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On becoming a practitioner-researcher in remote northern Australia: personal commitment and resources compensate for structural deterrents to research

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Abstract

Aim. This study critically explores the experience of one clinician who developed the practitioner-researcher role in a remote hospital. **Participant.** One occupational therapist working in rehabilitation who had never previously done or been trained for research but who completed and published a randomized controlled trial. **Setting.** Government hospital rehabilitation ward in remote northern Australia. **Method.** Data from a reflective journal and project records were content analysed using a conceptual framework of the metropolitan practitioner-researcher experience. **Results.** The participant's experience was similar to that of metropolitan practitioner-researchers as it was not just a matter of doing research, but rather one of role change from practitioner to researcher. The remote context created structural conditions that discouraged and hindered research and made the task of researcher role development challenging with high personal costs. Research deterrents included a lack of: Research-related infrastructure (such as information technology), research development policy, research accommodations in job descriptions, dedicated funding to support research time release and training, and research support networks. These deterrents were a consequence of the remote setting. Investment of substantial personal time, money and use of pro bono city research advisers was required to compensate for structural deterrents to ensure project completion. **Conclusion.** Researcher role development was central to project success, the remote context dominated role development processes and personal resources were needed to compensate for structural research deterrents. **Keywords:** Practitioner-research, research development, northern Australia, allied health

Keywords

deterrents, commitment, personal, australia, northern, structural, compensate, becoming, resources, practitioner, research, researcher, remote

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REHABILITATION IN PRACTICE

On becoming a practitioner-researcher in remote northern Australia: Personal commitment and resources compensate for structural deterrents to research

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Abstract

Aim. This study critically explores the experience of one clinician who developed the practitioner-researcher role in a remote hospital.

Participant. One occupational therapist working in rehabilitation who had never previously done or been trained for research but who completed and published a randomized controlled trial.

Setting. Government hospital rehabilitation ward in remote northern Australia.

Method. Data from a reflective journal and project records were content analysed using a conceptual framework of the metropolitan practitioner-researcher experience.

Results. The participant's experience was similar to that of metropolitan practitioner-researchers as it was not just a matter of doing research, but rather one of role change from practitioner to researcher. The remote context created structural conditions that discouraged and hindered research and made the task of researcher role development challenging with high personal costs. Research deterrents included a lack of: Research-related infrastructure (such as information technology), research development policy, research accommodations in job descriptions, dedicated funding to support research time release and training, and research support networks. These deterrents were a consequence of the remote setting. Investment of substantial personal time, money and use of *pro bono* city research advisers was required to compensate for structural deterrents to ensure project completion.

Conclusion. Researcher role development was central to project success, the remote context dominated role development processes and personal resources were needed to compensate for structural research deterrents.

Keywords: Practitioner-research, research development, northern Australia, allied health

Introduction

We live in a professional era where the need for evidence-based practice has gained widespread acceptance [1–3]. Clinicians need timely, accurate, evidence to support clinical practice [1]. This evidence is reliant on research [4] which must be relevant and accessible to busy clinicians [5,6]. It has been argued that the most relevant and legitimate research is that done by investigators who have an inherent understanding of clinical practice – that is practitioners [7,8]. Yet very little information is available on the experience of practitioners who produce original research [9–11]. Even less is

known about the experience of rural and remote practitioners who produce research: A few recent examples have been published [8,12–16] but there is little from the practitioner-researcher perspective to inform policy development or the design of research capacity building strategies. This article explores factors previously identified to be related to practitioner research involvement and issues that affect rural and remote research in particular. The paper then presents a case study of one allied health practitioner's research experience and considers it in the light of previous literature.

In any field, and in any setting, only a minority of health practitioners produce research. Many reasons

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have been suggested for this. Barriers to research in the clinical setting include: Lack of time, poor understanding of research methodology, low levels of research skill, clinical and research activity being viewed as separate, research being seen as overwhelming, developing research skills at the same time as having heavy clinical demands, weak research administrative support, lack of training in research, lack of funding, limited availability of computing equipment for use in research, and limited access to up-to-date literature within the workplace [11,17–19]. Specific research skill gaps have also been identified which prevent research involvement: Design, procedures, ethics for research, data analysis, and use of computer-aided statistical programs [20]. Given these gaps, the need for research mentors, particularly for novice researchers, is apparent [20], however these too may not be available.

Rural and remote clinicians have these and other barriers to deal with if they want to conduct and publish research. General factors relating to rural location affect all aspects of life and make engagement in any non-clinical activity, such as professional development, difficult. Factors include: Delivery and access barriers of geographic isolation and distance, poor technological and telecommunications infrastructure, time costs as a result of negotiating distances, travel costs and time away from practice, and financial support for travel or attendance [21–27]. In addition, problems getting relief or locum staff to cover for absence [28] and organizational priorities of service [29,30] make access to and participation in professional development difficult. So although professional development has been recommended as a means to encourage research utilization [6] rural and remote practitioners face barriers to professional development.

There are also discouraging factors that are specific to research in rural and remote settings. On a practical note, remote practitioners and institutions face problems in information technology related to bandwidth limitations, cost and varying reliability of internet service providers [31]. Problems like this affect access to information, e-resources, and some of the more sophisticated virtual communication alternatives such as listserves, virtual-life spaces, and synchronized visual/auditory on-line communication. On a more complex level, 'the very nature of remote communities can militate against conducting research' [32, p. 10]. Factors include 'ethical issues, study design, particularly with regard to definitions and statistical power, logistic difficulties, costs and generalizability of findings. The location of the researchers may also be important...rural-based researchers are at risk of academic isolation, lacking routine access to

academic seminars, lectures and library facilities. Equally importantly, they may lack the informal interactions with others through which collaboration may be forged' [32, p. 11]. Publication of research from small rural populations can also create design, methodological and ethical dilemmas, such as: (a) The obligations of different stakeholders come into conflict; (b) researchers face challenges of living in the community they research; (c) small sample sizes mean not only that populations are more identifiable but also that greater time and money must be spent to access and recruit research participants; and (d) statistical information from the research is small scale [32–34]. As a consequence, rural researchers must spend greater time and pay more attention to considering how the research can be successfully conducted above and beyond issues of research design, measurement and data analysis [35]. Rural researchers also face the problem of their research work being received in a political light [36], in part because of the identifiable nature of populations, but also because there will inevitably be expectations that the findings will have local application and outcomes [32,37].

