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EDITORIAL

Health Reform: measuring success

A decade ago in a review about the effectiveness of health system restructuring in Australia, the question was asked 'how would we know if the changes were successful?' [1] Since that question was raised, health reform – mostly structural in nature – has continued unabated and without much evidence of evaluation of its success or otherwise. Subsequent evidence from a number of formal Inquiries throughout Australia would suggest that the answer to that question would mostly be in the negative. [2-4] The move to national health reform in recent times supports the view that current approaches needed systemic reform.

Since then we have been through the process of the National Hospital and Health Reform [5] and the finalisation of the National Health Reform Agreement [6] that has seen us enter a new phase of health system reform. Amongst the objectives of that agreement are those that call for improved local accountability, greater responsiveness to the needs of communities and the need for improved integrated primary healthcare systems. [6] The hospital side of the reform equation mostly rests with the states and territories as the 'systems managers' of public hospitals that have been aggregated or perhaps disaggregated from previously large area or networked services into Local Hospital or Health Networks (LHNs). Primary Health Care (PHC) will move from the Divisions of General Practice framework to working with diverse PHC providers in mostly larger geographic aggregations to be called Medicare Locals (MLs) with the Commonwealth as the 'system manager'. [6] These two entities are not necessarily geographically aligned but the intention is that they will collaborate and act in partnership in meeting the Agreement objectives.

The word 'local' looms large in the name of both operational entities. Local is mostly defined as 'referring to something nearby, or in the immediate area'. [7] Given the geographic scale of some LHNs and MLs and the disparities between both groups, one could be excused for thinking that new meaning has been given to the word 'local'! However, to be fair the use of 'local' in the title does probably reinforce the Agreement's objectives of local accountability and greater responsiveness to communities and might also be enforcing a rejection of the worst features of the previous large health systems. [5] So 'local' might really mean being close enough to engage and to be responsive to both health professionals and communities. Time and the experiences of health professionals, patients and communities will no doubt measure the success or otherwise of the use of the word 'local'.

However, this structural change is going to be predominantly about boundary redefinition [8] and how all the structural interests might be accommodated in this new, for our time, paradigm of more localised service delivery and its management. It will require a move away from centralised 'top down' management, deeply ingrained in the past decade, to a focus of not only managing 'down and out' but in partnership, managing networks, engaging at the boundary, collaborating and giving management support to health professionals so that they can work effectively across the boundaries. It raises significant challenges for our managers and clinical leaders whose life experience and skill sets may be significantly different from those required in this new paradigm. Significantly, this change if it is to be evaluated as successful, requires time and careful management in its implementation and probably the time required would be greater than a decade to be properly judged on its merits as 'successful' or not. [1] Let us hope that our politicians and the bureaucrats involved support transformation and invest in a qualified and capable health management workforce to meet these challenges. [9,10]

Given the diverse nature of PHC delivery in Australia with little in the way of an overarching framework of governance, this aspect of the reform presents different but equally challenging issues in seeking 'new forms of local resource utilisation and collaboration'. [11, p. 166] These challenges are in the context of a pluralistic PHC delivery system based around multiple providers with a predominantly business model of service delivery and a mix of non-government agency governance. While MLs will not exercise ownership of all PHC services and this might be seen as a weakness of the model, it may indeed be a strength. Interestingly, the Canadian experience of PHC reform suggests that transformation in this context can be achieved with the support of 'strong government and professional leaders'. [12, p. 282]

An international study of new organisational forms for PHC suggests that management strategies for effective implementation of modernising policies have four common

characteristics. These are extended community and patient participation; national frameworks for interprofessional education and representation; mechanisms for multiple funding and accountabilities; and the diversification of non-government organisations and their role. The study suggests potential for a two-way learning exchange between countries in the study, both developed and developing nations. The emphasis is on the potential of an 'alternative partnership based health system'. [11] A recent Canadian study also identified similar characteristics as 'key initiatives' that would be instructive in the current Australian PHC reform context. [12] Lessons to help achieve success in PHC reform are also available from the New Zealand experience and are summarised as key lessons that include amongst others, a national PHC strategy, robust management and governance arrangements and trade offs in population and distance in service delivery models. [13] In the Australian context Wakerman and colleagues suggest PHC models that need to be supported by an enabling environment with supportive policy, clear and transparent federal/state and territory arrangements, and community readiness with significant factors around that community engagement; effective governance, management and leadership amongst other factors. [14]

Therefore, there is significant learning available from these studies that might inform the strategic thinking of our health managers and leaders engaged in this important reform. These managers and leaders in the new Australian PHC setting will, like their acute care partners, require new leadership and management skills. Many will have had the advantage of working in the prior Divisions of General Practice where networking, facilitation, collaboration and contract management were features of how they operated. Collaboration, to be successful requires effective management, stakeholder participation, increased patient and community engagement and an emphasis on interprofessional education [11] and a greater focus on vision, values and consistent culture across diverse groups. [15,16]

So when it is appropriate to start asking that question [1] about the success or otherwise of the changes, it would be good to have measures in place that might make that evaluation easier. The objectives identified in the Health Care Agreement [6] for these reforms, might be a good starting point to identify the success measures of the intervention. The extensive national and international research around PHC is relevant. From a health management perspective, success could well be around the capacity of the system to deliver and support a well-qualified and experienced health management workforce. Recognition that quality healthcare requires quality management in support of health professionals, communities and government in the delivery of quality care and health reform could be a good early measure of success.

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Editor

The author is currently Chair of the Board of one of the Medicare Locals announced in the first tranche earlier in 2011.

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IN THIS ISSUE

In this issue we have decided to provide some relevant content around the Australian Primary Healthcare (PHC) reforms as the Journal is being published at the time of the announcement of the second tranche of successful applications to create Medicare Locals. The cover, courtesy of the World Health Organization (WHO), depicts a graphic widely used by that organisation in addressing health reform and is particularly relevant to Australia as we enter a new period of health reform implementation. The puzzle graphic neatly summarises and represents the major themes of articles presented in this issue. The Editorial asks the question about what measures of successful reform might be utilised in this current period of transformation and draws on international experience; in particular, the need for good quality, effective health managers to support the process of reform. The feature article by Rasa provides a viewpoint from one of the intersecting boundaries of PHC structures at a state level, based on the Victorian experience and provides a focus on leadership in that setting.

Liang and Howard present their conclusion to a study on evidence-based decision-making by health service managers in their second article on this topic. This article examines what evidence counts in the Australian context and recommends strategies that might increase the use of evidence for decision-making among Australian health service managers. Messum, Wilkes and Jackson provide a research article that attempts to answer the question of what employability skills health managers want for graduate entry level jobs in health services management. They show that these are not well articulated and they researched the essential requirements included in position advertisements to assess what is really required.

Can that work for us? is the question posed by Eljiz, Hayes, Dadich, Fitzgerald, Sloan and Kobilski in an article analysing organisational group and individual factors for successful health services innovation. This research article utilises emergency and imaging department settings in a public hospital to define factors that determine the diffusion of innovation.

In returning to a PHC setting Pilotto, Heinjus, Hanlon, Reid and Permezel describe their experience in working with small rural communities in New South Wales to identify and respond to their health needs. This article discusses a practical example of what the PHC policy makers are suggesting as an appropriate approach to the way we should work in the PHC context. In a similar vein to the PHC theme, is an article focussing on the intersection of an acute care setting and the transition back to community care. Snelgrove and Jordan describe their experience of establishing a transition to home from the emergency department setting for older patients. Kruger and Tennant provide further insight to the future directions of dental care and oral health in Australia in their review article to conclude a diverse group of articles on important issues arising from the experience and expertise of our authors in the Australian health system.

In our 'In Profile' we feature Ross Smith, a former National President of the College, who has recently retired from his Chief Executive position with RSLCare Qld. Ross has had a career that has traversed the health system from acute care settings to aged care and veteran affairs and we appreciate his perspectives on that career for the benefit of those who might aspire to achieving similar career successes. In this issue we also farewell Sue Brockway our Librarian, as she also retires from her substantive role with ACHSM.

SPECIAL FEATURE

A Shift in Focus and Leadership – Primary Healthcare Reform in Australia

J Rasa

Abstract

The *Final Report of the National Health and Hospitals Reform Commission* released in June 2009, as well as the Council of Australian Governments (COAG) Agreements in Australia in April 2010 and February 2011, have seen furious agreement on the priority for primary healthcare reform at state and Commonwealth levels. The only question is who pays?

While agreeing that the two levels of government will work together on system-wide primary healthcare reform necessary to achieve effective service integration across Commonwealth and state funded healthcare services, the pathway to effective reform has been unclear. There are many public and private healthcare providers as well as consumers who expect to be part of the efforts to improve health outcomes for Australia. Delivering the results required by the Commonwealth Government and key stakeholders is presenting numerous leadership challenges.

The first tranche of 19 Medicare Locals were implemented in Australia in July 2011. The remaining 43 Medicare Locals will be implemented in quick succession by July 2012.

The type of leadership skills required to deliver effective change management in a climate of extreme uncertainty has challenged many healthcare leaders. Not exercising 'collaborative leadership', not using 'influencing' skills to build strong collaborative inter-organisational partnerships, not maintaining effective clinician engagement, may at best produce little change and at worst threaten the future of primary healthcare reform in Australia.

***Abbreviations:* AGPN – Australian General Practice Network; COAG – Council of Australian Governments; GPN – General Practice Network; GPNS – General Practice Networks; ITA – Invitation to Apply; NGO – Non Government Organisation; SBO – State Based Organisation of Divisions/ML.**

***Key words:* leadership; collaborative leadership; collaborative partnerships; health service management; healthcare managers; Medicare Locals; primary health care.**

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Introduction

The delivery of a safe, effective and efficient patient-centred service in a well-coordinated health and aged care system would be as complex a task as you could set for any healthcare leader. Whether that task is to lead the governance of a purchasing authority like a Medicare Local serving the health needs of local communities, or playing a key role in the management of health service delivery, the challenge for primary healthcare leaders is to have a clear vision, to communicate that vision, and be ultimately accountable for the delivery of a well-coordinated service that their mother could safely use. However, it will require a specific style of leadership built on collaborative effort and partnerships.

The Commonwealth's *Australian National Primary Healthcare Strategy* [1] called for a refocusing of health and aged from hospital and residential to community care. In fact this calls for a move from a more intra-organisational focus to inter-organisational approach for management action. This necessary shift in leadership attention from a purely singular, organisational, transformational leadership approach,

to a more 'collaborative leadership' and 'collaborative partnerships' approach, recognises the imperative for a greater focus on balancing sectional interests in service planning and delivery. This reflects the requirement of health leaders in the new order to build strong, organisational interdependence and connectivity around a shared set of agreed goals: goals that achieve improved health status and better patient outcomes as a result of effective management across both public and private health and aged care services. This also represents an enormous challenge for collaborative partnerships in Australia.

The role of collaborative leadership

Interestingly, the challenge for the Boards of the new Medicare Locals and Local Hospital Networks is to select appropriate leaders and key management staff who can exercise the flexibility in management approach that is going to be required to form these strategic partnerships built on a strong principle of collaboration. Leadership will be required in some parts of the service model to be held accountable for purchasing services fairly with a high degree of probity, while being required in other parts of the service model, to exercise 'leadership by influence' where the health service manager has no ultimate control.

Rosabeth Moss Kanter talks about leaders who recognise that there are critical business relationships that cannot be controlled by formal systems but require a dense web of interpersonal connection. [2] The process of collaboration needs a different kind of leadership; it needs leaders who can safeguard the process, facilitate the necessary interaction and patiently deal with high levels of frustration. [3]

Hank Rubin, who is President of the Institute of Collaborative Leadership, maintains that a collaborative leader is one who has accepted responsibility for building, or ensuring the success of, a heterogeneous team to accomplish a shared purpose. This requires the purposeful exercise of a leader's behaviour, communication, and organisational resources in order to affect the perspective, beliefs, and behaviours of a collaborative partner(s). It is also necessary for the leader to influence the relationships, the structure and culture of an operating environment that supports that collaborative relationship.

The basic accountability of a collaborative leader is the delivery of results across boundaries between different organisations, be it primary health care, aged care or acute care. The collaborative leader has to learn to share control, and to trust a collaborative partner to deliver, even though that partner may operate very differently from themselves. [4]

Collaborative partnerships and Medicare Locals

Early in their history, Medicare Locals relied on 'collaborative partnerships' to respond to the Commonwealth Government's 'Invitation to Apply' (ITA) process of selection. Collaborative partnerships had formed in Victoria with the establishment of 31 Primary Care Partnerships in 2000 to assist service coordination and integrated chronic disease management. Collaborative service relationships, both formal or informal – such as joint ventures, outsourcing or public/private partnerships – have been increasingly used by public and private sector organisations to develop more coordinated delivery of health and aged care services.

The research by Ipsos MORI into how business partnerships are working at senior levels in British businesses found partnerships were widely seen as vital to business success and delivering real value. In fact nine out of ten senior executives across public and private sectors in the United Kingdom said the benefits of business partnerships outweigh the costs. [5] Consistently, respondents identified mutual understanding and cultural fit as being important to success in partnership. Yet these are precisely the areas in which leaders sought more capability. It is interesting to reflect on different value systems around the medical and social models of health and whether they are acting as a serious barrier to successful partnerships in the new Medicare Locals.

The United Kingdom survey revealed a disconnect between the factors identified as the most important for successful partnering, and where effort is actually being focused. Respondents cited relationship management and collaborative leadership as the capabilities they want most access to when setting up a partnership. The ability to manage partnerships was seen as an increasingly significant skill of leaders in both the public and private sectors.

Through collaborative partnerships, Medicare Locals have a great potential to reduce the current fragmentation in the Australian health system by providing strong local platforms for integration and coordination between diverse service providers. There are many who are trusting that Medicare Locals will have both the capacity to deliver better co-ordinated services for those suffering chronic and complex conditions and the ability to reduce demand on a system which is overburdened by the impact of preventable diseases. This will only be possible if general practice and community health services are prepared to collaborate given the mixed Commonwealth/state funding streams.

There is a strong Commonwealth expectation that Medicare Locals will achieve better co-ordination of general practice and other primary healthcare services as well as identifying and filling gaps in service provision. Medicare Locals are expected to play a key role in improving access to after-hours care, to respond to chronic disease prevention and management, and to implement new mental health initiatives aimed at providing services to those in our community most at risk of mental illness. These initiatives in turn will need to be managed across the public and private healthcare sectors requiring significant planning, influencing and procurement skills of primary healthcare managers.

Victoria has prided itself on a strong history of inter-sectoral collaboration and on its well-developed partnership-driven primary and community health sector. However, the recent ITA process for Medicare Locals tested the strength of existing partnerships formed during the establishment of Primary Care Partnerships a decade ago. Many Divisions of General Practice and their partners rose to this challenge, despite additional complications in Victoria caused by ongoing uncertainty over the final boundaries for Medicare Locals.

The establishment of Medicare Locals and their national body

On 1 July 2011, the initial 19 Medicare Locals were announced nationally. Four first tranche Medicare Locals commenced in Victoria on the road to improved co-ordination of health services to four quite diverse populations in Barwon, Northern Melbourne, Inner North West Melbourne and Inner East Melbourne. The 13 Victorian Medicare Locals and nationally, Medicare Locals, were announced on 4 November 2011. The implementation of Medicare Locals will test the extent to which the signed-off partnerships documented in the ITAs earlier in 2011 were in fact a true collaborative partnership founded on trust and on agreed processes, or an exercise designed to satisfy a tendering process.

In July 2011, the Commonwealth Government also invited the Australian General Practice Network (AGPN) to form the new National Organisation for Medicare Locals, recognising that AGPN is well-placed to facilitate collaboration with key partner organisations at the national level to help drive primary healthcare reforms. Organisations like the Consumers Health Forum, Australian Practice Nurse Association, Australian Psychological Society, National Primary Healthcare Partnership, National Rural Health Alliance and Pharmaceutical Society of Australia have all collaborated at a national level with AGPN in transitioning Divisions of General Practice to Medicare Locals.

The Government's decision to extend funding for the Divisions of General Practice State-Based Organisations (SBOs) until 31 December, 2012 was also a welcome decision, providing time for the current SBOs to negotiate with AGPN the future form of the national body and how to best satisfy state functions in the future. Unfortunately, the collaborative partnership between SBOs including General Practice Victoria (GPV), and state level organisations like the National Heart Foundation, Diabetes Australia Victoria, Stroke Foundation, and Arthritis Victoria, are all currently at threat due to withdrawal of funding.

The key question for SBOs in the development of a National Organisation for Medicare Locals is what role AGPN sees for organisations like GPV, General Practice Queensland and General Practice NSW trying to perform state-based functions in what appears to be strained Commonwealth-state relationships. This situation has developed from ongoing tensions over the states desiring to maintain a system manager role in the context of the national health reform implementation process, except of course for Tasmania. The Commonwealth shifted its position somewhat between April 2010 and February 2011 at the COAG meetings, providing significant concessions to the states and territories to maintain their system manager roles of the hospital system. However, the management role of primary healthcare services remains contested, and in Victoria, with its complex primary and community health service delivery system, this ongoing tension will in turn influence the future form of a state-based organisation attempting to support Medicare Locals.

Medicare Locals in Victoria

Victoria has a health system environment that is highly decentralised. It has a long history of community engagement and community health service provision collaborating around preventing avoidable hospital admissions that is quite different from other state approaches. But more will need to be done by leaders in Medicare Locals including taking a whole of health system planning perspective that considers the important role of the private health sector in local service delivery and the role of the state in responding to high need, low prevalence groups and the disadvantaged in some local communities.

The planned national body will provide the policy and program innovation from a national perspective to progress primary healthcare across Victoria and the rest of Australia. It

is also expected to provide the necessary coordinated effort with other peak national health bodies, including those from the Indigenous sector, consumers, aged care sector and other primary healthcare providers especially allied health groups. All these sectional interests play a key role in the planned improvements to primary healthcare across Australia. General Practice Victoria has a strong history of collaborative effort with state-based Non Government Organisations (NGOs). The reality is that while these NGOs and peak allied health groups have a state presence, they are unlikely to have the resources to have an 'organisational' presence in each Medicare Local region. This will present another challenge for collaborative leaders attempting to develop local health service initiatives.

