the relationship between the pathology provider and consumer has never been studied, however in business models it has been identified that customers who perceive more value from a service they utilise tend to be more satisfied with the service (Ouschan, Sweeney & Johnson 2006) and that customer satisfaction is the result of a customer’s perception of the value received (Cronin, Brady & Hult, 2000).

### *The Quality of Pathology Services*

As with all areas of healthcare service, pathology can be broken down into two quality dimensions: technical quality and functional quality (Donabedian 1980). Technical quality generally includes the assurance of conformity to proper process and procedure, while functional quality is usually related to interpersonal aspects of care such as trust, communication, mutuality of goals and patient respect (Dale 2001). In healthcare it is imperative to avoid a “good technical outcome, poor service” experience (Vukmir 2006).

In Australia the technical quality of pathology services is generally considered to be at an excellent standard, mostly due regulatory requirements and mandatory

accreditation by external organisations such as the National Association of testing Authorities (NATA), according to the Australian Standard for Medical Laboratories (ISO 15189:2005). This is further validated by the large body of literature which specifically relates to the use of internal analytical quality control (technical quality). From this Feeney and Zairi in 1996 noted “Pathology departments appear to be very good at quality control. This reflects a compulsion to comply with set standards laid down by various professional and accreditation bodies. There is, however, very little evidence to suggest that there are concerted efforts to move away from quality control into quality improvement.” This remains the mainstay in pathology delivery.

*Assessing Functional Quality in Pathology Services*

While a number of studies have shown technical quality to be the key dimension in service quality in healthcare settings (Carman 2000) functional quality cannot be under estimated. Functional quality, related to service quality has been inherently linked in the literature to customer satisfaction, even though it can be seen that these are two distinct but closely related constructs. While customer satisfaction is usually related to value and price, service quality is not price dependant (Anderson et al. 1994) and is usually the first determinant of overall customer satisfaction (Cronin, Brady & Hult 2000).

Studies have shown a variety of factors not directly related to the service provision influence an individual’s perception of service delivery including demographics such as; age, gender, level of education and socioeconomic position (Padma, Rajendran, & Sai 2009). While no studies have been done to investigate this phenomenon in pathology services it has been shown that shown that general practitioners (GP’s) aged 35–44 years have the highest pathology ordering rate (30.4 tests per 100 encounters) while those aged 55 years or more are the lowest requestors (22.0 per 100) (Britt, Knox et al. 2003). This difference could be reflective of; uncertainty in the diagnostic capability of younger GP’s compared to their older counterparts, a change in training programs or younger GP’s being more aware of the increasing spectrum of available tests.

Service quality literature in the context of healthcare is mostly focused on the patient perspective however many of the concepts originate from the seminal work of Parasuraman, Zeithaml & Berry (1985) whom developed the SERVQUAL model to measure service quality. This model identified five dimensions relating to service quality in any sector, those being; reliability, responsiveness, assurance, empathy and tangibles (such as personnel and equipment).

Using the SERVQUAL model as a framework a number of authors have developed these dimensions specifically relating to healthcare, mostly from a patient perspective. Duggirala Rajendran and Anantharaman (2008) proposed that healthcare service quality consisted of seven dimensions; infrastructure, personnel quality, process of clinical care, administrative processes, safety indicators, overall experience of medical care and social responsibility. Padma, Rajendran, & Sai, (2009) validated these dimensions, however incorporated additional factors including corporate image, social responsibility and the trustworthiness of hospital as added contributors to healthcare service quality.

As no similar literature relating to pathology services could be sourced the conceptual framework proposed by Padma, Rajendran, & Sai, (2009) was examined

to determine if dimensions would be similar across a broad range of healthcare including pathology services. Table 1 below shows critical factors or dimensions of service quality in healthcare linked to expectations in pathology service delivery.

Table 1. Figure modified from Padma, Rajendran, & Sai, (2009) showing conceptual dimensions of healthcare service quality and how they may relate to pathology services

| Dimension | Typology of dimension | Typology of dimension specifically relating to Public Pathology Services |
|---|---|---|
| Infrastructure | Tangibles; facilities; physical environment; accommodation aspect | Tangibles; facilities; physical environment; access to scientific technology |
| Personnel quality | Empathy; assurance; responsiveness; courtesy; human element of service delivery; interpersonal care | human element of service delivery; interpersonal relationships, communication |
| Process of clinical care | Primary quality; technical quality; treatment process and its outcome; reliability; understanding of illness | technical quality; reliability; accuracy of results |
| Administrative procedures | Process of service delivery; non-human element of service delivery; punctuality; waiting time | non-human element of service delivery; turn-around-time, ability to access results |
| Safety indicators | Safety indicators | Laboratory Accreditation and adherence to regulatory requirements. |
| Social responsibility | Social responsibility; stakeholder focus | Social responsibility; stakeholder, both patient and clinician focused focus |
| Trustworthiness of the hospital | Patient confidence; relationship of mutual respect; trust (of the patient on the hospital | May be of limited significance as employees generally of same organisation |

Using these dimensions the following conceptualisation was developed, and grouped into pre-existing contributors, service quality dimensions and personal perception.