Aim

Australian rural and remote practitioner-researchers in allied health face many potential challenges because there are factors intrinsic to rural and remote locations that make research activity particularly difficult. How then, do rural and remote allied health practitioners do research? What are the factors that enable success when there are so many that are reported to deter it? Currently, there are no studies which answer this question. This study therefore explores the experience of one allied health practitioner who successfully initiated and completed a clinical research project.

Method

The study used a qualitative approach where diary reflections and project records of the participating clinician were retrospectively content analysed to explore factors and processes involved in her experience of research which occurred over a two-year period. The study recognized that there were benefits and risks in publication of the rural and remote experience as not only are there methodological limitations, but also the context could be identifiable. The authors were sensitive to this issue, and adopted the ethical rationale and approach for small-scale rural research publication put forward by Fraser and Alexander (2006) [33]. Furthermore, the authors here acknowledge their respect for the institution and personnel involved, the service

priority of the hospital, the fact the hospital was not a research centre or funded for research, and we acknowledge that decisions made by managers were always consistent with policies, delegations and the practical constraints of a remote site.

Participant

The clinician under study is the second author who, at the time of commencing her research experience, had been practicing as an occupational therapist in the remote area for three years. She held a Bachelors degree and post-graduate diploma in case management. She moved to the town as a result of her husband's work transfer and her duration of stay depended upon his employer. She had received introductory research training as an undergraduate but there had been no training or use of computers in research, nor had she been involved in research projects. While in the remote location and prior to research activity, she completed a distance-mode post-graduate diploma in case management and this had given her skills in on-line searching and appraisal of the literature and clinical project management.

Setting

The setting for this study was a district hospital in Townsville, in the far north of Australia. The regional city had a population of 145,879; with a significant proportion being associated with mining and the military where incoming and outgoing transfers were common. Other major local industries were sugar cane growing and tourism. The nearest capital city was 1375 km away. The hospital serviced more than 600,000 residents between the geographical points of Papua New Guinea, Mount Isa and Sarina. This regional city had a relatively new university which had recently established medical and occupational therapy programs. At the time of her project, these programs were in start-up phase and had not established research resources relevant to the project topic. In common with other remote facilities, the hospital had senior medical specialist shortages, and the research was in an area where there was no medical consultant. The hospital was not a research centre and consequently there was no funding or expectation for the occupational therapy department or others to be engaged in research. The clinician was supervised by a senior occupational therapist and worked in a multi-disciplinary team on a ward that was the operational responsibility of the nursing unit manager as there was no senior medical specialist. The practitioner had government working conditions which prescribed daily hours of work and included supervisor approved recreation leave and professional development support but there was no

research time allocation. Clinicians needed to record and report all activities on an hourly timesheet and key performance indicators were the occasions of service, length of time spent on occasions of service, and numbers of patients discharged. Heavy demand for service from limited numbers of clinicians made clinical activity and service outcomes the hospital priority.

Practice program

Prior to her research involvement, the clinician engaged in practice using assessment, intervention and evaluation techniques for neurological rehabilitation which were recommended and taught in her undergraduate education. One of these interventions was the splinting of the hemiplegic upper limb to prevent contracture. This became the topic of the research project when a colleague questioned whether or not it was effective [38].

Data

The clinician kept project records and after leaving the hospital she wrote a personal journal recalling events, activities, contacts, critical incidents, feelings, thoughts and reflections on her two-year experience of research. This journal was written with a view to recalling and some day sharing her experience and to bring 'closure' to a significant period of her life which ended when she moved to a city. Her personal journal began with perspectives on her interest and orientation towards research, went through the incidents relating to development of a research question, processes for starting and conducting a research project including research skill development, relationships, events and challenges, and ended with the decision to do a research masters degree. In the course of developing this article, the first author also interviewed NL to clarify experiences and issues in the personal journal and this information was also included.

Data management

All project records were confidential, managed in accordance with institutional approvals for the randomized controlled trial. The personal journal was confidential and seen only by the authors. All records were archived with the research project [38] in university archives.

Data analysis

The conceptual framework adopted for this study was that of 'role development and transition: becoming a practitioner-researcher' by Cusick [10].

This conceptual framework described the experience of metropolitan occupational therapy clinicians who were research productive. The framework identified that practitioners don't just 'do research' on top of everything else, but rather they 'become researchers' by identifying the researcher role as valuable, constructing the researcher role in life by taking on the role bit by bit, making the researcher role their own in relation to others, and evaluating the impact of the role on their life. The conceptual framework is summarized below as it provided the analysis framework and the context for reporting of results.

The critical finding of the Cusick [10] study, was that metropolitan clinicians who were research productive, actually transformed the nature of their work and personal life through a complex role taking and role-making process. Without it, research activity was not productive regardless of the presence or absence of 'barriers'.