In Victoria, with greater accountability of local Chief Executive Officers and Boards in their health system design and outcomes, comes the potential for greater system fragmentation. A common and understandable perspective of 'I only need to worry about my patch to demonstrate I can manage effectively', exists amongst some health service managers. This is prevalent in all health and aged care sectors struggling with very tough budgets. However, this does not necessarily engender collaboration with external partners nor meet the expectations of patients and health consumers who want to play a role in health system design and evaluation. Patients struggle to find the right service at the right time, or once they have accessed their GP, the next step in the patients' care does not flow seamlessly. Better management at the 'seams' of healthcare will require health service managers to take a more external view of where their organisation sits in the broader health system context and how it potentially impacts the patient journey. A more open rather than closed approach to health system redesign, with a spirit of collaboration, will be highly important.

The skills of collaborative leaders

Over the last two decades, the Divisions of General Practice have been well placed in the development of a more co-ordinated primary care system incorporating greater nursing support, but they are now required to change in organisational form to help create new primary healthcare organisations with expanded allied health membership. In addition, general practices and community health services will need to partner more closely in a coordinated response to patients with chronic and complex care conditions living at home or being discharged from acute hospitals. The primary healthcare sector will need to partner more effectively with the aged care sector in preventing unnecessary hospital attendances. This will only be achieved if health and aged care leaders are prepared to adopt collaborative leadership approaches in designing more effective models of care and have the necessary skills to do this.

Sarros et al, based on a 2003 Monash University study of Australian leaders, maintained that leadership behaviours around three dimensions of universalism, transformation and benevolence, were more likely to engender trust, integrity and build a respectful and positive inter-organisational culture. [7] Universalism in particular is manifested through the leadership actions of respectfulness for others and cooperativeness.

Medicare Locals will have responsibility for planning, health service improvement and service delivery procurement and will need to foster new partnerships and alliances based on universalism to achieve these ends. It will require significant networking and influencing skills to enable power sharing when it comes to planning and prioritisation of services. Influencing skills will be vitally important in engaging clinicians in thinking through the healthcare process and delivering effective change management. In a financially constrained environment, where health workforce issues still loom large in rural and outer-metropolitan areas, meeting both consumer and government expectations will be challenging.

The Commonwealth has given Medicare Locals a mandate which includes a much broader scope of activity in relation to integration than is currently fulfilled by General Practice Networks (GPNs). This mandate will see Medicare Locals take on increasing responsibilities for population health planning, identification of gaps in services, increased fund holding, development of models of care to best meet services gaps, commissioning and ensuring delivery of services, and monitoring and reporting on performance.

To achieve the objective of developing a better integrated health system where consumers and the community experience a more seamless service from multiple providers, it will be essential to put in place and demonstrate strong linkages and engagement with other pillars of the health system, including the significant hospital sector (Local Hospital Networks) and the growing aged care sector. At this stage it is not clear what the motivation will be for the Local Hospital Networks (or the more integrated Local Health Districts in New South Wales) to engage with the Medicare Locals.

Medicare Locals will also need to meaningfully engage with private hospitals, mental health service providers, drug and alcohol services, private allied health and a wide range of

privately funded and philanthropic organisations involved in both direct and indirect service provision. Sections of the private sector are still unclear how to collaborate with Medicare Locals even if they are motivated to do so.

The Commonwealth Government has made it clear in its efforts to better integrate the health system that they are looking for improved demonstrated performance from the primary healthcare sector and Medicare Locals. The necessary transparency is expected to be delivered through the proposed 'performance and accountability framework', which includes Key Performance Indicators for Healthy Community Reports. These could potentially provide regular updates on the performance of Medicare Locals. It is expected to bring an increasing focus on achieving results and demonstrating what sort of difference that a more integrated primary health sector can make to the health and wellbeing of Australians. This will be an additional challenge for a sector that has been better at measuring activity than health outcomes. It is only hoped that the Commonwealth is realistic in its expectations of improved performance in this area and in its timelines. The tighter the timelines, the greater will be the challenge to collaborative leadership in achieving mutually agreed outcomes with their communities.

Conclusion

The advent of Medicare Locals with their focus on local decision-making and enhanced primary healthcare with accompanying reforms to the hospital and aged care sectors offers many opportunities for collaboration. Collaboration between GP Network members, hospitals and community health services holds the promise of developing improved models of care integration across the broader primary health, acute and social care sectors. This will only come about if there is a shift in focus to moving care into the community, and a move by the leadership of our health and aged care services, to a more collaborative approach to management decision-making.

Competing Interests

The author declares that he has no competing interests.

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RESEARCH ARTICLE

Evidence-Informed Managerial Decision-Making: what evidence counts? (Part Two)

Z Liang and P Howard

Abstract

***Objective*: The importance of making managerial decisions informed by relevant and up-to-date evidence, has been widely recognised by both researchers and managers. However, previous studies overseas and in Australia have confirmed the lack of use of evidence in decision-making processes by health service managers. The purpose of the paper is to examine the factors that are relevant to the Australian context and to recommend strategies to increase the use of evidence for decision-making among Australian health service managers.**

***Design and Setting*: With Fellows and Associate Fellows of the Australasian College of Health Services Management (ACHSM), Victorian Branch as the study population, the project design consisted of two key elements: a questionnaire and two focus group discussions.**

***Main outcome measures*: The main outcome measures were factors that can influence the practice of evidence-informed decision-making and strategies to improve practice.**

***Results:* One hundred and sixteen participants out of the 411 sample provided enough useful data to be included in the final analysis with an effective response rate of 28.2%. This study confirmed that the lack of time, financial resources and relevance of management research were the three most significant barriers to the practice of evidence-informed decision-making among health service managers in Victoria. On the other hand, the appropriate presentation of research and findings, high quality research evidence and the relevance and applicability of such evidence to the local context, were the most important factors that may encourage practice.**

***Discussion*: In order to encourage and improve the practice of evidence-informed decision-making, a number of significant changes are required at various levels. More importantly, the crucial role of professional bodies such as ACHSM in assisting in and lobbying for changes at the research, organisational and manager levels should be recognised and realised. Recommendations on improving the use of evidence in decision-making processes among health service managers are proposed.**

***Abbreviations:* ACHSM – Australasian College of Health Service Management; EI – Evidence-Informed; EIDM – Evidence-Informed Decision-Making.**

***Key words:* evidence-informed management; evidence-informed health service management; evidence-informed practice; health service managers; health service management.**

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Introduction

Despite the potential benefits of using evidence to guide managerial decision-making to improve service effectiveness and efficiency, [1,2,3] the practice of Evidence-Informed Decision-Making (EIDM) among health service managers is limited. [4,5] The suboptimal use of research evidence among health service managers is a consistent finding by studies in various countries including Australia. [6,7] Much effort has been made in the United States, the United Kingdom and Canada to explore why scientific evidence is not adopted during decision-making processes.

Studies suggest that the limited use of Evidence-Informed (EI) approaches to decision-making is due to a wide array of barriers. [3] Dobbins and Rosenbaum et al [8] suggest that consistent barriers to evidence usage in decision-making processes across all settings include: time paucity, limited access to research literature, inadequate critical appraisal skills, unsupportive work environments for research transfer and uptake, a lack of decision-making authority to implement research results, organisational decision-making processes that are unconducive to the adoption of evidence, resistance to change and limited resources for implementation.

In addition, the availability of health management literature is also a commonly noted barrier. Policy makers and managers are known to complain that they are unable to obtain research evidence when needed and, moreover, that what is available often does not address the question of concern. [2,4,5,9] In a review of Australian organisations producing health management research, Haas [10] found a relative lack of research articles, with major system issues, such as financial planning/budget allocation and workforce, not covered. Finkler and Ward [11] suggested that given the importance of cost control to health service managers, there is a significant gap in the available literature on this topic.

Another issue raised in the literature is the relevance of the evidence, as empirical research in health management often suffers from poor external validity. [5,12] Sheldon [5] stressed that health managers want to know if something will work locally and in what context it will work. However, implementation processes and the intervention context are generally not adequately described. In addition, research topics often do not reflect the needs of health managers. Professionals in collaboration [13] found that managers were concerned with the local applicability of research even if conducted in similar environments and with similar population groups. Young [14] noted that there are also issues with the quality of much health management research, again restricting the uptake of evidence for decision-making. Health service management research has been described in the past as 'methodologically dubious'. [12 p.9] This, combined with a perceived lack of skills in critical appraisal, exposes health managers to evidence that is likely to be distrusted.

The literature frequently acknowledges that the timelines for health management decisions and health service research are not compatible. Health management decisions often need to be made quickly, or may occur in an ill-defined way, which makes the integration of evidence into the decision-making process challenging. [14,15] Often, by the time there is sufficient evidence to support a change in practice, the political and social environment may no longer be receptive to the change because the problem has subsided or slipped from the consciousness of decision makers. [16] Identification of the most significant barriers to the adoption of evidence in the decision-making process is beneficial because it would allow managers to avoid these barriers when implementing EI approaches within their organisation.

The use of evidence in decision-making processes amongst health service managers has the potential for a more productive, cost effective, high quality and efficient healthcare system. [1,2,3] Health service managers may find that an EI approach leads to an improvement in management practice in the same way as it does in the practice of medicine. [17] It is, therefore, crucial that interventions to improve an EIDM approach in healthcare management are identified, implemented and tested. One of the main suggestions for improving the practice of EIDM centres on the role of researchers in framing and presenting research in an appropriate manner using plain English and providing summaries, clear findings and actionable recommendations. [18,19,20] In addition, researchers must be accountable for study quality and describe the methods and context of their research clearly in their publications so that health managers can determine the applicability of the findings locally. Finally, researchers may improve the value of their research by involving decision-makers in health management research to assist in tailoring research topics that meet managers' needs. [14,21,22]

Senior managers play an important role in the advancement of EIDM practice by investing in skill development (for themselves and employees) in searching for and critically appraising research. [20] They can also contribute to improved practice by developing a supportive infrastructure within their organisations to assist in research use (eg, training, journal clubs, online resources, dedicated staff resources) and by identifying and supporting opinion leaders in their organisation to champion an EI management approach. [23] However, it is acknowledged that there is a paucity of research that demonstrates effective ways to translate evidence, particularly research evidence, into practice in the area of health management. The only evidence that clarifies the value of a mechanism for facilitating research use is the review about the role of opinion leaders by Doumit et al for the Cochrane Collaboration. [23] This systematic review found local opinion leaders as successful sources of the promotion of EI practice. All other evidence presented

is weak, generally involving a survey or interview of groups of specialised managers, limiting the applicability of these findings to general health management. The methods presented above for improving EIDM in management are, therefore, speculative at best, and further research is required in this area.

This article, a continuation of an article published in an earlier issue of this Journal, will provide answers to the following questions in the Victorian context:

- What were participants' preferred methods for receiving research information?
- What were participants' preferred formats for the presentation of research information?
- What was the relative importance of identified barriers and facilitators on the practice of EIDM among senior health service managers?
- What could be done to improve the practice of EIDM amongst health service managers?

Methods

The methods used in the project consisted of two elements; a questionnaire and focus group discussions before and after the survey, which have been detailed in the first part of this paper. [6] After the preliminary analysis of the survey data, a focus group discussion was held with participants who agreed to discuss the questionnaire findings. The main purpose was to clarify ambiguous responses and develop clear recommendations for improving practice. Notes were taken during the discussion, which was also audio-recorded. It was managed by two independent facilitators and the participants remained anonymous. The discussions were subjected to content and thematic analyses to look for similarities and differences.

Ethics approval was granted from La Trobe University's Human Ethics Committee before the commencement of the data collection.

Results

One hundred and thirty three participants attempted the questionnaire, including 108 via the web-based questionnaire and 25 who returned the paper version. However, only 116 provided enough useful data to be included in the final analysis. From a sample of 411 (51 Fellows and 360 Associate Fellows), the effective response rate was 28.2%. The questions relevant to this paper are described above.

Second focus group discussion

Eight volunteers from a range of healthcare organisations (Victorian Department of Human Services, community health organisations and hospitals) agreed to discuss findings from the survey.

Preferred methods for receiving evidence

Table 1 shows, in ranked order, the percentage of participants who preferred or most preferred receiving evidence by various methods. The three highest ranked methods were, from 'health journals' (71.2%), 'websites' (70.5%) and 'short summaries' (61.8%). 'Media' (26.9%) and 'multimedia' (20.9%) sources were ranked as least preferred. Table 3 also shows, in ranked order, the percentage of participants who received and used various evidence sources for a management decision during the last three months. 'Websites' (86.4%), 'health journals' (82.1%) and 'emails' (78.4%) were the three highest-ranking evidence sources used. The least used were 'media' (33.3%) and 'multimedia' (18.0%) sources.

Preference for formats by which evidence is presented

Table 1 also shows, in ranked order, the percentage of participants who preferred various evidence formats. 'Executive summaries' (79.5%), 'best practice guidelines' (55.5%) and 'abstracts' (45.0%) were the three highest ranking formats preferred. The least preferred format was 'topic summaries' (27.9%).

Significance of various barriers to evidence-informed decision-making

Eight barriers (Table 2) were provided to participants who were asked to rank their significance in acting as barriers to the practice of EIDM. All of the barriers were selected by more than half of the participants. Among them, the following four barriers were selected by more than 70% of all participants: 'time availability' (82%); 'relevance of management research' (73%); 'a lack of financial resources to support best practice' (72%); and 'availability of topical management research' (70%). The barrier receiving the lowest score was 'a lack of critical appraisal skills' (51%).

Importance of various factors, which encourage the search for, and application of evidence in management

Participants were asked to rank, by their importance, factors (Table 2) that may encourage the search for, and application of evidence in management. The three highest ranked factors were 'collaboration between researchers and managers' (40%), 'commitment to EI decision-making' (38%)

Table 1: Preferred methods of health service managers in Victoria for receiving evidence and formats by which evidence is presented by preference

PREFERRED METHODS FOR RECEIVING EVIDENCE	%	PREFERENCE OF FORMATS BY WHICH EVIDENCE IS PRESENTED	%
Health related journals	71	Executive summaries	80
Website	70	'Best Practice' guidelines	56
Short summaries	62	Abstracts	45
Conferences/workshops	61	Original articles/reports	40
Email	55	Briefing notes	39
Personal communication	56	Topic summaries	28
Newsletter	42		
Multimedia sources	26		
Media sources (print, radio, television)	27		
Media release	21		

Table 2: Factors that influence the practice of evidence-informed decision-making amongst health service managers in Victoria (in rank order)

BARRIERS	FACILITATING FACTORS
Time availability (eg, time available to managers to find and appraise health management research to apply to decision-making processes) 82%.	Collaboration between senior health managers and researchers in setting the research agenda and implementing the research 40%.
Relevance of health management research (eg, extent to which interventions/findings from health management research can be applied to specific local circumstances) 73%.	Personal commitment to EIDM 38%.
Lack of financial resources (eg, whether resources available to support implementation of 'best practice' findings in health management research) 72%.	Skills in searching for and critically appraising research evidence 26%.
Availability of health management research (eg, availability of research on topics important to managers as a decision maker in health management) 70%.	Involving decision makers from health service organisations in health services management research 22%.
Leadership (eg, the extent to which leadership of the organisation supports the use of health management research in decision-making) 64%.	Magnitude of the decisions 25%.
Accessibility of health management research (eg, ability to locate/identify up-to-date research) 63%.	Building trust between researchers and health service managers 21%.
Policy and political will (eg, the extent to which policy and political drivers may override the implementation of 'best practice' findings from health management research) 63%.	Timeframe for making decisions 20%.
Skills in searching for and appraising health management research (eg, managers' ability to find, interpret and apply research findings) 51%.	Use of opinion leaders to promote EI practice 15%.
	Previous exposure to research 8.0%.
	External demand for EIDM 8.0%.

and 'critical appraisal skills' (26%). In contrast, 'previous exposure to research' (8.0%) and 'external demand for EIDM' (8.0%) were ranked as the least important factors.

Organisational factors in the promotion of evidence-informed management

Ten organisational factors identified in the literature were provided. Participants were asked to select and rank factors which encouraged the search for, and application of evidence in management. Eight factors were viewed as relevant by participants and selected by more than 50% of all participants. Among them, 'IT access for searching' (84.4%), 'leadership promotes EI management use' (62.5%) and 'my organisation is a learning organisation' (58.9%), were considered the three highest ranking encouraging factors. The lowest ranked factor was 'organisation providing training in the use of EI management' (44.6%) (data not shown).

Important strategies to improve the practice of evidence-informed decision-making

Eleven strategies (detailed in Table 3) were provided to participants for consideration. They were asked to rank them according to their importance, then helpfulness, in improving the practice of EIDM. All suggested strategies were considered important by at least 60% of participants. The most important strategies selected by more than 75% of all participants were 'research in easily readable formats' (86%), 'leadership promotion of research' (84%), 'research information sharing' (79%), better quality health management research' (77%), 'links with health management research organisations' (77%) and 'incentives for use of evidence in decision-making' (75%).

For their usefulness, ten strategies were selected by more than 50% of the participants. The strategies selected by at least 70% of all participants were 'leadership promotion of research information' (77%), 'research in easily read formats' (73%), and 'sharing research information' (70%). The only strategy selected by less than half of the participants was 'conference attendance' (49%) (data not shown).