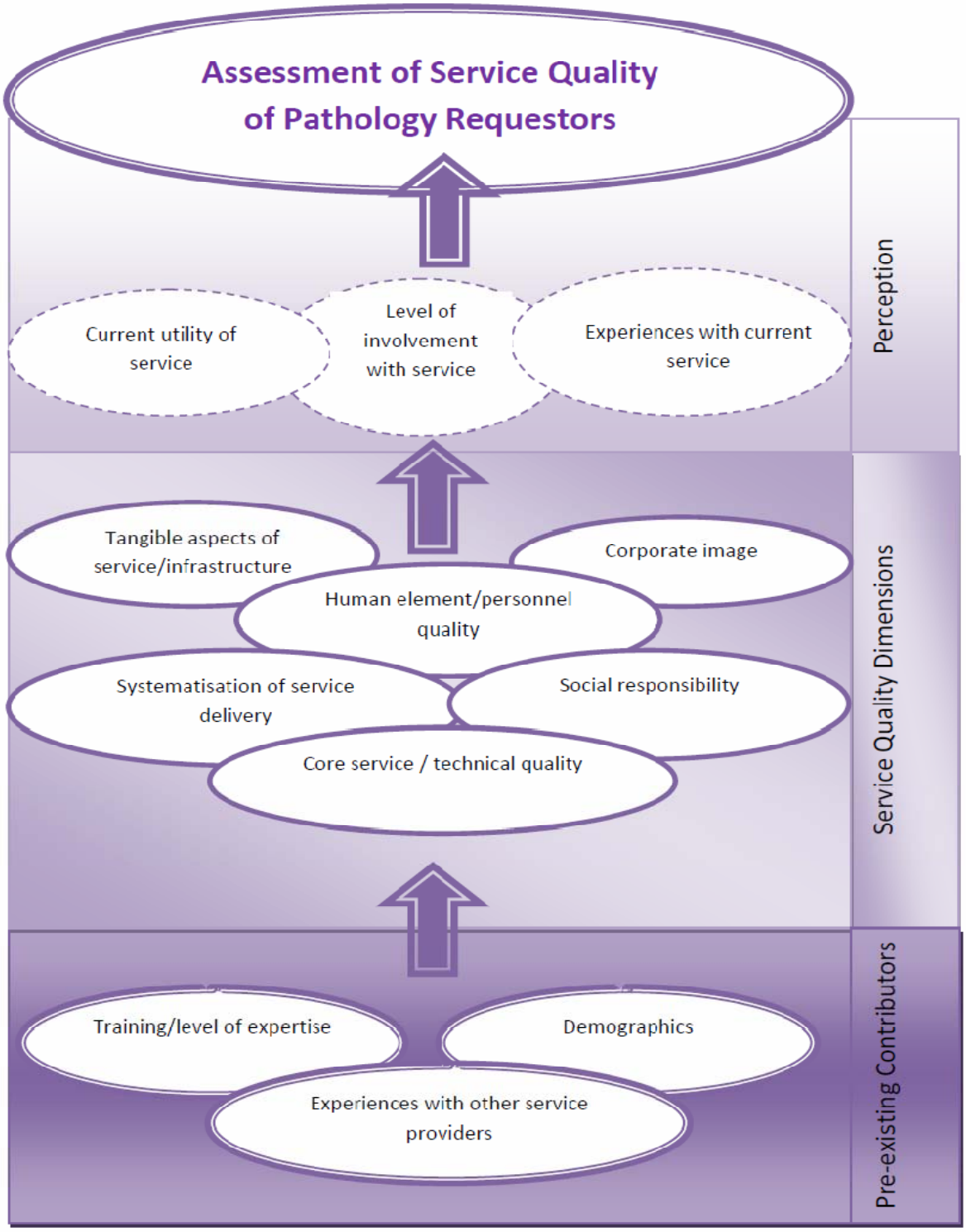


Figure 1. Conceptual framework of service delivery in public hospital pathology

*Conclusion*

The SERVQUAL model represents a valid tool for assessing the quality of pathology services. Using a modified format we are able to identify a number of dimensions that may significantly impact the perception of quality of pathology services by clinicians which can form the basis of further research.

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