Transforming oneself from practitioner to practitioner-researcher required triggers, opportunities, resources and feedback in professional, clinical and personal contexts. In a 'nutshell', there were three tasks that had to be accomplished to become a practitioner-researcher. The first was identifying, understanding and wanting the research role. In this task practitioners were predisposed to research through biographical factors such as family experience or education. As a result they identified research and researchers as valuable and wanted to be like them or do the same sort of thing. They thus set a course for research development in their life, for example, by deciding to do a project even if they did not have any research skills or resources at the time. The second task was constructing the researcher role in work and personal life. They did this by engaging in actions and interactions with others 'bit by bit' to do their project and in the course of project development they built their researcher role. Finding out about what to do, how when and why primarily through seeking out role models and following their lead was the key: These role models could be close colleagues, distant professional acquaintances, past educators, people from other disciplines, team members, family members, or even role models from literature or media. Research role models helped them learn about and devise the necessary strategies to construct the research role in their personal and work life and get the resources needed to conduct the research. Strategies included: setting goals and driving the research; specific approaches to doing the research; and negotiating the work system to attract, manage and retain personal, social and consumable resources. The third task was to evaluate whether or not becoming a practitioner-researcher was 'worth it'. Research role models also

helped them evaluate whether or not the whole process was 'worth it' either by providing direct feedback or by acting as benchmarks for the therapist's own reflection on their unique research journey and circumstances. Knowing whether or not one was 'getting there' or had 'made it' as a researcher was important and getting feedback on their success as 'researchers' was important. Such role verification could come from role models or the acknowledgement of peers, and in particular research productive peers, for example through conferences, being accepted for publication and so on. These three tasks are similar to the processes of role identification, role taking and role making described in role theory.

The conceptual framework developed by Cusick [9] was used to guide the content analysis of case study data. Data was sorted into framework categories on the basis of key phrases and issues. A phrase was only sorted once and a consensus decision between investigators was used for allocation. Although there was an intention to generate new categories should the existing ones be inadequate, there was no need to do this. Following analysis, findings were critically reviewed to determine whether or not specific factors that had previously been identified in literature as barriers to rural research were present. Similarities, differences and gaps in previous research were then identified.

Results

All categories received sorted data. Tables I, II and III present examples of data sorted into the three 'tasks' and related categories of the conceptual framework. These give a 'snapshot' of the experience of becoming a practitioner-researcher in a remote setting. The information in the Tables illustrates her 'storyline' [39] of experience. Her storyline is one of changing roles from that of a successful and productive clinician to a clinician-researcher in a remote setting.

The story starts with her being predisposed to research through a family which highly valued education and educational attainment and a university background which identified research as the best source of evidence to justify practice even though she did not know how to do it. The critical event was being questioned about evidence for splinting practice by a colleague. Turning to literature to seek evidence for her practice, using search and appraisal skills developed through a post-graduate distance-mode training course, she found little to demonstrate therapeutic effect at high levels of research rigour. Taking pride in her previous clinical reputation and having confidence in the value of therapy intervention, she responded to

Table I. Task One – Identifying, understanding and wanting the researcher role.

Processes involved in task	How processes were done	Examples from the case study experience
Being a real practitioner-researcher	Profiling [what] real research is	I wanted to do proper research that would answer the clinical question and guide practice so designs like randomized controlled trials were needed. So that other therapists would have access to answers I wanted to publish and present the findings so I expected criticism and high standards.
	Profiling ourselves [i.e., researchers and investigators]	I seek out like-minded clinicians (who also do research) to just talk things over with; I started to see myself as being different when I began doing research;
	Being pre-disposed to research	My family always valued education; I thought I may as well use my leisure time to get a qualification and so I did a post graduate diploma
	Wanting more	I really enjoyed being a valued (important) member of the health team and evidence for practice was a big part of this; I wanted the same level of respect; I wasn't really feeling that same sense of satisfaction anymore [from clinical work]; A lot of people presumed that I couldn't get a position anywhere else, or that I was a new graduate and that was why I was up there [in remote area] and I felt I had to prove that this was not the case
Knowing [the different types of] other occupational therapists, their interests and priorities	[Appraising the interests and priorities of] managers	The overriding priority of the department was service as the hospital was not a research centre and we were not funded to do research; My supervisor gave professional development approvals but there was no leave policy for research
	[Appraising the interests and priorities of] academics	There were no local research training courses, workshops or other researchers in my clinical area who I could talk these design questions over with, and so I frequently called and emailed [interstate academic adviser]. . . he was fantastic and talked to me for hours about research issues in the project; One of the reasons I seek out other OT researchers is that they understand why I do what I do – I don't have to justify my life choices to them.
	[Appraising the interests and priorities of] clinicians	By this time I had realized that not every OT is able to successfully conduct research; They focused on importance of delivery of clinical services, . . . research . . . took time away from clinical services [this was] seen as a hindrance; Clinical colleagues who had once asked with interest about my clinical work, no longer did, or maybe it was that they never asked about my research which I valued more; They see me as being different.
	[Appraising the interests and priorities of] 'busy researchers'	Those people who are 'going to do' a lot of things, you know the type that are great for inspiration, but in reality you know that if you start in on it. . . you will be left doing all the work.

encouragement from her colleague to get involved in answering the clinical question by *deciding* to do original research.

Identifying, understanding and wanting the research role

Although she had no previous training in research, she made contact with an academic researcher recommended by the colleague, and through telephone and later e-mail communication she began to read and engage in practical tasks, such as approvals and ethics applications, associated with the development of a research project. Starting with one academic-researcher adviser, this soon expanded to three who became collaborators in the project along with her local clinical colleague. Their interactions provided the step-by step knowledge and skill development needed to do the research and the

network of remote peers provided role models of researchers.

Sometime after laying the ground work for the project, she felt a shift in her orientation towards the research, from a project that she was trying to do 'on top of everything else' to something that was central to her professional activity and later her personal identity. She began to identify more with her long-distance academic-researcher colleagues than her clinical colleagues, as she felt she had more in common with them and their interests and wanted more from her work than daily hands-on practice. She also began to compare herself and her research work in relation to other researchers after seeing them at conferences or reading their research in journals. She began to evaluate the calibre of her research in relation to theirs. So not only did she feel different to clinicians, but she also felt different to

Table II. Task Two – Constructing the researcher role in work and personal life.