Additional factors that act as barriers to the use of health management research in decision-making

Participants were asked to list the factors that they believed were barriers to the use of health management research in decision-making, but not yet included in the list provided. Thirteen factors were mentioned. Among them, the lack of availability of resources including funding and time were the most frequently mentioned barriers. A lack of understanding of the importance of evidence-informed practice from key stakeholders such as the Board, a lack of

Table 3: Strategies to improve the practice of evidence-informed decision-making amongst health service managers in Victoria (by rank order)

STRATEGIES
Research provided in simple, easy to read formats eg, shorter, plain English, clear results and recommendations for action 86%.
The promotion of health management research use by leadership within your organisation 84%.
Mechanisms in your organisation to share health management research information (eg, journal clubs, online resources, dedicated resource staff) 79%.
The creation of a link/relationship between your organisation and a health management research organisations 77%.
Better quality health management research 77%.
Incentives, eg, funding, for demonstrating the use of health management research findings in management decisions implemented 75%.
More locally conducted health management research that would be relevant to your organisation 75%.
Policy direction requiring the consideration of health management research findings in significant management decisions 69%.
Opportunities to be involved in or conduct health management research within your organisation 68%.
Training (for yourself) in searching for and appraising health management research 63%.
More opportunities to attend seminars/conferences where health research findings are presented 59%.

research relevance, a lack of access to journals and research databases and professional non-acceptance of evidence were also mentioned.

Key strategies to improve the practice of evidence-informed decision-making among senior and mid-level health service managers

Participants were given opportunities to suggest strategies that were critical to improving practice of EIDM among health service managers. Overall, 'leadership within the organisation' was the most important factor together with 'promotion and publicity of the importance of EIDM by professional institutions such as the Australasian College of Health Service Management (ACHSM). Participants also suggested that it was critical to include EIDM into position descriptions and Key Performance Indicators and review these during performance development processes. Researchers' collaboration with organisations to ensure that the focus of research is relevant to current issues and contexts also had equal importance with all strategies discussed.

Evidence types used for a variety of decision categories

One of the questions asked participants to record the types of evidence used for six managerial decisions. These were not specifically classified by category (strategic, tactical or operational) reflecting the range of decisions that managers frequently address. As such, some were predominantly strategic, other purely operational and some of a mixed nature. For both primarily 'strategic' decisions and purely 'operational' decisions, there were no significant differences in the types of evidence used. 'Information from within organisation' and 'best practice reports' were consistently used more often (20-40% of participants) than other types of evidence. 'Research evidence', 'own experience' and 'information from experts' were also commonly used but not by more than 20% of participants.

Discussion

The literature suggests that many factors may influence the practice of EIDM amongst health service managers. These may become barriers or act as facilitating factors under specific circumstances. As no studies have been able to confirm which factors are more important than others, it is reasonable to assume that, in order to encourage and improve such practice, all of these factors may need to be considered simultaneously. Factors that are either barriers to, or facilitators of EI management decision-making can be viewed from four perspectives: i) ways researchers can facilitate EI management; ii) ways healthcare organisations can facilitate EI management; iii) ways managers themselves can facilitate EI management; and iv) ways professional bodies can encourage or insist on EIDM competence. The key findings of the current study in this paper focus on the first and the second perspectives.

Researchers' perspectives

Research, which is context sensitive and localised, should be greatly encouraged as it is of great value to health service managers. Managers in Victoria have indicated, [8] and previous studies have confirmed that management research currently lacks applicability. [10,11,24] Researchers, therefore, have a significant role in facilitating EIDM by improving the relevance of their research. This can be achieved by focusing research on areas of high value to health service managers and improving the applicability of research. It is important to note that inadequate descriptions of participants and contexts sometimes make it difficult for health service managers to interpret the results [25] and the same evidence utilised in different contexts often leads to different decision outcomes. [26] Therefore, researchers need to provide better descriptions of the context of their research to allow managers to assess the relevance of that research within their context. Process research suggesting steps for managers to follow and identifying the outcomes of specific processes has the ability to provide managers with insights into the implementation of, and obstacles that need to be overcome during the decision-making process. Dobbins, DeCorby and Twiddy highlight the importance of at least some of the recommendations of research being focused on policy development and alterations necessary to apply findings. [27] Managers at the second focus group discussion considered these perspectives very important.

This study confirms suggestions from previous research that partnerships between researchers and managers provide opportunities to facilitate the use of evidence to guide the management decision-making. [21,28-31] Partnerships between managers and researchers are beneficial because they overcome the traditional distinction between managers and researchers, such as differing cultures, goals and time scales. Including research users in the research process [32] also enhances the credibility and ownership of research by the users and helps ensure that research informs judgements for which decision makers are accountable, and not for researchers to assume the role of policy makers. [25] Given the time, financial and skill restraints that current health service managers' experience, priorities for partnerships need to be identified to most effectively include managers in

the research process. This study confirms previous research [31] indicating that opportunities for decision makers to be involved in the setting of the research agenda were the most appealing aspect of possible partnerships between decision makers and researchers, and maximises the value of the research to managers.

Ciliska et al [33] identified systematic reviews as one format that researchers could generate to assist managers with the appraisal of evidence within a limited timeframe. This is based on findings from studies such as Dobbins, Cockerill and Barnsley [18] who found that health decision makers in Canada readily utilise systematic reviews and that these reviews can assist with overcoming time limits to appraise research. While the current study did not evaluate the use of systematic reviews by managers in the Australian context, managers did indicate a strong preference for abbreviated forms of research with clear implications for practice. The production of systematic reviews that evaluate evidence and make clear findings for future practice would be well received by health service managers.

The current study found managers considered the presentation of research in easily readable formats, in succinct plain English, as the single most important factor that can facilitate the use of evidence in decision-making. Their preferred formats for research presentation were abstracts and executive summaries. This is not surprising given the findings of Dobbins, Cockerill and Barnsley which suggested that the presentation of research evidence is as important as the results. [18] Management research that is overly long and poorly presented, that contains excessive statistical information and is written using overly scientific language, is currently a significant problem for health service managers. Previous studies confirm this, with Dobbins et al finding the ability to use plain language, devoid of the jargon commonly found in research, as an important skill for researchers. These findings, which are supported by previous research, [13,15,19] form a compelling case for the presentation of research evidence in a format that is more user friendly for health service managers.

In addition, researchers need to ensure their research is of a standard that is acceptable to health service managers. Studies have previously suggested that much of the management research conducted in the past is of poor quality and methodologically questionable. [14,21] Rynes, Giluk and Brown suggested that academics may benefit from being more rigorous as well as relevant in their research. [22] The lack of high quality research, combined with the perceived lack of critical appraisal skills by health service managers [34] places health managers attempting to use evidence-informed practice in decision-making in a vulnerable position. Furthermore, the current study has found that health service managers rely heavily on the peer review process to ensure research evidence used in decision-making is of an acceptable quality. It is therefore imperative for researchers to ensure their research is methodologically sound and for journals to ensure the peer review process is effective in identifying research that has significant methodological problems and not publishing it.

Organisational perspectives

From the perspective of healthcare organisations, the two primary barriers to EIDM identified in the current study are the lack of time and resources to appraise health management research and apply it to management decision-making. This supports the findings of previous studies, that lack of time is a significant barrier to the use of evidence in a range of management decisions. [8,15,33,35] Health service management decisions often need to be made quickly, or may occur in an ill-defined way, which makes the integration of evidence into the decision-making process challenging. Organisations need to ensure that managers have sufficient time to assess and evaluate available options to ensure the efficacy of decisions made. This is particularly salient in areas where the risk associated with decision-making is high.

The current study also supported findings from previous studies that a lack of financial resources to support best practice is a significant barrier. Given the constant financial pressures within the healthcare system, it is not surprising that many managers feel that they currently lack the financial resources to support EIDM and thus, implement best practice. Kovner and Rundall suggest that most organisations do not have the incentives or capabilities necessary to encourage the routine use of EIDM. [3] Clearly, organisations need to provide managers with additional resources (financial and temporal) to practise EIDM and implement the results of this decision-making. [36] Healthcare organisations also need to develop organisational systems that support evidence use in decision-making [36] and encourage cultures which facilitate and invest in ongoing learning [21] in order to better support EIDM.

The provision of resources within the organisation to assist in evidence-informed management decision-making has also been found to be an important facilitator of evidence-based practice. Organisational leadership support of EI management must extend beyond mission statements and organisational objectives, but also through the provision

of appropriate resources to conduct EI management effectively. Lin and Fawkes point out that evidence only provides a theoretical understanding about effectiveness, but the achievement of effectiveness depends on adequate infrastructure and capacity such as a skilled workforce, sufficient financing, and policy and management support. [37] Of particular importance is the provision of training and resources to conduct and access research. [1]

In addition to the above factors, the promotion of evidence use by opinion leaders was highlighted as the most significant facilitator of EIDM from the perspective of the healthcare organisation/manager. Strong leadership within population health services has been found to be crucial in ensuring that the workforce is more confident in the application of evidence-based practice. [38] Participants from the current study identified a need for leaders, both within and external to healthcare organisations, to promote proven examples of effective EIDM so that these can be used to encourage better practice elsewhere. Managers also confirmed the concerns of previous research that the way management operates may limit health service managers' ability to process and apply evidence effectively. [35] Therefore, the promotion of EI practice should be extended to the development of local opinion leaders who can successfully promote evidence-based practice and reduce non-compliance with desired practice. [23] On the other hand, researchers could also benefit from the dissemination of their research if they assist local opinion leaders to promote the application of evidence in decision-making and disseminate research findings to the wider healthcare management community. [39]

Finally, support in the practice of EIDM must also extend to rewarding managers who apply evidence in their decision-making. Walshe and Rundall found that there were no positions within healthcare organisations which would enable senior managers to practise, teach and do research in a way that is routine for clinicians. [1] As such, there is a lack of incentive for managers to conduct their own research. Building expectation of EIDM into position descriptions, key performance indicators and performance review is also a key aspect of promoting EI management. Kovner and Rundall identified that currently, most organisations do not have the incentives or capabilities necessary to encourage the routine use of evidence in guiding management decision-making. [3] The development of incentives is a key aspect of encouraging health service managers to practise EI management.

Managers' perspective

Of the eight barriers considered by participants, 'a lack of critical appraisal skills' was ranked the least important. However, more than half the participants considered this barrier as significant. From an external perspective, managers might over-estimate their skills in critical appraisal and its application to decision-making. This requires further investigation.

Professional perspectives

Study participants also indicated that better leadership in, and promotion of evidence use by professional bodies external to their organisations could persuade healthcare organisations to encourage managers to innovate, experiment, collect data and analyse research when making decisions. Professional bodies such as ACHSM, by taking a leadership role in the dissemination of the available literature, its outcomes and the effect of the application of research, will further persuade organisations to support managers in the application of evidence to management decision-making practices. Study participants also felt that a professional body such as ACHSM should play a key role in assisting with relationship building between researchers and managers. They further suggested that such professional bodies should be more active in identifying research areas and in encouraging researchers to address areas of greatest need. This may include approaching research funding bodies to ensure funding is available to meet health service managers' research needs, or to provide direct funding for research if necessary. Furthermore, in order to bring EIDM into mainstream practice, health professional organisations, as with other professional organisations in the management field, should insist on the possession of core competence in EIDM as a pre-requisite to professional qualifications and continued registration.

Recommendations

Based on the findings from the study and the literature, the following recommendations, categorised into four levels, are made to promote and improve the practice of EIDM among health service managers in Australia.

At a broad level (with suggestions for target audience):

- To present research evidence in less complicated formats using plain language. Hybrid layouts using business report styles with literature embedded could be developed. (Research community)
- To improve the applicability of research papers by including descriptions of processes and indications of the practical implications of the research. (Research community)

- To encourage the use of summary formats (executive, topic and abstracts) in the presentation of major findings and implications. These should generate readers' interest in accessing full articles.
  (Authors, journal editors)
- To review the focus of health service management research to ensure that it is context sensitive, applicable to local practice and of significance to health service managers.
  (Research community)
- To strengthen the relationship and cooperation between researchers, organisations and their managers in setting pertinent research agendas.
  (Research community, organisations and interested managers)

At an organisational/institutional level

- To improve access to timely health service management research evidence by health service managers.
- Development programs should focus on improving the competency of health service managers in critical appraisal of both external and internal evidence.
- To strengthen the relationship and cooperation between researchers and managers in setting research agendas relevant to managers, such as developing joint ventures between research institutions and professional organisations.
- To provide incentives to the practice of EIDM within organisations, such as including EI management practice as a key performance indicator.
- To develop a culture of, and supportive infrastructure for, EI management practice, with active support from senior staff.
- To review and improve the relevance and reliability of internally developed data within organisations to allow benchmarking and evidence/information sharing.
- To lobby professional organisations to establish mechanisms to review, appraise and summarise state-of-the-art published articles in health service management and health service research and distribute to their fellowship.

At the individual manager level

- Managers should develop and maintain their skills in the critical appraisal of all types of evidence and in the translation of evidence into effective practice.

At the level of professional bodies, such as ACHSM

- ACHSM has a key role to play in identifying research areas of significance to managers and facilitating the publishing of research in appropriate formats (in plain English with summaries including actionable recommendations).
- ACHSM's library bulletin should include reviews of key topics, appraising and summarising published articles in health service management and health service research.
- ACHSM should consider working more closely with healthcare institutions to guide development of a culture of EIDM in management, and provide expertise and support, such as integrating the development of EIDM in the Continuous Professional Development process.
- ACHSM, research institutions and healthcare organisations to lobby government to prioritise health service management in its research agenda.

Conclusions

This study confirms that the factors suggested by the literature to have an influencing factor in the practice of EIDM are relevant and critical in both the Victorian and probably the wider Australian context. Amongst them, the lack of time, financial resources and relevance of management research were the three most significant barriers. Conversely, the appropriate presentation of research and findings, high quality research evidence and the relevance and applicability of such evidence to the local context are the most important factors that may encourage the use of evidence in the management decision-making processes among health service managers in Victoria and the wider context. In order to encourage and improve the practice of EIDM, a number of changes and significant efforts are required at various levels: at a broad systems level, organisation/institution level, and individual manager level. More importantly, the crucial role of professional bodies such as ACHSM in assisting and lobbying changes at the three levels should be recognised. As cited by the literature, evidence should be context sensitive and applicable to local practice in order to improve its utilisation. Therefore, understanding the applicability of evidence in the local context is crucial in ensuring that the strategies to be developed and/or adopted will be sensitive and suitable to that context, which will in turn encourage the practice of EIDM among health service managers. The current study has achieved this purpose.

Note: Copies of the questionnaire used in the Victorian study are available from the corresponding author.

Competing Interests

The authors declare that they have no competing interests.

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RESEARCH ARTICLE

Employability Skills: essential requirements in health manager vacancy advertisements

D Messum, L Wilkes and D Jackson

Abstract

Background: **Common understandings of what constitutes employability skills (ES), for graduate entry level jobs in health services management, are not well articulated. The Australian Department of Science and Training (DEST) provides a generic profile only which changes over time. In health, this is compounded by endemic reform. What is agreed is that a degree is not enough. Recruitment and personnel policies/practices have been found inconsistent, and wish lists for ES unreliable. In addition, different levels of managers in an organisation require different attributes for the same position. Higher education shows interest in generic skills because of pressure from employers.**

Method: **As public documents, job advertisements provide accessible data on employer skill requirements listed as essential requirements. Using predefined search criteria, 100 consecutive advertisements for health managers in New South Wales were collected from two major Australian newspapers and two internet sites, mid-September to December 2009.**

Results: **A total of 35 different essential requirements were identified. Communication skills were the most frequently listed followed by prior experience, tertiary qualifications and knowledge of the healthcare system. Findings were consistent with the DEST top three ES. Comparative analysis with competency requirements of the Australasian College of Health Service Management and overseas organisations is discussed.**

Conclusions: **Although ES are stated in vacancy advertisements for health management, understanding of some terms needs to be agreed and sufficient detail provided to help identify suitable applicants. Key ES are consistent with generic listings but there are also health profession specific requirements. Higher education providers can use these findings to inform curriculum development and improve graduate employment outcomes.**

Abbreviations: **ACHSM – Australasian College of Health Service Management; DEST – Department of Education Science and Training; ES – Employability Skills; HE – Higher Education; NFP– Not–For–Profit; NGO – Non-Government Organisations.**

Key words: **employability skills; job vacancies; health managers; higher education.**

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Introduction

For students the strongest motivation for entering higher education (HE) is the desire to improve labour market prospects. [1] However, in the United Kingdom, Tomlinson [2] found final year students did not think a degree was enough: they needed to add value. In Australia, Scott [3] saw a degree as a threshold requirement and noted that formal credentials, specialised knowledge and expert skills were not a reliable guide to employment success; rather personal qualities were more important. Wells [4] found that intellectual, interpersonal and communication skills were a reliable guide to employment success and job specific skills were necessary but not sufficient for effective professional performance.

In Australia, 80% of employers regarded qualifications as a signal of potential for future learning and skills acquisition, not as a signal of immediate competence, and experience was more important than qualifications. [5] Also, they were having trouble locating the right graduates: [6] 42.5% indicated they would recruit more graduates if available. This could have several explanations, including that there are not enough students graduating from the required fields or with the required qualifications. Alternatively graduates may not apply because of poor job search skills, or advertisements may not attract applicants.

The skills that are required by employers are defined by DEST as Employability Skills (ES) [7]:

> …skills required not only to gain employment, but also to progress within an enterprise so as to achieve one's potential and contribute successfully to enterprise strategic directions. Employability skills are also sometimes referred to as generic skills, capabilities or key competencies.

What ES employers want is stated in the same report as the top ten selection criteria. The most commonly required were interpersonal and communication skills (written and oral), academic qualifications, work experience, leadership, passion/knowledge of industry/drive/commitment/attitude and team work. The Allen Consulting Group [8] cited Curtis (2004) that these skills are similar to those of Canada, the United Kingdom, New Zealand, France, Germany and the United States. Furthermore, they applied over a variety of jobs and contexts.

Even if universality of the skills list is acknowledged, anecdotal evidence would suggest that health managers require context-specific skills. The healthcare system is complex. It is also argued that skill requirements change over time as the nature of work changes and vary with the way the sector is organised. At the time of this study New South Wales was organised into large area health services responsible for operational management with centralised administration responsible for corporate management taking the leadership role. In health, Pruitt and Epping-Jordan [9] noted the shift from acute to chronic care has changed required competencies of the health workforce. Liang et al [10] found skills in planning, evaluation and decision-making have endured but new skill requirements have emerged namely leadership, managing and leading change, mentoring others, financial management and personal qualities. The adoption of private sector management practices in the public health sector and ongoing reforms have changed skill requirements. This has implications for HE. Universities are under pressure to produce employable graduates [5] and employment outcomes are a performance indicator for the sector. Curriculum development can be informed and kept up-to-date by identifying required ES in graduate positions. The purpose of this research is to specify health services management ES based on advertised essential skill requirements for graduate entry positions.