Driving the research	Accepting responsibility for the project	Initially had limited . . . understanding of [my] potential role and responsibilities; I discovered that no one else takes your project as seriously as you do, since they do not have the vested interest; The biggest problems to solve were always – if I got sick, or if I went on holidays, who would oversee the research
	Controlling the project	I had to learn about each step as I went along and keep it in control – just focus on one question
	Using deadlines	I had to get things ready for conference papers and meetings I was flying down to the city for; I had to have things finished up before we went on holidays; get everything done while my husband was away.
	Setting goals	I had trouble focusing sometimes because of rotating caseloads, increased workload, and competing demands so I'd do a bit then reward myself; setting goals helped keep me on track
	Integrating activities	I was left alone . . . so I could use this time for research and have a break when he was back – that was before data collection; I did a project that was part of my caseload
	Setting priorities/ forward planning	I had always been a careful planner; because of the distance you always have to book everything in advance; I had to put the research first; we both [husband and I] decided that my research was a priority
	Scheduling activities	I had a daily schedule; There were so many competing demands on my time – I would start work at ~7 am and take off the hand splints for the research, and then start work (usually doing self-care retraining tasks such as eating breakfast or showering and dressing). I did recruit and consent patients during work hours, but all splint making tended to be done after 5 pm (so that the blinded assessor . . . did not see the patient receiving the splint). Then I would come back to the hospital at around 7 pm to make sure the splints went on at the correct time; I was working the long hours and all weekend to do the research; I had to apply for leave and make sure it would fit in with the research, and the workshops and the department
	Articulating values [personal and professional re importance of research in life]	I remember first identifying the importance of the research to me personally . . . it was so important to me that the research be completed. It was perhaps the best motivation for me . . . since I really wanted the project to stand for something. I strongly believe in ethical practice and that needs research to support it. We need to help not harm patients or at least not waste their time.
Negotiating the system	Knowing the system	The hospital was focused on clinical and there were problems in getting enough specialist staff for this. There was no medical consultant on the unit. There wasn't really anyone I could go to and ask about what to do and I couldn't find any research policies or guidelines at that time, I think its changed now; There were no doctors to work alongside; There were very limited hospital library to look in their research texts
	Managing gatekeepers [to get research resources]	Access to computers at hospital was limited and lacked internet connection, access to on-line catalogues, and access to on-line journals, and limited administrative access was to be used for clinical support only, not for assistance with preparation of research proposal, on-study forms or data entry. So there weren't really any resources at the hospital I could lobby for. There was no way of accessing this information on-site . . . no courses, and only rudimentary medical statistics books in the local library, which I took out and then didn't understand!). The difficulty accessing training and advice is an overriding memory from the early days – not being aware of how to access training, no training to access in the region, and not hearing of courses run in [major city] as being a research clinician was not common – actually, no one else in my area was doing research.
	Managing people of influence [to get resources]	My husband was fantastic, there was no question about whether or not we would spend the money [on the research]; I spoke with the Doctor who headed the committee to find out about who I needed to get to write a letter of support; The difficulty in legitimizing research activity as work activity was not really possible in the hospital system, as it was clearly seen as something to be done in my own time. So probably the thing I needed most which was time, I found hardest to get.
	Managing the occupational therapy department [to get resources]	I arranged a meeting with my head . . . said that it [the research project] would be good . . . [but she was] concerned that my caseload cover would slip The department did not have a research history, the department lacked a specific research policy, which hindered access to external research training and research mentorship which meant there was not much I could do to influence things to get resources; Culture where value was placed on clinical work
Doing research	Maximizing autonomy	There was a lack of previous therapists requesting leave without pay to complete research within hospital, but this was the only way I could do it to get the time and freedom I needed. I had a lot of home time on my own
	Starting	I found myself with a real clinical dilemma which I could not find an answer to; I had never done a research project; I cannot believe now how little I knew, such that I could not even write a clinical research question; she [colleague] suggested we do a project

(continued)

Table II. (Continued).

Developing knowledge and skill	I remember feeling really as though I was flying blind; lack of knowledge about research methodologies; wanting to be able undertake appropriate training in research; I had no research background that would be useful in planning a study; I read and read, I went to conferences, I talked to [the researchers], there were no workshops or anything and I couldn't find any information about research support for people like me.
Doing steps and stages	I simply followed the advice from [academic researcher adviser], and trusted that he knew what he was doing; I recall relying heavily on [his] advice throughout. I had to get the question right; there was the design, procedures, ethics, organising the nursing staff, other colleagues, recruiting, blind assessors, data analysis everything. One bit at a time. Wanted to know about all the details of doing research, including data analysis and statistical programs – and [academic adviser] had said, worry about that when the time comes.
Demo activity & productivity	I had presented at a . . . conference . . . and in that moment I no longer felt like I was some 'hick' from the back blocks.

Table III. Task Three – Evaluating whether or not becoming a practitioner-researcher was 'worth it'.

Weighing outcomes	Benefits and costs to practitioner-researcher	There were big personal and financial costs; My lack of access to a mentor contributed towards negative feelings about being a rural-researcher. The frustration and fear that I had, to date, felt about the research, that I would be unskilled and so do something really wrong and ruin the project, well, it lessened and I got more confident; I felt as though there was no support. . . for my project I found it so exciting and consuming, that I couldn't understand why they [others] would not be interested in it! My [family] is really proud of what I do.
	Benefits and costs to hospital	I'm not sure the hospital really got anything out of it, although they now have senior medical staff who have changed quite a few things in relation to research, I don't know if this has changed things for allied health. The clinical service priority meant that the research was probably seen as a cost to the hospital because I was trying to do more than see patients.
	Benefits and costs to occupational therapy department	I was just solving the question . . . and I was going to be . . . clinically useful I hoped for the department. I suppose my research was seen as a hidden cost to the department and that's why I had to reduce my paid work hours to do the research.
	Benefits and costs to patients	I guess they won't really be forced to have splints now that I've shown they don't work, although we still need to find out what it is that will help them
	Benefits to occupational therapy profession	My main concern is that occupational therapists have ethical practice and that means they need to practice with evidence. So much is done without evidence. My project didn't answer the question of how we could help patients with stroke, but it did suggest that under certain circumstances splinting was not going to help, so maybe it should be done. I guess that is an answer of sorts. The more research occupational therapy has the better.
Practitioner-researcher plans		The thought of being able to get my research degree is very appealing; A publication from the research was not the only thing that it could lead to; I've decided to take a research-friendly job next time, still clinical because I like that; I want to prove that the research I do is really credible; I want to build up my research reputation.

other researchers (who she had seen or read) as the rigour of her randomized trial project was high compared to theirs. Even though she thought her study was rigorous, well conceived and well conducted, she faced intense doubts because she was so isolated, had little research support, was doing something that was not a hospital priority and from time to time, pejorative comments were made by metropolitan colleagues who seemed to imply that a remote location and top-quality research were incompatible. Even so, as she attended local and

state conferences and interacted with researchers her change in role orientation from clinician to researcher was reinforced as they indicated her achievements and activity were substantial and of good quality.

Research became an overriding priority in her work and personal life. She would try to complete caseload duties as efficiently as possible to make time for research work, and would repeatedly attempt to get approvals for professional development leave to engage in research-related activity. The clinical

position did not offer much flexibility and leave provisions were also very limited. In spite of this, the importance of research in her life and emerging identity grew. At one point, she was ill and a motivating goal for recovery was to be well enough to complete the research project. At that time she realized that the project was not just about doing research, it was about completing a mission that went beyond her work role, beyond her own satisfaction and skill development into the realm of making sure that an important 'gap' in knowledge would be filled for the benefit of patients. *Being a clinician-researcher* was now a defining role in her life.

Constructing the research role in work and personal life

While she knew from discussions with other researchers that doing research in clinical settings was challenging, she found it particularly challenging in the remote setting. She implemented a range of strategies to *negotiate* the system and *drive* the research to try and get it done. Because the hospital system was centred on direct health service and demands on limited resources were so immense, negotiating the system to do research was not easy. The hospital and supervisor priority was direct 'hands on' service as this was the department task and the community need. As the only major hospital for thousands of kilometres the care need was immense. No funding was provided to the department for research activity and time on anything other than service was therefore an on-cost to the department. Even though research activity could be considered a form of professional development, there were limits to leave that could be approved, and job descriptions were not only focused on clinical service but were measured and reported to senior management in this way (occasions of service, discharge rates). As her employment was as a full-time clinician she felt frustration when project demands seemed to conflict with employment obligations. The schism between clinical employment conditions and the flexibility required for research could not be resolved and she reduced her employment to four instead of five days a week. In addition to employment arrangements, the hospital was, at the time, not well set up for research activity in terms of research ethics application guidance, information technology or other research-related resources. The lack of research infrastructure also meant slow negotiation of implementation steps for the project, including permissions and approvals as there was no mentor or advisory system. There was one department computer for six therapists with no direct internet access. Literature databases were limited to Medline and CINAHL and these could only be accessed through either a library computer or

the single department computer linked into the hospital intranet. At the time there was also not a culture of research in the department or ward, with no other clinicians having previously done research, no research discussion or support groups or seminars for research-related presentations. She was isolated from other researchers, but fortunately had the support and project involvement of the clinical colleague who initially suggested doing the research project. Without this person, there would have been no-one to discuss the research project with.

The service-orientated culture of the hospital, limited resources, and remote location away from family, friends and research colleague networks meant that she had to consciously drive the research in her personal and work life to ensure it got started, kept going and was completed. She realized she was responsible for the project and without her sustained focus and action it would collapse: She had many instances where this was reinforced and in the end she realized that she could not even take holiday or sick leave or delegate project tasks if the trial protocol was to be followed. The research focus was isolating, but personal satisfaction from engaging in research activity was a good reinforcer for continued involvement. Using deadlines, schedules, setting goals, integrating research and other activities, and continually keeping in control of the project kept the research driving through a busy clinical job and home life. As for specific specialist research skill, she developed this in steps and stages as the project required it, often prompted by a problem in the project implementation that she could not solve with her current skills, suggestions from her long-distance academic-researcher colleagues, or discovery of knowledge gaps or issues through reading. Knowledge and skill development was also triggered by her slowly emerging long-distance network of researchers met at conferences or via e-mail correspondence.

Substantial personal resources had to be committed to do the research in the absence of hospital-based research infrastructure: For instance, the purchase of home computer with relevant research software and internet services, taking of leave for research activity, reduction in hours of her clinical job, use of personal funds for travel to conferences and contact with researcher colleagues and so on. Personal resources expended on research were considerable, for example in one year a quarter of her gross income was used for research purposes, and in another, a fifth of her potential earnings were sacrificed in order to have a day off per week for research work. These were personal choices willingly taken because the role of researcher had become so important and research activity so satisfying.

But these decisions could not be taken in isolation. Discussions had to be held with her husband to make the joint decision to commit what would otherwise be family finances to the research project and her development as a practitioner-researcher. Becoming a practitioner-researcher was a family investment as well as a personal goal. She felt she was lucky, as she had met other practitioners who had the same level of interest and commitment, but who did not get support to use family resources for research development and so had to abandon the role.