Surveying employers seems the logical way to identify ES requirements. However, Teichler [11] reported employer's responses were often inconsistent with actual recruitment and personnel policies and practices. [9] Harvey et al [12] showed that sets of desired attributes varied within organisations by level eg, line managers, recruiters and strategic managers had different priorities. York and Knight also noted that employer wish lists for ES should not be seen as objective information. [13] Given these limitations, an alternative source of information was sought. The research method of analysing job advertisements came from a recent study by Orme, [14] based on earlier work by Cullen [15] who claimed that job advertisements 'lay certain sectors and professions open to scrutiny' because they are public documents. This also means that ethics approval is not required for research purposes.

Method

A target of 100 advertisements was set, the sample size as used by Orme, [14] Cullen [15] and Communal and Senior, [16] commencing mid-September 2009. A census of all consecutive job vacancies for New South Wales positions occurred using the classified advertisement sections of major newspapers, the *Sydney Morning Herald* and *The Australian* and from the internet sources Seek and MyCareer. Pre-defined search criteria included:

- General health and medical field excluding nursing and other allied health.

- Job title eg, manager, administrator, team leader, project officer, manager or co-ordinator.
- Graduate positions.
- Sector: private and public.
- New South Wales only.
- Advertisement included essential requirements defined as ES.
- Work type: full or part time, contract, casual and temporary.
- Salary ceiling $65,000 for new graduates defined as having completed their undergraduate studies within the last three years.

Some vacancies appeared in several sources or over several weeks but were only included once in this study. It took three months to collect the required number. Content analysis included job title, employer and location, essential requirements and job status. Findings were coded onto Excel spread sheets. Preliminary analysis revealed that the cost of advertising space in major newspapers limited content and few (6%) made use of links to information on web sites. Most (81%) provided a contact name/telephone number for further information eg, position statement and information pack, and 13% only provided a post office box address with no contact or web site option. Enumeration included the number of different ES, mean ES per advertisement, and frequency ranking. These were compared with the DEST list as well as with competency requirements from the health management colleges of Australia, America, Canada and the United Kingdom.

Results

In the 100 advertised vacancies, the most common position title was manager (45%), followed in rank order by co-ordinator (26%), project officer (12%), research officer (4%), team leader and executive officer 3% each and in one percent no position title was given. The miscellaneous category (6%) included consultant, people and capability officer, liaison officer (2), administrator, community and research development officer. Nearly two thirds of vacancies (64%) were permanent, eleven of which were part-time. Ten positions were temporary, six contract positions and three casual vacancies. For the balance (17%), employment status was not stated. The greatest number of vacancies (37%) were found in organisations that identified themselves as not-for-profit (NFP) in the advertisements, followed by private (20%), and public sector (18%), non-government organisations (NGOs) 17%, and only 6% for Divisions of General Practice. For two advertisements placed by an agency, sector was not stated.

The number of ES listed totalled 514, (mean 5.14), and the number of ES listed per advertisement is shown in Figure 1. Nearly a quarter of advertisements listed six ES, while three listed one or two only. At the other end of the spectrum, four advertisements listed eleven or more ES.

Figure 1: Frequency of ES in 100 consecutive New South Wales health management vacancies

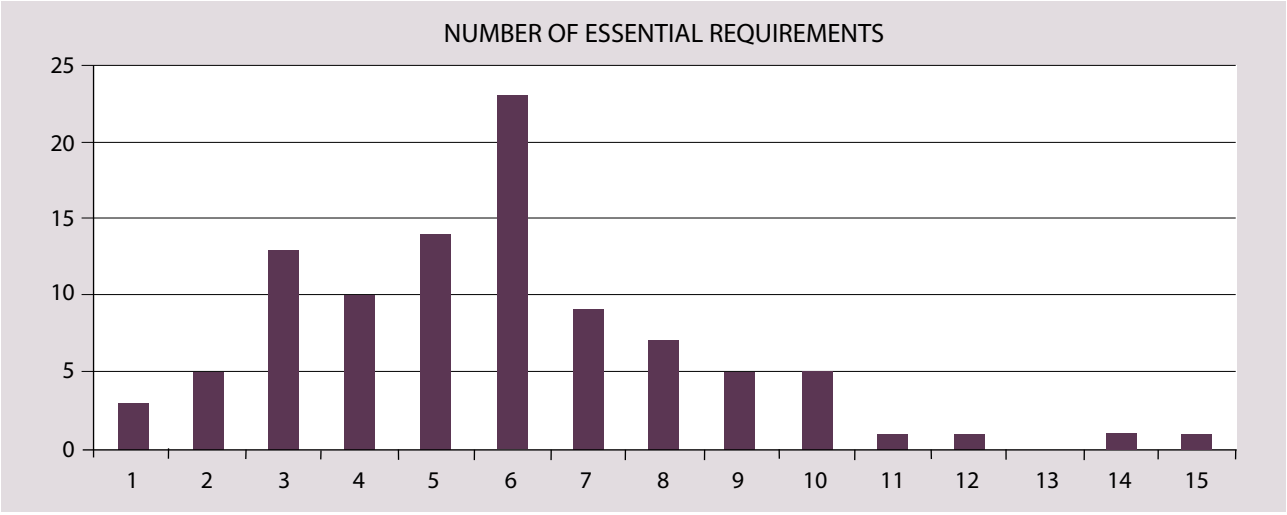

Table 1: Top ten essential requirements in New South Wales advertised vacancies

RANK	REQUIREMENT	%	DEST RANK
1	Communication skills	78	1
2	Experience	75	3
3	Tertiary qualifications	48	2
4	Knowledge of the healthcare system or a health field	26	NS
5	Teamwork	25	6
6	Conceptual /analytical skills	21	7
7	Computer skills	20	NS
8	Networking	17	NS
8	Organisational skills	17	NS
9	Financial management skills	15	NS
10	Leadership	12	4

A total of 35 different ES was obtained. The top ten appear in the Table 1, which shows that communication skills (written and/or oral) was the most frequent ES, appearing in 78% of vacancies. This compares with 57.5% in the DEST study. It was closely followed by experience (75%) nominated by 27.6% of DEST employers. Tertiary qualifications ranked third and were required in almost half the positions, compared with just over one third in the DEST study. Knowledge of the healthcare system, a particular field of healthcare/health management, ranked fourth. More vacancies required teamwork skills in this study (25%) than in the DEST study (16.6%).

The top three ES were similar to the DEST findings if in different order. Rankings 5 and 6 of this study matched 6 and 7 in the DEST study. Computer skills, networking and financial management skills were not in the DEST top ten. Leadership only achieved rank 10 in this study required by 12% compared to DEST rank 4, required by 18.1% of employers.

Comparison was also made with health management college requirements from Australian, American, Canadian and United Kingdom colleges as shown in Table 2. Variation by country is apparent with only three competencies in common: communication skills, leadership and knowledge of the healthcare system/environment, all of which appeared in the top ten from this study.

Other ES found in this study included a current drivers licence (12%), ability to work independently and/or in a team, (11%), project management skills (11%), research skills (9%), customer focus/caring approach (8%), management skills unspecified (8%), policy and planning skills (7%), time management (6%), staff management, change management, EEO and OHS skills (5% each), and professional development skills (3%).

A raft of personal qualities or characteristics also emerged as ES including being creative, energetic, having a fresh positive approach, 'can do' attitude, and enthusiastic (6%); attention to detail (4%); commitment to social justice principles, community language; reliable, trustworthy, hard working and being flexible (at 3% each).

The top three ES in this study were examined in more detail, beginning with communication skills. Of the 78 listings, 25 stated communication skills only, 24 defined this as written and oral skills, another 20 included interpersonal skills. Specific requirements were report writing skills, press releases and public speaking.

The second most commonly requested ES was prior experience, and 75% of employers asked for one or more types of experience, 23% did not mention any, and 2% stated it was not required. Where experience was essential, 122 specific experiences were listed, or 1.66 per vacancy. A

Table 2: Comparison of ES in the NSW advertisement study with four health management college requirements

NSW STUDY	AUST ACHSE [17]	US ACHE [18]	CANADA CHE [19]	UK SFH [20]
Communication skills	Cultural skills	Communication and relationship management	Leadership	Communication
Experience	Team work	Leadership	Communication	Personal and people development
Tertiary qualifications	Taking ownership eg, planning and organisational skills	Professionalism	Life-long learning	Information and knowledge
Knowledge of the healthcare system or a health field	Leadership and management	Knowledge of healthcare environment	Consumer and community responsiveness	Service improvement
Teamwork	Project management		Public relations	Quality
Conceptual/analytical skills	Communication		Political awareness	Equality & diversity
Computer skills	Analytical thinking, problem solving		Conceptual skills	
Networking Organisational skills	Client engagement		Results oriented	
Financial management Leadership			Resources management	

health background was required by 60%, and/or specific skill sets 45% and/or a general health background 3%. Time in a similar field appeared in four advertisements ranging from two to five years. Required health backgrounds included working with Aboriginal and Torres Strait Islander people, culturally and linguistically diverse communities, aged care, domestic violence, mental health, child and family, homeless, community care, working with disadvantaged, and health promotion. The list for specific skills was more varied and included financial management skills and budget, research skills, government reporting, project management, accreditation, staff supervision and development, compensation, office management, partnering with stakeholders, fund raising and risk management.

Sector differences in experience requirements are presented in Table 3 which shows that experience was not listed as an ES in 25% of vacancies, including two which stated experience

Table 3: Frequency of advertised experience requirements by sector

SECTOR	VACANCIES ADVERTISED	EXPERIENCE REQUIRED			
		NOT LISTED	ESSENTIAL N	%	NUMBER OF REQUIREMENTS
NFP	37	6	31	84	48
Private	20	8	12	60	17
Public	18	4	14	78	21
NGO	17	3	14	82	20
Division of GP	6	4	2	33	4
Not stated	2	0	2	100	5
TOTAL	**100**	**25**	**75**	**75**	**108**

was not required. A quarter of vacancies requiring experience listed one type but most required several. Experience was less likely to be required in the private sector and Divisions of General Practice than elsewhere.

The public sector was the most likely to require knowledge of the health sector (half of the vacancies) followed by NGOs (41.6%) and NFP (24.3%). In total, knowledge appeared in 26 vacancies as essential and included 50 different requirements. Some 46% listed specific skills eg, legislation, policies and procedures, strategic planning, reporting requirements, research and business processes. Another 26% required general knowledge of the health sector and 28% asked for specific fields of knowledge similar to the clinical experience list.

Discussion

Communication skills were the top ranking ES requirement for health sector managers which confirms its importance as a HE graduate attribute. This skill is also more important to health employers than other employers as indicated by the lesser frequency with which it was mentioned in the DEST study. [7] Experience in the health field was a very close second and three times more important in health than for other employment. Understanding of the complexity of the healthcare system might explain this finding but this result is stronger than that reported by Riddout et al. [5] Sector variation was also apparent eg, experience is less likely to be required in the private sector. In the public sector, four in five vacancies listed experience as essential with even fewer opportunities in NGOs and NFP for inexperienced applicants.

Tertiary qualifications were advertised for in half the vacancies but clearly are not enough alone to secure employment in health, confirming the conclusions of Wells, [4] Tomlinson [2] and Scott. [3] Knowledge of the field was required in a quarter of jobs, something not found in the DEST study. Not surprisingly, team work skills appeared frequently for health positions, reflecting the way work is organised into multi-disciplinary teams. Conceptual and analytical skills also were important but to a much greater extent than DEST reported.

What was unexpected was the importance of computer skills which failed to rank in the DEST top ten. Another finding specific to health was networking. Organisational skills were often an employer requirement but are implicitly learnt at University, juggling studies and employment. It is also apparent that health graduates need to develop financial skills. Lastly leadership appeared to be more important in the generic DEST study than in the health sector for new graduates. Such skills may be for development rather than expected of new workforce entrants.

Graduates may need help in identifying their skills and experience that relate to employer needs as expressed in position advertisements. Specifically, experience for example gained in placements and knowledge of the health system should be highlighted. Even if advertisements do not specify ES identified in this study, where possible they should be included in written applications to at least get a job interview. It is also important for applicants to follow up information made available eg, position statements and application packages. This is recommended because some advertisements contained so little information. Positions advertised without contact details or links to web sites may explain why employers cannot find enough graduates.

It may be unrealistic to compare graduate entry job requirements with competencies from professional bodies, a potential limitation of this study. However, competencies give a starting point and suggest skills for future development eg, leadership. Most health manager advertisements were quite specific about experience and knowledge requirements but leadership, organisational skills 'on the job' and even communication skills were less clearly defined. In future research, employers should be asked to define what ES mean to them and more importantly how these are identified in applicants. A further limitation is that this study analysed NSW vacancies, which limits generalisability of the findings.

What is now known is what essential skills health managers advertise as required in new graduates. Health management skills are not exactly the same as skills required by managers in other fields but include profession specific skills. Those essential skills necessary to achieve employment are clear, but sufficiency ie, how ES are measured and which skills lead to greater long term success in employment, however this is defined, has yet to be ascertained.

Competing Interests

The authors declare that they have no competing interests.

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RESEARCH ARTICLE

Can that work for us? Analysing Organisational, Group and Individual Factors for Successful Health Services Innovation

K Eljiz, K Hayes, A Dadich, J Fitzgerald, T Sloan and S Kobilski

Abstract

Objective: **Process innovations can increase efficiency and quality in service organisations. [1,2] Health services organisations have been criticised for being slow to exploit process-management innovations. [3,4] To address perceived deficiencies, this article combines knowledge of factors that improve the Diffusion of Innovation (DoI) in health services organisations [5] with organisational behaviour theory [6] to produce a practical tool to assist health managers and clinicians assess the likelihood of an innovation succeeding in their organisation.**

Design: **Semi-structured interviews were used to identify and analyse organisational, group and individual factors supporting or impeding the implementation of process changes in a public hospital sonography department.**

Setting: **Emergency and imaging departments within a public hospital in New South Wales.**

Results: **Using extant research literature and data collected from the hospital, a checklist was developed to identify factors that aid the implementation of innovations within health services settings. The checklist prompts people responsible for innovation implementation to consider key factors that influence the DoI, identify gaps between the current and desired states and develop action plans to address these gaps.**

Conclusions: **The checklist developed in this article helps health personnel predict the likelihood of innovation adoption, and identify gaps to the ideal state at organisational, group and individual levels. The necessity of conscious change management when implementing innovations is also addressed. Given impending national healthcare reforms, this article is both important and timely.**

Abbreviations: **DoI – Diffusion of Innovation; OECD – Organisation for Economic Cooperation and Development.**

Key words: **diffusion of innovation; innovation; implementation; public hospital; animated computer simulation.**

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Introduction

This article examines and illustrates factors which can influence the Diffusion of Innovation (DoI) within health services settings. First, current knowledge of DoI in health services [5] is used to develop tables of organisational, group

and individual factors that influence DoI. Then, an example of lean quality improvement methods complemented by computer simulation, illustrates the value of a checklist when implementing innovation. The checklist may assist clinicians and managers assess individual, group and organisational factors relevant to innovation adoption before and during implementation efforts.

New South Wales public hospitals

Unmet demands for hospital services constitute a significant and growing problem in many OECD countries. [7] This causes problems for patients and hospital staff charged with meeting increased workloads with limited resources. [8] Nations experiencing similar challenges are increasingly applying proven management methods from other industries, to health services settings. [7,9] These methods include operations management and computer simulation techniques. [10-12] Although the diffusion of product innovations is well documented, [13] the diffusion of process innovations across industries is relatively unexplored. Furthermore, hospitals may resist innovation due to the nature of their work (high uncertainty coupled with risk of patient death), workforce characteristics (occupational hierarchies, strong professional and weak organisational identification), leader-workforce relations (transactional exchanges and perceptions of conflicting goals) and weak performance measurement and reward systems. [3]

DoI theory may help identify process innovations likely to be acceptable to health services personnel [5] and supply them with tools to improve process quality and efficiency with low risk. [3] Previous studies of innovation in healthcare delivery show improvements in patient flow, efficiency and quality are possible. [14] For example, Fitzgerald et al [15] found that by using simulation to make changes to the allocation of staff, the scheduling of patients for appointments, and changing appointment timeslots, innovation could be used to increase patient flow. This article examines a recent case of innovation diffusion from manufacturing to health service sectors, namely the use of lean thinking and animated computer simulation to identify and model potential process changes.

Diffusion of Innovation

DoI research tracks the adoption and spread of innovations within and across organisations and markets. Five adopter categories [13] classify individuals and organisations based upon their propensity to innovate as shown in Table 1.

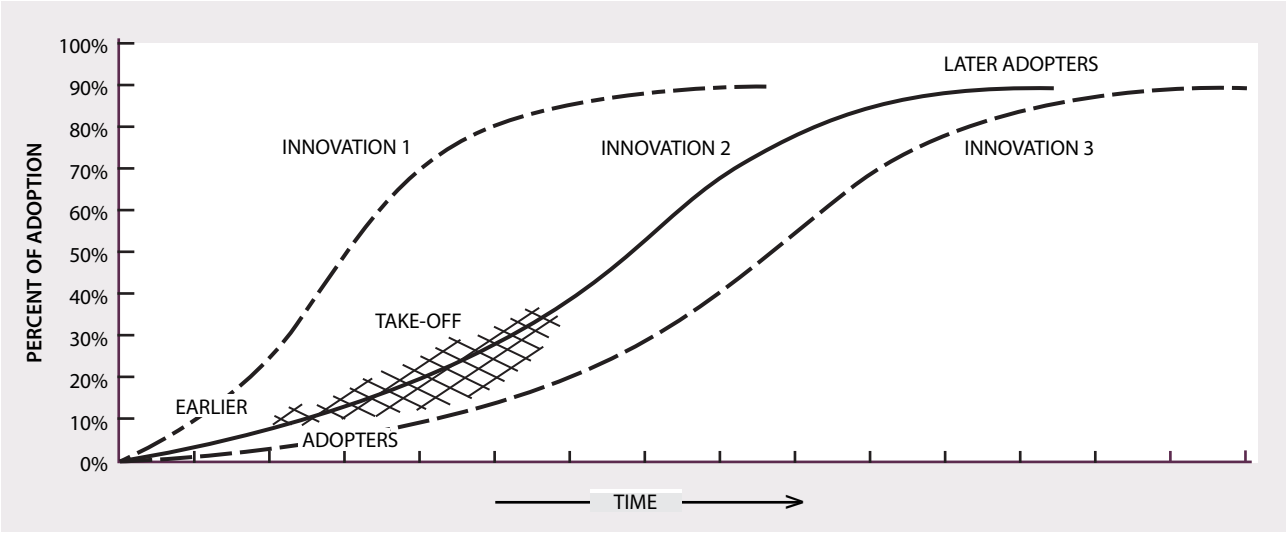
Four elements, innovation, communication channels, time and the social system, are identifiable in every instance of DoI. [13] Interactions between the innovation, the social system and the resulting rate of adoption (when plotted on a cumulative basis) produce a distinctive S-curve (see Figure 1).

Table 1: Rogers' categories of innovation adopters

CATEGORY	DEFINITION
Innovators	The first individuals or organisations to adopt a particular innovation, approximately 2.5 % of the population.
Early adopters	The next 13.5% of the population, characterised by opinion leadership and a high degree of respect from peer individuals and organisations.
Early majority	Adopt new ideas just before the average, and comprise about 34% of the population
Late majority	Making up 34% of the population this group will adopt innovations, often as a result of economic necessity and peer pressure.
Laggards	The remaining 16% have lengthy innovation decision processes and adoption occurs a long time after initial awareness of new ideas. The term 'laggard' is not intentionally pejorative. Slow adoption of innovation may be justified by limited resources and exacting performance standards.

Source: Rogers EM. Diffusion of Innovations. 5th ed. NY: Free Press; 2003.

Figure 1: Innovator categories and cumulative diffusion of innovation over time



Source: Source: Rogers EM. Diffusion of Innovations. 5th ed. NY: Free Press; 2003. p.11.

DoI research in health services has tracked the spread of new drugs and new procedures. However, few studies have considered the diffusion of management process innovations in contrast to clinical improvements.

Diffusion of Innovation in health settings

In the context of health settings, this work adopts the definition of innovation as 'a novel set of behaviors, routines, and ways of working that are directed at improving health outcomes, administrative efficiency, cost effectiveness, or users' experience and that are implemented by planned and coordinated actions'. [5 p.582] Every innovation challenges individuals, groups and organisations to adopt new methods or new ways of solving problems, but the probability that the new idea is superior to previous practice is not initially known. [13]

The characteristics of health services combine to create organisational environments that are wary of the uncertainty that is inherent in innovation. [3] Innovation implementation in health services necessitates consideration of many factors to address these concerns. A systematic literature review of DoI in health services [5] identified numerous influences, which can be categorised into individual, group and organisational factors (see Tables 2 to 4). The research team categorised the influences previously identified by an extensive review of health services innovation literature [5] into seven organisational, six group and eleven individual characteristics. This was accomplished by using organisational behaviour theory [6] and the practical experience of the research team.

The theoretical framework summarised in Tables 2 to 4 was applied to the implementation of an innovation (lean thinking coupled with animated computer simulation) which had diffused from manufacturing to the public hospital setting. Lean thinking was applied to sonography department processes in an attempt to improve patient-flow between emergency and imaging departments (the sonography department was part of the imaging department). The process change suggestions made by hospital staff were simulated using computer software to predict the results if each suggestion was implemented.

Methods

Case research [16,17] was used to examine an early public hospital adopter of lean thinking coupled with computer simulation. Qualitative methods were used to collect and analyse data. Data collected included semi-structured interviews with key hospital informants, examination of internal documents and reports in the public domain and over two years of on-site observations. Data were collected from eleven interviewees, ranging from receptionists responsible for making appointment bookings to the general manager. The semi-structured interviews centred on perceptions of innovations originating outside the health sector and organisational, group and individual factors that influence DoI.

Interviews were recorded and transcribed verbatim. QSR N-Vivo® software was used to aid detailed coding and analysis of the collected research material, facilitating the interpretation process. Thematic analysis [18] was used to identify group factors that influence DoI in health settings.

Table 2: Individual factors influencing diffusion of innovation in health settings

FACTOR	DESCRIPTION AND IMPACT ON INNOVATION
Relative advantage	Innovations that have a clear, unambiguous advantage over current methods are more easily adopted and implemented.
Compatibility	Innovations that are compatible with the intended adopters' values, norms, and perceived needs are more readily adopted.
Complexity	Innovations that are perceived as simple to use are more easily adopted
Trialability	Innovations which allow experimentation by intended users are adopted and assimilated more easily.
Observability	If the benefits of an innovation are visible to intended adopters, it will be adopted more easily.
Reinvention	If potential adopters can adapt, refine, and modify the innovation to suit their own needs, it will be adopted more easily.
Fuzzy boundaries	Complex innovations in service organisations can be conceptualized as 'hard core' (irreducible elements of the innovation) and a 'soft periphery' (organisational structures and systems required for full implementation); the adaptiveness of the 'soft periphery' is a key attribute of the innovation.
Risk	If the innovation carries a high degree of uncertainty of outcome that individuals perceive as personally risky, it is less likely to be adopted.
Task issues	Innovations relevant to the performance of the intended user's work and that improve task performance are adopted more easily.
Required knowledge	If the knowledge required for the innovation's use can be codified and transferred from one context to another, it will be adopted more easily.
Augmentation/support	If a technology is supplied as an 'augmented product' (eg, with customisation, training, and a help desk), it will be assimilated more easily.

Table 3: Group factors influencing diffusion of innovation in health settings

FACTOR	DESCRIPTION AND IMPACT ON INNOVATION
Network structure	The adoption of innovations by individuals is powerfully influenced by the structure and quality of their social networks.
Homophily	The adoption of innovations is more likely if they are homophilous with current users of the innovation – that is, they have similar socioeconomic, educational, professional, and cultural backgrounds.
Opinion leaders	Expert opinion leaders exert influence through their authority and status, and peer opinion leaders exert influence through their representativeness and credibility.
Champions	The adoption of an innovation by individuals in an organisation is more likely if key individuals in their social networks are willing to support the innovation.
Boundary spanners	An organisation is more likely to adopt an innovation if those people who have significant social ties both inside and outside the organisation are able and willing to link the organisation to the outside world in relation to this particular innovation.
Formal dissemination program	When a planned dissemination program is used for the innovation it will be more effective if it takes potential adopters' needs and perspectives into account, uses strategies to match demographic, structural, and cultural features of subgroups, uses appropriate style, imagery, and communication channels and incorporates rigorous evaluation and monitoring of defined goals and milestones.

Table 4: Organisational factors influencing diffusion of innovation in health settings

FACTOR	DESCRIPTION AND IMPACT ON INNOVATION
Absorptive capacity for new knowledge	Organisations that are systematically able to identify, capture, interpret, share, reframe, and recodify new knowledge; link it with existing knowledge and to put it to appropriate use will be better able to assimilate innovations.
Culture and leadership	A 'learning organisation' culture, and proactive leadership directed toward sharing knowledge are pre-requisites for absorptive capacity.
Receptive context for change	A receptive context for change incorporates the ability to embrace new ideas and change, strong leadership, clear strategic vision, good managerial relations, visionary staff in pivotal positions, a climate conducive to experimentation and risk taking, and effective data capture systems.
Inter-organisational networks and collaboration	An important influence on an organisation's decision to adopt is whether a threshold proportion of comparable organisations have done so or plan to do so.
Structural determinants	An organisation will assimilate innovations more readily if it is large, mature, divided into semiautonomous, specialised units, if it has slack resources to channel into new projects and if it has decentralised decision-making.
System readiness for innovation	Includes tension for change, (if staff perceive that the current situation is intolerable, a potential innovation is more likely to be assimilated successfully) availability of time and resources for innovative activities and intra-organisational communication.
External change agents	External change agents will be more effective if they are selected for their homophily and credibility with the potential users of the innovation; develop strong interpersonal relationships with potential users and explore and empathise with the user's perspective.

Results

A detailed description of the computer simulation technique used and full results of the individual, group and organisation levels of analysis are reported elsewhere. [15,19,20,21]

Individual assessments of, and influences on innovation adoption

While evidence of all eleven individual factors was found (see Table 5), three individual factors appeared particularly attractive to clinicians and managers: low-risk, trialability and observability. The combination of low-risk, trialability and observability, facilitated through the use of computer simulation, increased confidence in the change outcomes without the need for physical experiments which could disrupt patient treatments and hospital work practices.

As summarised above, informant responses to individual influence factors on DoI were consistently positive.

Group influences on innovation adoption

Although individuals had all responded positively to the innovation when testing options to improve patient flow, they showed varying responses when they discussed the project in their occupational groups. A summary of responses to group factors influencing DoI appears in Table 6.

Table 5: Summary of responses to the innovation at the individual level of analysis

FACTOR	DESCRIPTION AND IMPACT ON INNOVATION
Relative advantage	The innovation focused thinking about the use of hospital resources, demonstrated efficient ways to use those resources and permitted rapid, low-cost testing of improvement ideas.
Compatibility	The ability of the model to accommodate individual and occupational norms helped sonographers accept the model's predictions.
Complexity	After initial set-up, the operation and output of the model were perceived as simple to understand.
Trialability	Sonographers understood the ability to quickly change and experiment with the model, and asked for simulation of more options. Participants commented that being able to trial changes prevented real-world mistakes.
Observability	Changes made to visual representations of current practices and work settings were easily observed and understood when presented in an intuitive way on a computer screen.
Reinvention	Respondents agreed the technique could be used in other process improvement projects at the hospital.
Fuzzy boundaries	Interviewees recognised that lean thinking and animated computer simulation had the flexibility to be applied in different organisational settings.
Risk	Importantly, the innovation was viewed as reducing uncertainty in change efforts, and reducing physical risks to patients.
Task issues	The model replicated the work environment and case mix of the sonography department as accurately as possible and was recognised as directly relevant to the sonographers' work performance.
Required knowledge	Experience of lean thinking and interactive, animated computer simulations provided staff members with skills to comment about perceived problems and test potential changes in a range of settings.
Augmentation/support	The innovation was supplied as an 'augmented product' with university staff customising the software program used to run the 'what-if' scenarios.

Table 6: Summary of responses to the innovation at the group level of analysis

FACTOR	DESCRIPTION AND IMPACT ON INNOVATION
Network structure	The structure and quality of social networks both supported and hindered DoI, depending upon prevalent group norms.
Homophily	The presence of a chief investigator with a nursing background helped build credibility. Although initially difficult to influence, once a group accepted the changes, they became advocates for the new system. However, some sub-groups displayed resistance.
Opinion leaders	Expert opinion leaders were crucial to generating and maintaining interest in the innovation and securing 'buy in' from various clinical and administrative groups.
Champions	Charismatic members of staff with well-developed networks and alliances within the hospital used their roles to support the evaluation and use of the innovation.
Boundary spanners	Senior managers and clinicians worked across intra-organisational boundaries to support departmental changes and provide feedback on progress. Connections to Australian researchers and their connections to Dutch researchers provided the innovation for assessment and adoption.
Formal dissemination program	Face-to-face meetings with staff members were held to communicate the changes, even though this required repeating the information for each shift. This was a conscious decision to provide opportunities for discussion and support existing patterns of clinical communication (senior to junior member) present in the hospital.

Table 7: Summary of responses to the innovation at the organisation level of analysis

FACTOR	DESCRIPTION AND IMPACT ON INNOVATION
Absorptive capacity for new knowledge	Respondents reported that the origin of an innovation, particularly management innovations, was not important. There was no evidence of a 'Not Invented Here' syndrome and the ability of an innovation to produce results was the main criterion for acceptance.
Culture and leadership	Interviewees reported a cultural openness to change and innovation. Leadership behaviours of eliciting support from clinicians, using process improvement as a learning, not blaming experience for the departments and individuals involved, and focusing on measuring and improving hospital performance were reported as significant to the DoI success.
Receptive context for change	Dramatic improvements in intra-organisational relations were reported to have occurred during the last four years. The necessity of clinician engagement was reiterated by all informants in relation to power balances in the hospital. Good managerial relations enabled experimentation and collaboration across functional departments.
Inter-organisational networks and collaboration	Hospital staff members report active links with consultants, universities and area health service groups and all are sources of management innovation. Hospital members were familiar with the use of lean thinking in quality improvement. The initial users of the innovation (imaging/radiology) were already very familiar with a range of information technologies.
Structural determinants	Few comments were made regarding the structure of the hospital. It was clear that inter-organisational networks provided some resources and functional expertise.
System readiness for innovation	Reports of pressure for change created by restricted resources dominated the interviews about organisational factors influencing DoI. Respondents reported significant pressures for change from all directions: top down in the form of directives from the NSW Department of Health, bottom up from increasing patient presentations at the Emergency Department with an increased occurrence of co-morbidities and increased demand for imaging diagnostic services by hospital specialists, and even sideways, from comparison with radiology services in the private sector.
External change agents	External change agents came primarily from consultancies, universities and the area health service. These external change agents did not require a medical background to be accepted, but did need to be willing to spend time in and understand the characteristics of hospitals.

The resistance took a variety of forms, and the hospital was able to address staff concerns. Space limitations preclude a detailed review of resistance and responses in this article, however a full account is published elsewhere. [19]

Organisational influences on innovation adoption

Pressures for change dominated the organisational factor interviews. These pressures and other organisational factors are summarised in Table 7.

The results show that the DoI influences derived from extant research [5] were present to varying extents in the hospital studied. Interestingly, while individual and organisational responses to the innovation were uniformly positive, when some individuals reassembled into their occupational groups, they expressed dissatisfaction with the decisions made and the process by which decisions were implemented.

Discussion

Meaning of the study

Healthcare systems in many nations are experiencing escalating demands and constrained capacity [7] creating intense pressure for change. This article examines the use of innovations from manufacturing to improve patient-flow in a public hospital's emergency and imaging departments. The innovation was adopted partly because clinicians and managers agreed that the information provided by the simulation was credible and the ideas for improvement were generated by the people performing the service. This is consistent with lean thinking's focus on measurement and participative decision-making. [2]

Differences in evaluations made from individual, organisational and group perspectives demonstrate two key points. The first is the importance of assessing the full range of DoI factors likely to impact innovation implementation, and the second involves making plans to address areas

where large gaps exist between the current and ideal states. To enhance the practical value of this study, the findings have been adapted into a checklist (see Table 8). The purpose of the checklist is to prompt clinicians or managers assessing and implementing innovations in health settings to consider a range of factors that can increase or prevent the adoption of innovations, regardless of their origin. Although the checklist will benefit from testing with a range of innovations in health service delivery, it offers a practical tool to identify and address potential barriers to innovation adoption and implementation.

Table 8: Innovation assessment checklist

FACTOR	IDEAL STATE	CURRENT STATE	ACTIONS TO ADDRESS
Individual Factors			
Relative advantage	Clear advantage over current method.		
Compatibility	Compatible with values, norms and needs.		
Complexity	Simple to use.		
Trialability	Permits experimentation.		
Observability	Visible benefits.		
Reinvention	Can be modified.		
Fuzzy boundaries	Can be used in other settings.		
Risk	Low risk and high certainty of outcome.		
Task issues	Relevant to users' work.		
Required knowledge	Knowledge needed to use the innovation is transferable.		
Augmentation/support	Support and training are available as required.		
Group Factors			
Network structure	Social networks support the innovation.		
Homophily	Similar groups are using it.		
Opinion leaders	Expert and peer opinion leaders support the innovation.		
Champions	Key individuals are willing to visibly act as champions.		
Boundary spanners	Key individuals are providing links between the use of the innovation in the organisation and other users.		
Formal dissemination program	Tailored dissemination strategy ready to be executed.		

Table 8: Innovation assessment checklist *continued*

FACTOR	IDEAL STATE	CURRENT STATE	ACTIONS TO ADDRESS
Organisational Factors			
Absorptive capacity for new knowledge	Potentially useful innovations are systematically identified, interpreted and linked with existing organisational knowledge.		
Culture and leadership	Learning culture coupled with proactive leadership.		
Receptive context for change	Willingness to embrace new ideas, clear strategic vision, climate supportive of experimentation. Effective data capture systems.		
Inter-organisational networks and collaboration	Peer organisations have adopted the innovation.		
Structural determinants	Specialised units exist and decision making is decentralised.		
System readiness for innovation	Time and resources exist to support the innovation, staff desire change.		
External change agents	Credible, have strong inter-personal relationships with potential users and are perceived as similar to potential users.		

Strengths and weaknesses of the study

Rogers [13] warns of the weaknesses of DoI studies based on data from a single informant, particularly when the informant is an executive and provides an authorised and uniformly positive organisational view of the innovation adoption process. Data were collected from eleven interviewees, in a range of operational, clinical and managerial positions to capture a variety of views regarding the innovation. Also, the explicit use of individual, group and organisational factors provides a nuanced view of attitudes toward the innovation, allowing an improved understanding of, and appropriate and timely responses to barriers to implementation. Methodological limitations associated with this study include the limited lifespan and generalisability of qualitative research findings, coupled with the small and purposive interview sample. Additionally, the sonography project was conducted during a period of comprehensive and rapid change in the emergency department. It is unclear if simultaneous changes increased or reduced acceptance of innovation at the hospital.

Implications for practice and future research

The findings and checklist presented in this article have three important implications for improving and managing health services. First, they suggest that innovative ways to improve health services be sourced from seemingly unrelated industries. Second, the collection of process and case-mix data to simulate change outcomes can encourage innovation through providing low-risk opportunities to experiment with changes and receive credible predictions of their likely impact. Finally, seeking and addressing organisational, group and individual views of an innovation are likely to assist the process of innovation implementation. As this research shows, it is possible for supportive and resistant responses to exist simultaneously in the same setting. Assessing the value of the checklist in other innovation projects is a priority for future research.