Evaluating whether or not the practitioner-researcher role was 'worth it'

Well into data collection, with a rigorous trial underway and a considerable sense of achievement and commitment, she decided to enrol in a post-graduate research qualification after discussions with her distant research colleagues. She enrolled in a program that put special arrangements in place to accommodate her remote location and from that point on she had greater access to research information resources, technical training, analysis and writing advice. Although she knew that the project would probably have been completed without a qualification, the program gave her external deadlines, standards and a goal which focused her work and made the personal effort and investment more 'worthwhile' as it contributed towards a qualification. She presented emerging findings at conferences, and increasingly recognized that the quality and calibre of her research work was high as she received positive feedback from other researchers. She began to feel she was 'one of them'. Reflecting back on her experience, as she left the remote region following the work transfer of her husband, she felt it had been a difficult, challenging but satisfying experience that had not only changed her view and experience of clinical work, but had transformed her as a person. She no longer wanted to do full-time clinical work, but wanted to do clinical work that was actively engaged in research. She made plans to seek out positions in organizations where clinical research could either be accommodated easily, was actively supported or was the main focus of the role. She made plans to continue her high level of personal time and money investment in research through continued study and acquisition of research-related resources. She weighed up the personal costs of the research experience and found that although these were emotionally, socially, professionally and financially high they were worth it, because she had developed a new sense of confidence, status, collegiality and clinical interest as a practitioner-researcher. She also felt she had done what she set out to do and answered the clinical question to help

patients get well informed care – although there were now more questions about what would help patients and more research needed to be done to ensure patients were getting the effective care. The research experience made her sensitive to the role that evidence plays in providing ethical patient care and she was particularly alert to the range of practices based on convention and assumption that were provided rather than those based on high level evidence. She felt that no practice should be immune to critical evaluation by high level research because this was the only way ethical evidence-based care could be given.

Dominance of the remote context. Although the conceptual framework of the three tasks of practitioner-researcher role development accommodated her experience, the remote context created extremes not evident in metropolitan practitioner-researcher role change. Metropolitan practitioner-researchers had the hospital as their dominant context, with research policies, resources, staff and processes structuring and influencing their research experience. Outside the hospital, metropolitan clinician-researchers had many options to choose from for networks, training and information resources. This remote clinician, however, had her experience dominated by the 'remoteness' of her location – literally every aspect of her work and personal life was framed by location and its consequences. This extended to policies, resources and social contexts.

Remote policy context. The absence of overarching policy frameworks to encourage and support allied health research in remote hospital settings was apparent. There was a lack of hospital resources to absorb research activity into daily routines. Department budgets and hospital priorities reflected characteristic features of rural hospitals: High demand, low human and technological resources and inadequate specialist staff. Caseload demands were thus intense and diverse with no service alternatives outside the hospital and few options for caseload 'cover' should a therapist be absent or involved in projects. In such a setting, research activity of a newly employed therapist with uncertain tenure in a single ward would have been a risky venture and one outside the mandates of department funding. There would have been doubts about whether such activity would help build the service capacity of an already overburdened isolated institution.

Remote resources context. Access to personal financial resources was critical to managing the remote location. She relied upon training and research advisers thousands of kilometres away as there were no other clinical researchers in her practice area.

Her ability to access and pay for telephone, internet, facsimile and postal communication was prerequisite to research engagement. As access to information technology was limited at work, this meant investing personal resources in technology that would otherwise have gone towards family investments. Travelling to training, conferences and research colleague meetings also required time and money. As leave from work and travel support was limited, this meant that personal resources had to be used.

Remote social context. Family support to pursue research was essential to managing the remote location. While metropolitan clinician-researchers could continue their involvement in spite of family views [9], this was not possible for the remote practitioner-researcher who had to have the consent of family to dedicate considerable funds to support home-based research infrastructure, and pay for travel and accommodation. In addition, attendance at training, conferences and research meetings meant not only financial cost, but blocks of time away from home. Disruption to family routine also had to be negotiated, agreement reached and support provided. The remote location thus required a family, not just individual, commitment to research because choices had to be made about significant financial and time investments. Without the family commitment to research, the likelihood of remote research activity would have been minimal. The remote location of the town and her husband's employment that required long periods away also facilitated research engagement as socially there were few demands upon her. She had few friends as a newcomer and was left alone for extended periods. This created ample opportunity for personal time and energy for research.

Personal attributes required for remote research. In addition to resources, there were prerequisite personal attributes and skills that were essential determinants of remote research success. Her personal predisposition to value and enjoy education and academic work as a 'hobby' helped make research activity a meaningful pursuit in her own time. She had intellectual capacity for complex research as evidenced by previous high academic attainments and she had the recent experience of remote distance learning gained through the post graduate diploma program which helped develop necessary foundation skills for remote project management. Her ability to communicate complex issues and problems easily on the phone and write about them in e-mail was also essential. Being able to use these skills to build positive personal relationships with distant academic-researchers was critical, particularly as their support was initially not funded and their

project work thus was done either in their own time or on top of their already existing heavy workloads. Her ability to seek out research advisers who understood her clinical context, the question at hand and the steps and stages of skill development needed to do the research was also prerequisite for her success. This required her to not only make connections, but to evaluate their relevance to her project and development.

Discussion

This case study critically explored the experience of one clinician who developed the practitioner-researcher role in a remote district hospital. She had never previously done or been trained for research but she successfully completed a randomized controlled trial that was ultimately published in a peer reviewed journal [38]. Despite the acknowledged threat to objectivity posed by the use of a single case [40], the real value of these results lie in their ability to highlight the remote practitioner-researcher experience, the processes used by the individual to engage in research and the way in which personal, organizational and remote contexts affected research participation. This provides an empirical base from which to consider personal and environmental deterrents and enablers of research.

Becoming a remote practitioner-researcher. The 'role development and transition: Becoming a practitioner-researcher' conceptual framework [2,10] previously developed to explain the way in which metropolitan practitioners produced research also described the factors and processes that the participant experienced. The conceptual framework may thus provide a 'road-map' of influences, factors, processes and outcomes involved in a productive research experience by practitioners both rural and metropolitan. Further work needs to be done to see if this single case has similarities or differences with other allied health practitioner-research producers. The 'road-map' can also provide not only an understanding of what it takes to lead and complete a successful research project, but it also provides signposts for research policy and strategy support that might have been helpful along the way.

Researchers are predisposed but environmental enablers would help the journey. A starting point in the road map is that practitioners who produce research tend to self-select a researcher role because they are predisposed to research from personal, family, or education background experience where research, education, or attainment through scholarship was either modelled or explicitly valued. Research and the people who do it are seen as intrinsically valuable

and something worth pursuing. This will not be everyone's view and an investigator path will not be for everyone, but for the few who choose to 'give it a go', opportunities to try out and develop research roles are important. This is where environmental enablers are so important – having them available, accessible and acceptable to professional and work colleagues eases the personal risk and cost of giving the original researcher role a try. In a climate of evidence-based practice, all allied health professionals need to consider themselves in relation to the full range of research roles including that of investigator [41]. Professional preparation and post-graduate programs should alert practitioners to different research roles so that individuals can make informed decisions about whether to consume research, support it, collaborate, or produce it as original investigators [41].

Research roles are constructed in challenging remote conditions. The participant's research development was similar to that of metropolitan occupational therapy clinicians who were research productive. Like them, being successful in producing original research was not a matter of 'doing research' on top of everything else, but rather a process of 'becoming a practitioner-researcher' through role identification, role taking and role-making. The remote context did, however, create special challenges that made the personal emotional, social, professional and financial cost of researcher role development particularly high. The remote context created structural conditions within the hospital and community that discouraged and hindered research participation. Research deterrents included: A lack of research-related infrastructure such as information technology; a lack of national, state or local allied health research development policy; a lack of research accommodations in job descriptions; no dedicated allied health funding to support research time release and training either through government funding; hospital allocations or professional schemes; a lack of local research training or information regarding distance research training; a lack of research support networks in the hospital, local professional community or through government or professional sponsored programs; overriding hospital, department and rural/remote professional association priorities relating to clinical service; and professional development targeted to clinical skill and professional survival in remote settings. These factors have all previously been identified as 'barriers' to research by practitioners [21,22,24–30,32]. These research deterrents were structural, in that they were not the result of any one person or even a group of people denying access to resources – the resources were simply not there.

These research deterrents were thus inherent in the policy, professional development, funding and regulatory priorities of the hospital and health department system and research enablers were not available in alternative structures such as rural and remote support organizations for allied health. The combination of hospital and health department structural deterrents and the lack of formally co-ordinated rural and remote research support alternatives resulted in limited research opportunities, research infrastructure, networks and role models. There would have been little that any one person could have done to mediate these factors as the system itself was not geared towards supporting allied health research or researchers.

Personal resources compensate for deterrents in remote contexts. Personal resources were therefore used to compensate for the structural deterrents to research. Personal time and money was invested in research role development, and this required careful planning and family support. The research role was such a high personal priority that this was seen to be 'worth it'. Other rural researchers have also identified the 'fire in the belly' that motivates them to make major personal commitments and work hard [14]. But is there an alternative to personal funding of allied health research activity? What happens to those rural or remote therapists who are not able to invest personal or family funds in their research development or project support?

The absence of overarching Australian national targets or plans for allied health rural and remote research creates a policy vacuum which is currently filled by the initiative, commitment and personal resources of individuals who want to do research. In the participant's case, it was also filled by the *pro bono* assistance of city academic researchers as advisers and then as collaborators. Some novice remote practitioner-researchers may be able to harness current clinical professional development programs to support aspects of their research development with line-manager support, however without an integrated multi-faceted program with links to government and department priorities, each individual must invent a way to adapt clinically orientated support to research purposes. This may place strain on both the limited resources available in remote settings and the goodwill of local colleagues and managers who have clinical service as both a priority and struggle daily with 'excessive work demands' [27, p. 3] of the remote environment.

Recommendations for individual action

Structural change takes time, and meanwhile there may be rural and remote practitioners who want to

develop a researcher role. What should these individuals do and what do findings of this study suggest? In a 'nutshell', this study found that the conceptual framework and strategies proposed for metropolitan research role development applied [9,10] but the structural deterrents of the remote setting were a special challenge. Consequently, remote practitioners who want to develop the researcher role should consider the three 'tasks' for research role development (identifying, understanding and wanting the researcher role; constructing the researcher role in work and personal life; evaluating whether or not becoming a practitioner-researcher was 'worth it') [9,10] and either adopt strategies used in the original [9,10] or the present study. In this way, practitioners will be building a researcher role, rather than attempting to 'do research on top of everything else'. Key factors in each of these tasks are now explored to give practical insight to potential strategies individuals could adopt.

Role models and feedback

Role development is a social process and so developing the researcher role cannot be done alone. An aspiring researcher needs other researchers – not just to get practical advice on research steps and skills, but also to get feedback on their role development. Becoming a rural or remote researcher is not a journey to be done in isolation, even though one may live and work in isolated areas. Rural or remote practitioners who are interested in doing research will need to be inventive in the way they establish research networks to get the role models, mentors and advisers they will need. The case study participant had excellent verbal and written communication skills, used referral, telephone, conferences, e-mail, workshops, personally funded journeys, reading, fund applications and so on to develop a network and get input and feedback. Even the impersonal experience of submitting a conference or funding paper for review gives researcher role feedback as it is researching peers judging the quality of work. Aspiring rural or remote researchers should consider not only what help they might need, but also what they can give back to mentors and networks – reciprocity is a very important aspect of enduring research networks and relationships – particularly when the new researcher may be seeking *pro bono* advice and mentor relationships from already overworked and stretched researchers.