Despite the complexity and exacting characteristics of health service provision, much can be learnt by studying and adapting proven innovations from other settings. Given the current workload, financial and political challenges faced by many health services providers, the ability to identify, adapt and implement useful innovations will become increasingly vital.

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Competing Interests

The authors declare that they have no competing interests.

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RESEARCH ARTICLE

Development of a Primary Healthcare Nursing Program in Small Rural Riverina Communities

L Pilotto, S Heinjus, L Hanlon, J Reid and J Permezel

Abstract

Three primary healthcare nurses were funded by the Commonwealth Government to establish a primary healthcare program for three clusters of small rural communities (four towns in each cluster) of less than 1000 people. The role of the nurses was to include the provision of clinical nursing support to GPs in outreach locations similar to that of a practice nurse; to support community development activities; and to foster the development of collaborative partnerships with other service providers and key stakeholders. Initial success led to continued funding for the program and the inclusion of a cohesive strategic approach to enhance community collaboration and sustainability. This led to the development of a community engagement model involving (1) community assessment; (2) community consultation; and (3) project planning. The model acknowledges that rural nursing is more holistic and people-orientated rather than task orientated, where nurses need to display leadership and be agents of change. It also embraces the notion that the individual's health and wellbeing responds positively to active participation in community activities, and those communities that encourage participation have better health outcomes. A case study is provided, describing the nurse's role in the establishment of a Seniors' group in one community.

Abbreviations: **PHC – Primary Healthcare; PHCNP – Primary Healthcare Nurse Program; RDGP – Riverina Division of General Practice; RHS – Regional Health Service.**

Key words: **primary health care nursing; rural communities; health promotion.**

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Introduction

The Declaration of Alma-Ata, [1] defined Primary Healthcare (PHC) as 'essential healthcare made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination'. Among other things, the Declaration said that PHC 'requires and promotes maximum community and individual self-reliance and participation in the planning, organisation, operation and control of primary healthcare, making fullest use of local, national and other available resources; and to this end develops through appropriate education the ability of communities to participate.' [1, Declaration 7, Number 5, p.2]

This definition emphasises the importance of community engagement in the process of PHC. Indeed Keleher [2] suggested at the same time that the principles of PHC

include equity based on need, access that is affordable for the services needed, sustainability of services and empowerment of people and help with their self-determination.

This paper describes attempts to implement these principles in a small community in the rural Riverina district of New South Wales Australia, through a case study.

Approach to analysing a problem issue

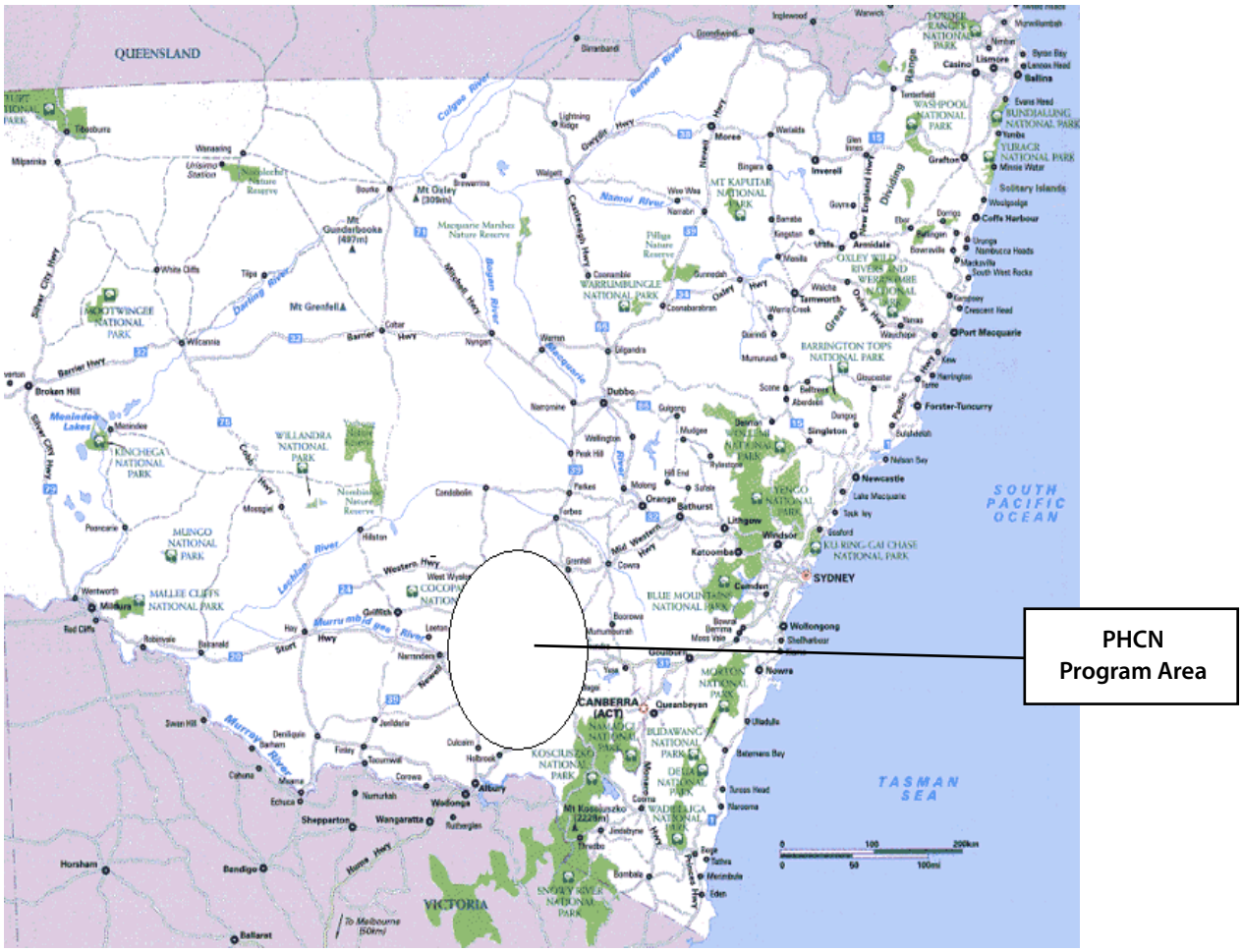
In 2001, the Riverina Division of General Practice and Primary Health (RDGP) undertook a comprehensive needs analysis of PHC services in nine rural communities with populations under 1000. The needs analysis demonstrated that these communities had little or no PHC services delivered locally at that time. It showed outreach GP clinics had reduced in number over the years resulting in decreased local clinics not only for GP services but also for allied health services such as dietetics, occupational therapy, physiotherapy and diabetes educators. The role of the primary healthcare nurses was proposed as being more important than ever before, as they would be the main source for health service provision in these small rural communities. A subsequent submission to the Commonwealth Government to establish a Primary Healthcare Nurse Program (PHCNP) was successful and resulted in funding under its Regional Health Services (RHS) Program [3] for the employment of three PHC Nurses. The nurses commenced work in September 2002. They were experienced registered nurses who had worked in a variety of settings in the tertiary, aged care and primary health sectors. They all possessed extra qualifications in project management, immunisation, health promotion, chronic disease self management and community development. As three additional communities were included by the Commonwealth, each PHCN was to service a cluster of four communities (Figures 1 and 2):

Cluster One – Barmedman, Ungarie, Weethalle, Tallimba

Cluster Two – Stockinbingal, Ganmain, Ardlethan, Ariah Park

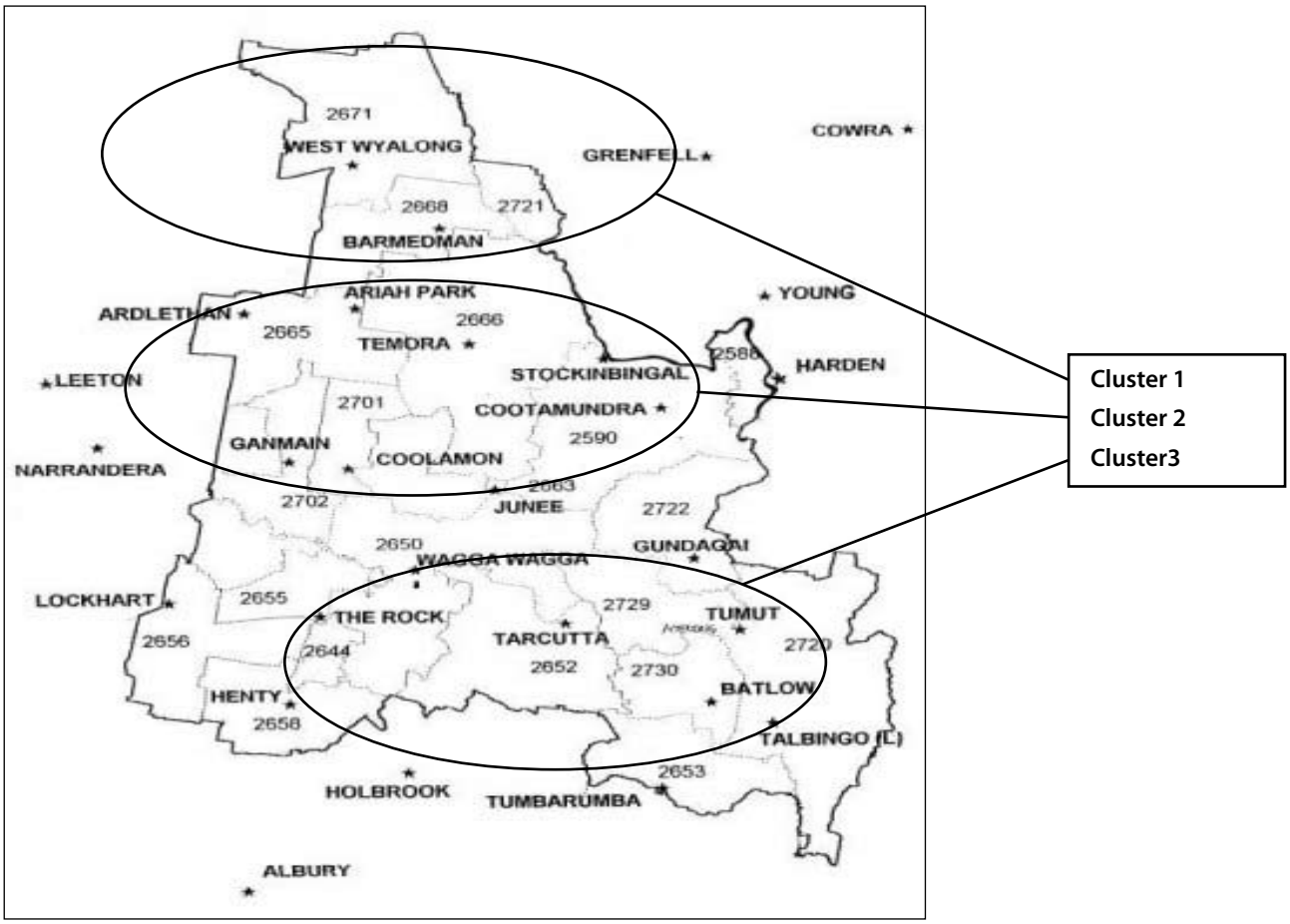
Cluster Three – The Rock, Adelong, Tarcutta, Talbingo

Figure 1: Geographic position of the Primary Healthcare Nursing Program in NSW



Source: www.ozhorizons.com.au/maps/new_south_wales_map.php

Figure 2: Position of the three clusters of towns that comprise the PHCN program



Source: RDGP internal map

The broad objectives of the proposal were to:

- Enhance access to primary healthcare services;
- Establish and maintain mechanisms for effective community participation;
- Adopt integrated approaches to the planning and delivery of health services; and
- Manage services in accordance with a quality improvement framework including organisational and cultural change.

The role of the nurses was to include the provision of clinical nursing support to GPs in outreach locations similar to that of a practice nurse; to support community development activities; and to foster the development of collaborative partnerships with other service providers and key stakeholders. The PHCN service was to complement, but not duplicate existing services. Overall the PHCN positions were aimed at enhancing the quality and delivery of healthcare by providing flexible nursing services with strong links with general practice.

In the earlier years, the PHCNP was able to achieve its goals by arranging and assisting at the outreach GP clinics in each of the three clusters, providing home visits and conducting health assessments. Typical clinical services provided by the nurses at GP outreach clinics included measurement of height, weight, and body mass index, blood pressure, urinalysis and blood sugar levels. Services also included monitoring immunisation status, infection control, pathology and medication coordination and seasonal asthma planning. Women's health services including Pap smear and mammogram status, were also provided together with mental health support, influenza vaccine status, welfare support, and making patient appointments. Home services were also provided, included patient assessment, wound management and medication assistance. The implemention of further support services such as Home Help and Meals on Wheels, and support for carers was also available.

Early success led to extension of Commonwealth funding for the program from 2005 to 2008. This was based on

research and feedback from community consultation that indicated there were many changes in the needs of local communities, and these needs were mainly due to the effects of the ongoing drought on the region as a whole. More emphasis was needed on strengthening community capacity to support and help one another. The communities were displaying increased depression, anxiety and stress. GP shortages in larger centres had resulted in the further loss of local GP clinics. There were waiting lists to see mental health services, whether they were private or public. Families lived on limited budgets which did not always allow extended and/or regular travel out of the local community.

Along with this extension came two major changes. The first was a change in location for service delivery in Cluster 3 to become Talbingo, Brungle, Tarcutta, Rosewood and Humula following increased local services in Adelong and The Rock. All other communities remained the same. The second major change was a shift in program implementation. While continuing to support a medical model of care, there was to be a more cohesive strategic approach to enhance community collaboration and sustainability, along with a more targeted health promotion direction. Overall success in being able to demonstrate the implementation of community engagement activities, along with continuation of drought conditions has led to continued Commonwealth funding through to 2012.

Taking Cluster 3 as an example, one GP clinic per week is held which operates from Brungle Health and Community Centre, where on average 50-60 patients are seen per month. This is well supported by both the Indigenous and non-Indigenous community. While four clients are regularly visited in Talbingo, much of the client contact in the other communities in this cluster is achieved through coordination of health promotion events and drop in visits at the community health centres and schools. The PHCN has recognised office space at the community health centres from where immunisation days are conducted especially in influenza season. Referrals come from GPs, the Murrumbidgee Local Health Network (formerly the Greater Southern Area Health Service) and often other key stakeholders in the communities. Clusters 1 and 2 are run in similar fashion.

Management intervention

In relation to health promotion and development of community activities, the three PHCNs, working closely over many years, have developed a community engagement model for the outreach communities involving a number of facets. The model acknowledges that rural nursing is more holistic and people-orientated rather than task orientated, where nurses need to display leadership and be agents of change. [4] It also embraces the notion that the individual's health and wellbeing responds positively to active participation in community activities, and those communities that encourage participation have better health outcomes. [5] Other evidence also supports the benefit of community engagement. Booker et al, described a health promotion program in rural America in which trained lay people participated in the delivery. They reported that not only did the program achieve positive outcomes for those served by the program but also for the lay people involved in its delivery. [6] Jewkes and Murcott explored the concept of community from the perspectives of those who are members of a community and non-members who were involved in working in that community in health promotion. They reported that members emphasised a sense of sharing and belonging while non-members' constructions of community were made in terms of location, race/ethnicity, gender or other attribute/status and included assumptions about sharing that were often unfounded. Embracing these perspectives, the model and the impact of its implementation are now described.

Community assessment occurs first. This includes knowledge of:

- the physical condition of buildings such as churches, Country Women's Association halls, schools, shops, and tennis club;
- who services the community locally and how many days of services are provided, eg, pastoral care and Police;
- which out of town services such as Department of Primary Industries, Centrelink, and GP clinics visit the town and how often; and
- what churches and local groups exist in the community, such as Rotary, Lions, and sporting groups.

Community consultation occurs next. Groups, workers and service providers identified above are then approached in order to find out their needs and expectations in relation to the community and the town. The PHCNs develop an initial network by attending meetings, explaining their role and exploring how they might help the community to meet its needs and expectation especially in relation to primary healthcare. The PHCNs hold focus groups with service providers and/or other local groups, and network with the Shire Councils in relation to the service delivery plan for the town. This process paves the way for the PHCN to have holistic involvement with community residents and

service providers to provide health and wellbeing for all the community through trust and the establishment of long term relationships with key community stakeholders.

Project planning follows. Based on the input received, the PHCNs develop a plan to fill the gaps and improve the services and information to the community. This involves the establishment of support groups and the running of requested educational sessions and events. Importantly, the PHCNs do not try to take over the ideas or projects proposed by community members who need to maintain ownership. This is in order to promote the sustainability of these activities by residents, town, groups and services. The PHCNs attempt at all times to be part of the community and the ongoing services, and continually network and consult to facilitate changes over time.

Activities include not only a health and wellbeing focus but also incorporate art, craft and social activities. Examples include attending craft days and Country Women's Association meetings, and organising bus trips, Christmas gatherings, dance groups, trivia nights, motivational speakers, art/craft/music weekends, and lifestyle expos as social-wellbeing events. The networking skills of the PHCNs have greatly improved and take into account not only those organisations and professionals within the health field but others across all organisations and professions that supply services to the townships and address the array of social determinants of health. It is through the act of building relationships with these organisations that the PHCNs are part of a community-based development approach to identifying together the community strengths, needs and wants that provides a more successful and sustainable way to support these communities through ongoing hardship.

Impact of the model

The impact of the community engagement model of the PHCN program that addresses the social determinants of health is significant. By running annual focus groups in each community, members were able to identify the services they had and the significant gaps that existed. These data were collated and used to plan and promote health promotion activities. The community then had ownership of the various programs as they had been consulted with and community leaders were identified and utilised to drive programs in their communities. This engagement model has helped revitalise flagging communities struggling with the impact of the protracted demoralising drought and encouraged people to gather together to communicate and support each other.

On reflection, having a nurse visiting regularly in these regional remote communities over a prolonged period of time has earned respect for the program and established the PHCN as a leader and agent of change. Community members contact the PHCNs with concerns and identify community needs on a regular basis with the knowledge that the PHCNs have established networks to help plan and promote activities to address the identified needs. As one PHCN said, 'In a lot of instances I saw our work implement positive energy and opportunities for people, giving them something to look forward to, and if our program hadn't been in the community, it is likely these people mightn't have had the opportunity to take part in such activities'.

All PHCNs identified and attended training over their employment to support their leadership roles in areas such as counselling, community sustainability and mental health. This has allowed them to grow and develop their leadership position in the communities they service.

With the PHCN role has come significant responsibility and both professional and personal satisfaction. The program has always received positive feed back when evaluated as community members appreciate a service that's core objective is to deliver quality, relevant health promotion/ prevention activities.

A case study

Account by Cluster 1 Primary Healthcare Nurse (Sarah Heinjus)

Weethalle Seniors' Group

The new PHCN entering the Weethalle community for the first time in 2003, looked to see what the community had to offer. Weethalle had a population of approximately 250 – 280 residents and was situated in a remote area within the Bland Shire. The community consisted of basic services, eg, a roadhouse, service station/mechanic, Post Office, country club, rural produce store, a primary school, hotel, craft shop, a visiting fortnightly GP service and a Police Station. The streets were basically quiet but the local Post Office did attract a lot of residents, much like a community hub. They would congregate and chat to each other catching up on the local news. This seemed to be the most obvious place to start community consultation and networking.

The PCHN made herself known to the local Post Mistress, a key community stakeholder, who was a local with detailed knowledge of Weethalle and its residents. She was asked if she could think of 'anything that the community might like to achieve or establish'. She said there wasn't anything for

older residents: many of them would come and visit her at the Post Office for a chat as they were lonely. There were no set activities within the community specifically for seniors.

The Manager of the Weethalle Country Club was also consulted, who was a member of the Country Women's Association, a long standing member of the community and had a good understanding of where the PHCNP could support its residents. She confirmed that there was no group in town where the older residents could meet. After further discussion, consultation and networking with fellow senior residents, it was decided to put out to the community an expression of interest about the formation of a Weethalle Seniors' Group.

After a very positive response, a community meeting was held in October, 2003 to discuss and determine a venue, the most acceptable frequency of meetings, possible local coordination of the group once established and the aims of the group. Any other interested residents who hadn't already indicated an interest would also be most welcome to attend.

The Weethalle Seniors' Group was subsequently established, has met regularly over many years and continues to meet on the second Tuesday of each month at the Weethalle Golf Club for an activity, event, or guest speaker. The group currently has in excess of 25 members, has maintained its momentum and remains very enthusiastic. The aims of the group as it exists now are to:

- provide opportunities for social interaction outside the home;
- foster a sense of belonging through being connected to a group and the wider community;
- respect each member as an individual with their values, beliefs, skills, talents, preferences, aspirations, desires, needs and unique histories;
- provide a supportive and safe environment;
- promote and support stimulating activities that will enhance health and wellbeing;
- ensure that each member is given the opportunity to participate fully; and
- help members support and help themselves as well as each other.

The associated objectives are to:

- minimise social isolation;
- promote self worth;
- encourage a sense of community;
- value the history of the residents and their contribution to the community;
- widen the social perspective of group members and the wider community; and
- encourage interaction.

The group also goes on day trips and has an annual trip away for a couple of days. It has a huge Christmas party each year which all members attend. A monthly news article about the group is written into the *Weethalle Whisper*. The PHCN now attends occasional meetings and assists the group with securing specific guest speakers and organising grant funding for events and activities

Conclusion

The activities of the program prior to the extension into community engagement were focused on the initial objectives using various avenues for implementation and success. The extension in community engagement has also clearly contributed to community participation and collaboration with a community sense of achievement and well-being.

Competing Interests

The authors declare that they have no competing interests.

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RESEARCH ARTICLE

Transitional Opportunities, Risks and Forecasts: a brief overview of the road ahead in public dental services

E Kruger and M Tennant

Abstract

Without doubt the recent past has seen a massive change in systems and approaches to healthcare. Dental care in Australia and across the world has followed this wider trend with a significant change over the last three decades. Australians are going to age rapidly whilst keeping their teeth longer, and importantly, expectations of care will be high. Public dental services will face significant challenges over the next decade as community expectations drive political pressure to adapt to the new demographic profile rapidly. This, coupled with very significant changes in workforce expectations, is going to be a real challenge to sustain and continue to improve oral health in the public sector. Services are going to have to find smarter, tailored, adaptive ways to continue to have an active vibrant workforce to meet demand. In this overview the authors will bring together some of the contemporary information and provide some forecasts for the next couple of decades, to provide readers with a view of future trends and influences on public dental health care in Australia.

Abbreviations: **DMFT – Decayed Missing Filled Teeth.**

Key words: **public dental services; Australia 2020; transitional change.**

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Introduction

Over recent decades public dental care in Australia has gone through significant shifts in focus and operational structures. Australia is now in the midst of a significant aged shift in demographics: moving from a relatively young post-war population through a rapidly aging period to 2020, where we will have an age mix skewed to the elderly. It is estimated that in 2020 about 18% of the population will be over the age of 65 years, and then through to 2050 where 25% will be over 65 years. [1] The 65 year olds of 2050 were born in 1995 and currently are in their mid-teens. (Noting that nearly two out of three are caries-free, and they have an average Decayed, Missing, Filled Teeth [DMFT] of approximately one.) Overlaying this is a parallel widening of the cultural diversity of Australia. At the same time we have seen the development of technologies and data analysis systems unheard of in human history. The application of a wide range of advancements to healthcare has resulted in the prediction that these mid-teens will be the longest living people in the history of human existence. [2]

Without doubt the recent past has seen a massive change in systems and approaches to healthcare. Dental care in Australia and across the world has followed this broader trend with a significant change over the last three decades. In this overview, the authors will bring together some recent information and provide some forecasts for the next couple of decades, to provide readers with a view of future trends and influences on public dental healthcare in Australia.

Demographic transition

The baby boomers are retiring, and it is predicted by demographers that the next decade will see a rapid shift in the Australian population mix. [1] We will move from what has been a relatively young population, to a population more weighted towards retirees and the elderly. [3] Already, some of this effect has been seen with the development of a stronger government focus on aged care and support for the elderly (including the strong focus over the last decade on retirement incomes through superannuation). [3] These foci have not been coincidental - demographers have known and predicted the baby boomer effect for more than 25 years and governments have been preparing Australian society for this. A small increase in births since the mid 1990s is not expected to impact greatly, compared to the size of the baby boomer retirement effect.

In dental healthcare the impact of these changes in the population is going to be two-fold. Firstly, the types of dental care required are going to shift substantially. To date, Australian public dental health services have had a strong focus on children. [4] In some jurisdictions there are strong and vibrant school dental services that have clearly made a contribution (albeit not as significant as the contribution of fluoride) to the improved oral health of Australians. [5] Demographic predictions for the next decade however will see a shift of disease burden to the elderly population. This will result in governments having to translate these pressures into modified service systems to follow the disease burden. It will not be unexpected to see a redistribution of resources from child dental health to aged dental health.

The second and equally significant implication of demographic change is going to be workforce. Like all population groups, the dental workforce itself is an aging population, and these changes will without doubt change the work environment and drivers of work in public dentistry. [6] There are many risks and opportunities associated with this change, and each will need to be carefully examined. Public dental health leaders will have to adapt service models to meet this change in workforce expectations. The days of highly regimented, prescriptive workforce models will have to disappear to accommodate a more mature workforce, as well as the sociological differences articulated by Generation Y as they start to become a more significant part of the workforce. [7]

Fluoride

It is well established that the greatest contribution to the improvement of oral health across the world (and in particular in developed countries) has been population exposure to fluoride. [8-10] It is now recognised that this benefit is more an outcome of topical and not systemic exposure. [11-13] Water fluoridation, although clearly valuable as a public health measure to improve oral health, is not the only important source of fluoride. The benefits of exposure to fluoridated toothpaste are now well recognised and to a very minor extent other sources of fluoride. [11-13] However, even the most rudimentary examination of the data pertaining to declining caries prevalence in children over the last 50 years finds the benefits of fluoride exposure have, in recent years, plateaued. [14-15] This has led to a much more complex population dental health problem. Historically we were able to assume that dental decay in children was normally distributed – in practical terms entering any school you would find children with extensive decay as well as children with little decay in about the same proportions. Changes in the distribution of caries in developed nations over the last 20-30 years include an increasingly skewed distribution, with most disease now in a small number of children. [14-15] This means that the majority is caries-free whilst a minority becomes highly burdened with the disease. We now are looking for needles in haystacks. For example, it is estimated that about 60-70% of all 12 year olds in Australia have no decay, and it's the small minority that have all the remaining decay. As a result, measures such as mean DMFT are no longer relevant (and in fact are not a statistically sound approach) in depicting population level caries burdens. [15] We are going to have to look to more tailored measures to inform governments in decision-making about the future direction of oral health needs. During the 1990s a very slight increase in average decay rates was noted in children, however this was at levels of one order of magnitude less than changes since the 1970s. [16] Arguably, the increase may well be at a level below the error in measurement at this stage as well as being influenced by data collection changes over the same period.

As in all population disease burden discussions, we will need to consider the controversial question of 'when is zero decay achieved for a population?' Often in health we do not like to consider this question but even in the most highly 'zero-focused' industries such as airlines, it is acknowledged that 'zero' is actually not expected to be 'absolute zero', as that is never going to be achievable. The Australian community will need to have the debate of when is 'zero' achieved and what are we going to measure as 'zero'? For example, you could argue that a national average DMFT of 0.5 at 12 years of age should be classified as zero, others may argue that average DMFT is not the measure and maybe a Significant Caries Index (SIC_{25})of DMFT should be classified as 'zero', or

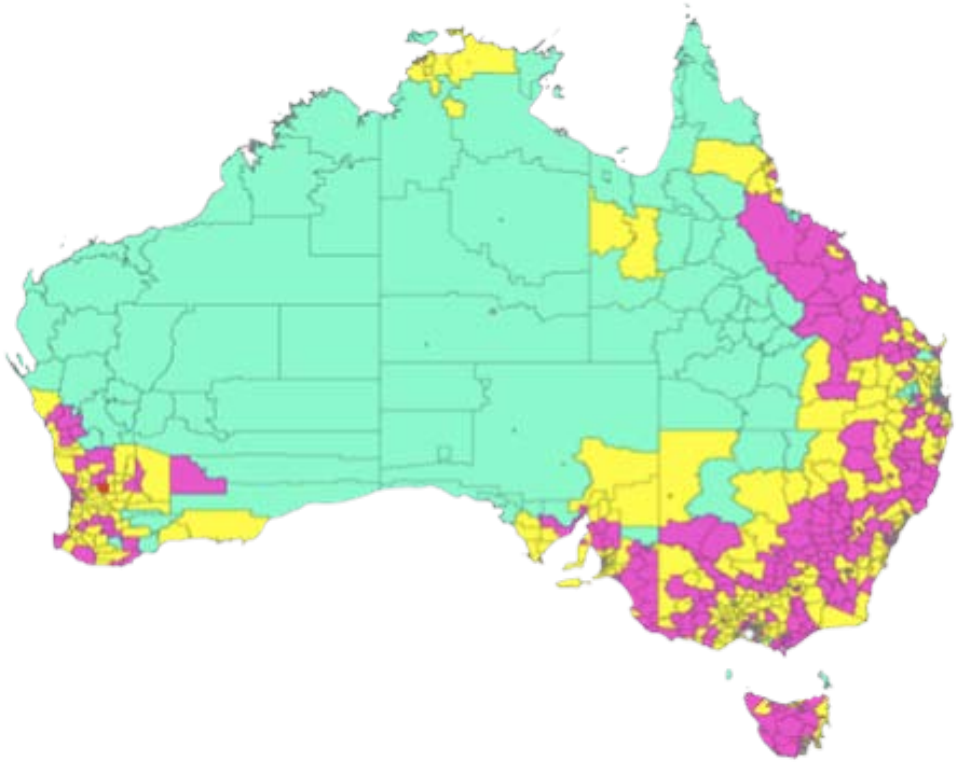
others may say when 85% of all 12 year olds are DMFT = 0 is the benchmark. All these options are reasonable measures of 'zero'. The consequence of this discussion will be a shift of government resources. If there were unlimited resources, then a target of 'absolute zero' may be achievable; but this is not a realistic goal under any economic situation where there are limited resources.

We cannot rely on the positive effect of fluoride to drive further improvement in oral health at the same rate as it has until now. The effects appear to have (on a population level) plateaued, and now move up and down off a very low base (probably within the noise of measurement as evidenced by the confidence intervals on some of these measures). [17] Public health services are going to have to look carefully at their services (in particular their child dental health services) and determine if the historical models will continue to be the most effective. More importantly, like many areas of health, the development of predictive models of risk is going to play a far more valuable role in dental health surveillance over the next decade. In dentistry we are fortunate, because the primary disease (dental decay) is highly associated with socio-economics, so even today we have a great first line predictor tool for finding the greatest at risk children in our society. [18-22] An example of the use of predictive modelling is depicted in Figure 1, and other examples of this have been published previously. [23] Using health statistics focused on the burden of jaw fractures for Western Australia, these maps show the predicted burden for the rest of Australia by medium resolution geographic regions. These sorts of socio-economic, geographic modelling will become far more important as we have to focus services where disease burden lies (or is predicted to lie).

Workforce numbers

Governments have remained passive as they have witnessed the changing demographics of the dental workforce (leading to a reduced workforce), coupled with demand (per capita) for services rising. [24] The development of innovative models of dental education and the rapid expansion of dental education providers over the previous decade has given Australia a significant cushion to the workforce crisis that is hitting health although it is still predicted that there will be a shortage of supply in 2020. [6] However, the models of demand and supply are always surrounded by many assumptions, some of which can move by a fraction to change the outcome significantly. This is not limited to dentistry as workforce prediction in healthcare is always difficult. For example, for many years it was argued that the feminisation of the workforce would lead to a reduction

Figure 1: Rate (per 100,000) of hospitalisation for impacted teeth by Statistical Local Area in Australia. Rates have been mathematically modelled from the known data of Western Australia. Pink are the highest rates, yellow the second highest and blue are where population level data is too low to determine a rate.



in total care provided. [25] However, little consideration has been given to the fact that generational change and expectations of work-life balance from newer generations (male as well as female) would also have significant effects on total supply services. The margin of error (and in particular underestimation) is significant and a grave risk to the future health of the Australian population if we use workforce predictions so tightly that we undershoot. All reasonable community decisions that affect the health of future generations must have a reasonable margin of overshoot to protect the Australian community.

Most reasonable people would agree that a heavy reliance on overseas trained practitioners is unacceptable on the basis of international workforce needs. Developed countries should be leaders in developing healthcare for the wider international community and should be providing leadership in improving the world's health. Most would agree that withdrawing dental services from regions of the world where dentist to population ratios are measured in millions-to-one ratios to advanced communities where the ratios are in ranges like 1000-to-one or 2000-to-one is an unacceptable international standard to set.

Workforce distribution – skill mix

The predicted change in demographics (both of patients and their care needs as well as the existing workforce) over the next decade would be expected to drive community expectation for changes, in the duty distribution between members of the current workforce (eg, therapists, hygienists and dentists). This was the case in the late 1960s when massive childhood oral health needs were addressed through the development of school dental services and the training of dental therapists. Like many other areas of health, it could be expected that there will be an increase in the diversity of workforce participants and the growth of a far more refined team approach to care provision. [26] Even with the total predicted output of dental professionals from new and old schools in Australia, it is still estimated that in 2020 we will remain approximately 300-500 practitioners short. [24] Communities and thus governments will not tolerate this shortage of access. Even more obvious is the very significant maldistribution of service access across Australia. [27-28] Already people in rural and remote Australia (often those who are predicted to have greater burdens of disease) are less able to access care and already the government is acting on behalf of its community. To turn this problem around will require significant redistribution that will not happen in the short term, and in the medium term it would not be unreasonable to assume that the problem is going to get worse before it gets better. Dentistry, like the rest of the health system, will have to adapt to a wider participation in service delivery than it currently does, and embrace the dynamic nature of workforce participation. Public dental health services through the pressures from their masters (governments and communities) will have to make innovative radical decisions on workforce. If the profession remains strongly tied to longstanding duty separation, it would not be unreasonable to predict that increasing community pressure in the medium term will force governments to make step-changes that are driven from people outside dentistry.

Development of new sub-disciplines

The next decade will clearly witness the development of new dental disciplines. The demographics are racing headlong to a significantly increased dentate elderly population, many taking a multitude of drugs and many also having complex pre-existing conditions needing ongoing maintenance and treatment. [29,30] We are going to see the rapid evolution of new personnel and new disciplines to manage these people's health needs. Expansions in the discipline of oral medicine and geriatric dentistry are clearly obvious changes that the next decade will bring. More subtly it would not be a surprise to see the growth in new sub-disciplines such as dementia oral healthcare, nursing home dentistry and palliative oral care. Within aged care we are already witnessing increasing community dissatisfaction with services, and these pressures will need to be addressed soon, as we are only in the early stages of the aging baby boomers. Japan, already further advanced in its aging population will, in the next couple of years, have more than one million citizens over the age of 100 years! Although the absolute numbers will be different in Australia, the same sorts of principles will come upon dentistry fast. Importantly, we should remember that the lag time in developing a discipline is significant. For example, from the first discussions of a new dental school to the first graduates can be seven to eight years. The need to consider and promote these sorts of changes early is essential if we are not to face significant community dissatisfaction from the lag time in discipline development.