Strategies used by metropolitan practitioner-researchers [9,10] were also used by the participant to build the researcher role and these provide some insights for aspiring rural and remote researchers. In particular, the three strategy types of negotiating the system, driving the research and doing the

research were instrumental to project commencement and completion.

Negotiating the system

An aspiring rural or remote researcher should get to know how the local system, policies, employment conditions and entitlements work, not only to be aware of what opportunities for support might be available, but also so that they understand the very real limitations and constraints that face their employers who may want to support them but who may not be funded for research. Having got to know the system, the researcher should gain the confidence and commitment of key stakeholders, operate within any limitations and gain as much research support as possible through stakeholder resource allocation decisions. 'Negotiating the system' is the process used to gain necessary resources, time and approvals to conduct the research in the clinical setting. Approvals to conduct the research will be needed from ethics committees, supervisors and perhaps even hospital management – there is no side-stepping these requirements – and so the relevant decision-makers must be on board and whatever caveats they put in place must be observed. Research time and resources achieved inside the system may, however, be insufficient for the project (it was in the case study). In these instances strategies to get time and resources in other ways will be needed. Turning to alternative sources of support may be an option if there are professional associations or rural and remote organizations that have allied health research as a target or program area.

Driving the research

A researcher should also develop the skills to 'drive the research' through the many demands of work and home life. While these will vary from person to person, setting goals, integrating activities ('double dipping' research and leisure or work activity for example), using schedules etc., have been found to be useful. In a remote context, gaining support for use of personal or family financial resources and time helped drive the research in this case study. Such support meant the lack of hospital research infrastructure could be side-stepped and blocks of time away from home for research networking were possible. This may not be possible for everyone and some people may consider this option an unreasonable suggestion. If use of personal financial resources is not possible or not supported, then ingenuity in the design of the project, use of sponsors, fund-raising or searching for external funds could be the answer. Ideally, use of personal finances for research should not be required or

even assumed, however in the event that schemes, training support or project funding is not available, but the personal drive for research is strong, then personal finance may be the only option.

Doing the research

Other insights gained from this case study and the application of the conceptual framework relate to the conduct of the project itself and the development of research skills. Research skills are probably best learnt 'bit by bit', guided by expert advisers, informed by research study, methodological reading and any other training opportunities available. A supported research training scheme is the ideal option, however if this is not available, then enrolment in a postgraduate qualification that has research embedded training with one-on-one project advice or feedback is good. Alternatively postgraduate qualifications that are available on-line, use a project approach and have research components may be an option, particularly as some existing professional development support schemes fund postgraduate studies. If this option is not desirable, then accessing short courses, single-topic distance learning packages, joining journal clubs/appraisal groups, web-based discussion groups, and reading may be suitable avenues to knowledge and skill development. In an assessment of preferred topics and modes for a rural research training course, Taylor et al. (2005) [34] found that understanding evaluation methodologies was overwhelmingly the most important topic, and having lecturers with a broad rural research background and on-line delivery were also important research training aspects. Although e-learning strategies are increasingly common more traditional 'block' methods can also be used within department or hospital settings with positive effect. Nursing research training workshops, for example, ranging between a half-day and two days have been found to increase the knowledge, skills and confidence of participants to embark on research [20].

Topic choice

Research project involvement for practitioner-researchers is also most achievable if the topic has direct relevance to daily clinical work. This is because whatever limited leave and support is available within a clinical job, it will more readily be approved and accessed if the project is directly relevant to caseload. In addition, there is greater likelihood of accommodations being made for the project conduct (such as recruitment, referral, and so on) if the project is conducted within a caseload focus.

Manager support

Manager support has been identified as an essential prerequisite to clinical research [43]. Managers at all levels in remote settings need to be given the flexibility to have performance targets which can include staff research and they need health department policy guidance to know how such activity can be conducted efficiently and accountably with benefits to the organization. Research information sessions for senior and middle managers would be of assistance within rural and remote settings to explore the issue of embedded clinical research and how it could be effectively harnessed as a professional development strategy.

Mentors and networks

The critical part played by *pro bono* long-distance academic mentors throughout the participant's research experience confirms the important role that mentors have been found to play in other settings. Mentors teach new skills and impart knowledge, share life lessons and help avoid mistakes that novices fail to recognize because of their inexperience. Strategies that provide opportunities for mentor relationships to develop are recommended to help support practitioner-researcher role development in remote settings [20]. Mentor relationships may also, in a remote setting, need to be institutionally sponsored as difficulty in finding a mentor is a common reason for not using a mentor within healthcare [43]. Mentoring could be facilitated for practitioners in rural and remote settings by computer-mediated communication, such as e-mail, list-serves, chat groups and computer conferencing. One international example provides a research educational and discussion forum for those working in practice [32]. In addition, more traditional mentor relationship opportunities such as expert visits or support for conference or training leave, travel and accommodation can be provided as part of the enabling 'essential requirements' for research suggested earlier.

Conclusion

The findings of this study suggest that development of practitioner-researcher roles in remote hospital settings is not dissimilar to that of metropolitan settings. The big difference is that the remote context dominates the experience – there are fewer options, resources, and alternatives for remote practitioner-researchers compared to their metropolitan counterparts. The remote context creates structural deterrents to practitioner research that are mitigated only by the use of personal time and

resources. The presence of research supportive policy, infrastructure and resources in this case study would have made research role development less costly to the individual. The case study suggests that investigator-driven remote allied health research can be successfully completed when sufficient personal resources and commitment are available to negotiate the three tasks of researcher role development. Without this there are inherent structural deterrents that discourage and hinder allied health research productivity. This case study provides a starting point to consider the extent and type of environmental enablers required to systematically support allied health rural and remote research for those who want to construct the researcher role in their work and personal life.

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