Public health data system integration and modelling

Already we have started to see the advent of large-scale data systems for improving efficiency in the delivery of dental care in Australia. Without doubt these systems will continue to grow in reach as well as acuity. Most state dental health systems have moved to fully, or near full electronic

patient records linked across their jurisdiction. These not only provide the clinicians with an outstanding ability to provide high quality care based on a single clear unified clinical record, but also provide the wider systems with a robust data warehouse to examine their service profiles and to find and address these gaps in real-time or near real-time. Historically, Australia has had to wait for national surveys to provide comparator data. Today, and certainly even more so in the future, the sorts of data and trends only available once every five years (or more) through sampled survey approaches, will be available daily, hourly or even minute-by-minute for very significant proportions of the population. Clearly, this will require clinician adaptation to regularise data collection techniques but the near real-time and massive sample sizes would be expected to outweigh the risks. More importantly, the next decade will see these data warehouses being mined in new and innovative ways to find more accurate predictive tools that will focus health services to those groups most in need of it. In the next decade, it will not be surprising to be able to drive down individual streets in Australia with a laptop computer telling you the rates of dental disease predicted for the block of a road you are passing through; experimental systems are already testing these sorts of tools. In addition, these tools will assist in the equitable distribution of service resources, based on need, rather than first-in-first-served.

Conclusion

Australia will face a rapid change in oral health supply and demand over the next decade. If the changes of the last 20 years have occurred quickly then it's going to be even faster for the next decade and probably beyond. The proportion of older Australians is going to increase rapidly, with a far greater percentage of the population keeping more of their teeth longer, and importantly, expectations of care will be high. Public dental services are going to face significant challenges over the next decade as community expectations drive political pressure to rapidly adapt to the new demographic profile. This, coupled with very significant changes in workforce expectation, will create a real challenge in sustaining and continuing to improve oral health in the pubic sector. Services are going to have to find smarter, tailored, adaptive ways to continue to have an active vibrant workforce to meet demand. The advent of population-based models of care and high resolution modelling is going to rely on high fidelity large-scale data collection in near real time. These datasets will allow high acuity, predictive models to be developed, tested and implemented allowing government services to tailor their services to the moving population demands for care. Resting on the historical, world-leading, public health outcomes achieved by community exposure to fluoride will not make as significant a contribution in the next decade. More subtle approaches to improving public dental health will need to be nurtured if we are going to continue to see the Australian community benefit from improved oral health.

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Competing Interests

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Transition from Hospital to Home – Development of a Settling Service for the Emergency Department and the Acute Assessment Unit

S Jordan and K Snelgrove

Abstract

Aim: **The availability of government funding to improve the care pathway for older people provided the opportunity to identify and address a current service need that would facilitate discharge and prevent avoidable admissions.**

Approach: **A qualitative approach was used to identify gaps in services and barriers to quick and effective discharge with a project management model for service development, implementation and evaluation.**

Context: **The service was developed by the Social Work Department, Sir Charles Gairdner Hospital (SCGH), specifically for patients discharged from the Emergency Department and the Acute Assessment Unit.**

Main Findings: **The need was identified for a service aimed at early efficient discharge of the elderly with immediate transport and the provision of care. The 'Settling Service' was developed and implemented in close consultation with health professionals working in the Emergency Department, the Acute Assessment Unit and with other internal stakeholders. Positive feedback was received from patients, staff and internal stakeholders.**

Conclusion: **The settling service was found to be to be cost-effective and to facilitate earlier discharges, thereby easing pressure on beds and reducing bed day costs. The settling service has continued on.**

Abbreviations: **AAU – Acute Assessment Unit; CCT – Care Coordination Team; ECIP – Employed Carers Innovative Pilot; ED – Emergency Department; HITH – Hospitals in the Home; LOS – Length of Stay; NRCP – National Respite for Carers Program; SCGH – Sir Charles Gairdner Hospital.**

Key words: **acute assessment unit; discharge planning; emergency department; hospital; settling service; social work; transition.**

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Introduction

In response to well documented difficulties in managing the increasing demand on hospital services and Emergency Departments (ED), WA Health allocated funding received by the Council of Australian Government's national program – Long Stay Older Patient's Initiative, to Western Australian tertiary hospitals. The funding was aimed at reducing avoidable admissions and facilitating earlier discharges, thereby potentially reducing demand and providing hospital and ED services with the potential capacity to manage presenting problems. In order to use funding in a cost-effective and targeted fashion, the staff within the Social Work Department at Sir Charles Gairdner Hospital (SCGH) used a qualitative approach to identify gaps and service barriers and to identify a current service need that could be addressed to facilitate discharge and prevent avoidable admissions. The Social Work Department subsequently developed the 'Settling Service' and commenced its operation in November 2007.

As outlined, the literature confirms an increased demand on EDs and hospital services by older adults. It also confirms that older adults are at risk of adverse outcomes and require appropriate transitional care from hospital to home.

Hendriksen and Harrison, cited in Dunnion and Kelly [1 p.103] state that EDs: 'are faced with an unpredictable and rapid throughput of patients'. The Australian and New Zealand Society for Geriatric Medicine Position Statement No. 14, [2 p.154] indicates that older adults are higher users of EDs than any other group and that the general ageing of the population is increasing ED demand. Calver, et al state that: 'ageing of the population is associated with an increase in the proportion of high-cost users of in-patient care' and older high cost users 'accounted for more than half of the high cost users'. [3 p.396]

The use of healthcare resources by the elderly is evidenced by higher length of stay (LOS) and higher rates of hospital admission and readmission. [4-5] Most older people who are treated in the ED are discharged home [6 p.978] and are at risk of adverse outcomes. [6 p.984]

A visit to an ED can be a stressful experience for older people with 'fears regarding hospitalisation, diagnosis and after care needs'. [1 p.103] This stressful experience can be compounded by the 'use of hard hospital trolleys and bed rail restraints, lack of pillows, high noise levels and long periods of separation from carers and family' [2 p.156] and with 'busy and often noisy environments'. [1 p.103]

According to Hastings et al: 'favorable outcomes depend not only on the care received in the ED, but also on the successful transition of care from the ED to the patient's home'. [6 p.978] This requires quality transitional care involving 'the coordination of necessary resources, education of the patient and family and communication among health professionals'. [6 p.979]

There are many transitional care models of discharge planning and follow-up programs for older patients attending an ED, [4,5,7] each with benefits for patients, carers and hospitals. [4-7]

Approach

In order to develop a suitable transitional care model specifically designed to address the target population, initial gap analysis at an organisational level was required. Qualitative data were collected through semi structured interviews with Allied Health and other staff members working in ED and the Acute Assessment Unit (AAU) to identify gaps in services and barriers to quick and effective discharge from the perspective of health professionals working in the area. (The AAU is a short-stay assessment unit with the majority of patients having a LOS between 24 and 48 hours.)

The results of these interviews illustrated that the availability and suitability of current well established Hospital in the Home (HITH), post acute Nursing and Allied Health, short-term home care services and longer term mainstream community services met the required needs for a significant number of patients being discharged. The consultation did identify, however, problems with transport and immediate service availability.

This client group has 'a high prevalence of physical and cognitive disability and often complex social circumstances'. [2 p.154] Anecdotally older patients also frequently had carers who were themselves frail, or they had no family, friends or service providers who could provide immediate assistance on discharge. This meant that some patients needed to stay in hospital longer than what was avoidable. Anecdotally some patients in this predicament felt emotionally burdened as they were occupying a bed needed by the hospital for other patients.

Transport issues were predominantly in the context of delays in family or friend availability. In cases where a patient currently received a community service, discharge transport was either not an eligible service provision or a referral was required for several days prior to the event. Taxi transport was also not always suitable for this client group, as patients could require assistance into and out of cars.

Management intervention

Based on identified need, it was proposed to develop a settling service; a program aimed at early, efficient discharge of the elderly with immediate transport and the provision of care. The service would be based on a brokerage model facilitated through the Social Work Department. [8 p.2] Preventing emergency admissions and readmissions is a prime benefit of Social Work in ED, because Social Workers, based on evidence from ED studies, can identify social circumstances or needs; provide information about and access to services; use effective communication skills; give time to patients and carers; and improve patient satisfaction. [8 pp.2-5]

Liaison was undertaken with external stakeholders in order to establish a service provider and promote a relationship for program development. All private and public service providers were consulted in regards to a service type – of particular interest was insurance and resources to transport a patient in the service provider's own vehicle; service availability; cost of service provision; and qualifications of staff members to provide additional care and to meet occupational safety and health requirements. Information

gained from service providers in the consultation phase was analysed, compared and contrasted in relation to the proposed service initiative.

The service provider selected demonstrated strengths in all areas with the major benefit seen to be the current provision of transport and care services under the Employed Carers Innovative Pilot (ECIP), funded by the Department of Health and Ageing under the umbrella of the National Respite for Carers Program (NRCP). The selected service provider could provide qualified, aged care support staff, suitable transport vehicles and had in the previous months commenced researching alternative program developments to increase sources of referrals and funding.

It was arranged for the settling service to be provided under a private cost basis. Fees for in-hours and after-hours services and referral processes were negotiated. There was discussion with Physiotherapy and Occupational Therapy Departments regarding the set up of equipment and assistance with transfer to and from a vehicle, in order to meet occupational safety and health requirements. Pick-up points for cars were arranged. The development of the service involved liaison with relevant Heads of Department and the Patient Flow Co-ordinator and promotion of the service to staff. Management of the service also involved reporting against Key Performance Indicators established by the funding body, ongoing review of criteria and processes and maintaining a good working relationship with the service provider.

The settling service involved a support worker supplied by the service provider, who would transport the patient home from hospital and provide additional low-level services on that visit and subsequent visits if required. A referral also provided the opportunity for the service provider to offer ECIP services if the client was eligible and willing. Short-term, low level services included the following:

- Collection of any equipment prior to discharge;
- Collection of medications at a community pharmacy (rather than waiting in ED for medication to be provided by the hospital);
- Minimal equipment set-up;
- Light shopping and/or meal preparation;
- Assistance to bed and/or personal care; and
- Light housework.

The settling service could also provide:

- Personal care the following morning; and/or
- Transport for outpatient appointments.

Where the patient required post acute nursing, allied health, further personal care or domestic assistance, referrals were made to the relevant program/service by members of the healthcare team to ensure seamless care on discharge.

Eligibility for the settling service was broad-based, with no restrictions in regard to diagnosis, compensable status or meeting Home and Community Care (HACC) criteria. The settling service met the WA Department of Heath criteria for packages of care. In addition, patients were required to be:

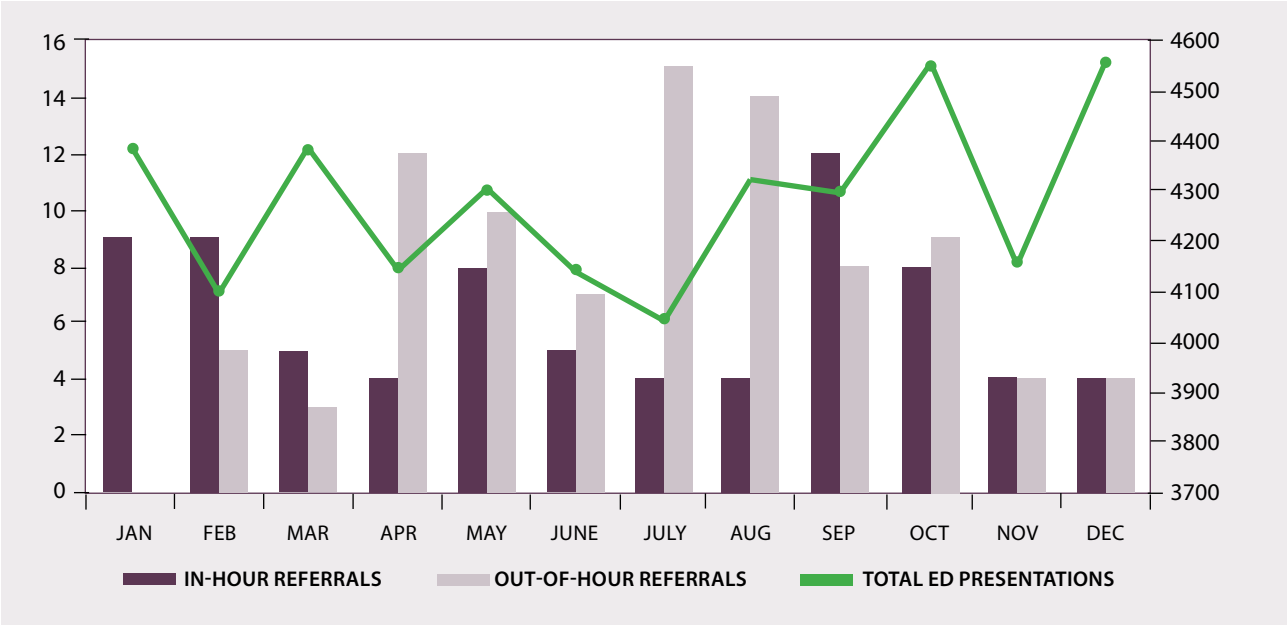
- Assessed as ready for discharge by both the medical team and relevant allied health team members;
- Able to transfer in and out of a car and mobilise either independently or with minimal assistance;
- From ED or the AAU; and
- From the community (not residential care – as that group of patients were transported by ambulance or patient transport).

The in-hours settling service commenced in November 2007, covering Monday to Friday, 08:00-17:00hrs. This was expanded to include an after-hours service in mid-February 2008, covering weekends, public holidays and up to 21:00hrs daily. The age criteria were 65+ and Aboriginal and/or Torres Strait Islander 45+. However in November 2008, the age criteria were temporarily limited to 75+ due to budgetary issues.

The service was principally arranged by Social Workers, with other ED Care Coordination Team (CCT) members providing the service in ED from 18:00-21:00hrs, which was out of social work operational hours. Individual staff made referrals directly to the service provider. Patients were collected from the transit ward, from a ward area or a waiting area with supervision until the support worker arrived. The referring Social Worker (or CCT member) was a contact point for any immediate queries on discharge from ED; alternatively contact could be made with an appointed part-time coordinator, whose role involved following up any client needs identified by the support workers or any issues from the staff or service provider regarding the smooth operation of the settling service. The role also involved entering referrals on a database, reviewing invoices and following-up any issues with invoices.

A review of literature regarding similar or like settling service programs identified similar 'settling in' services. [9-10] Examples included the use of local volunteers to accompany patients home from hospital and provide practical help around the house, such as preparing light meals and

Table 1: Service utilisation against total ED presentation by calendar year



Source: EDIS and manual collection 2006

washing up, buying groceries and dealing with bills. Limited information was obtainable in respect to service provision and how these services linked with other longer term or more intensive services for patients with more complex care needs. It was evident that the programs varied and only one was located that specifically indicated that transport home on discharge was provided. Another similar service specifically excluded transport home on discharge. It was not clear if all services were volunteer-based and how many of them accepted patients from EDs. One service was for a period of 72 hours following discharge, whereas others were for two hours twice a week for up to six weeks.

Discussion of outcomes

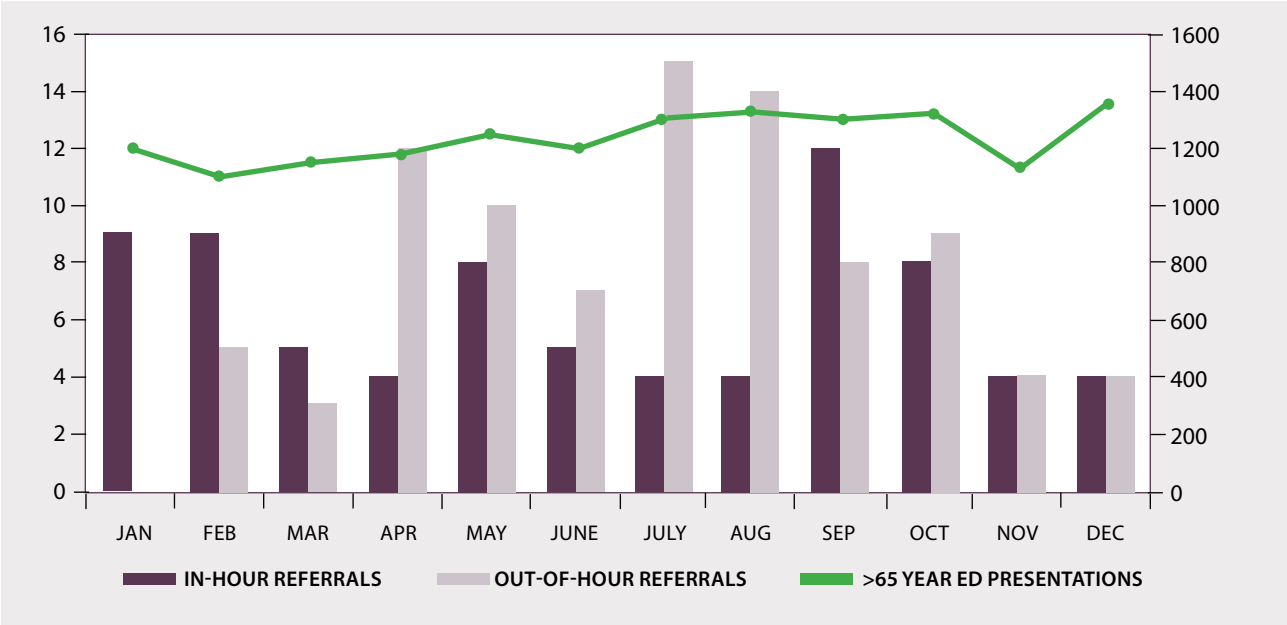
The settling service implementation was evaluated in 2008. Quantitative data illustrated 86% of packages were provided to ED patients and 14% to AAU patients. Greater usage of packages by the ED was not unexpected given that presentations to ED are generally unplanned and patients discharged from ED have had less time to cope with the illness or injury than patients being discharged from AAU. Total package numbers against total ED presentations are presented Table 1.

Numbers of settling service packages, both in-hours, and after-hours varied over the course of 2008 with peak periods around July to September. Although the average number of patients using the service was low, this was not a concern because the service was intended to target vulnerable frail elderly who did not have formal or informal supports to ensure a safe discharge.

Settling service packages when compared to ED presentations of patients over the age of 65 years as is illustrated in Table 2, indicate that when ED presentations of this group were relatively high, after hours settling service utilisation was also high. The average number of packages overall was 13.9 per month: 6.3 per month in the in-hours component of the service and 7.6 per month in the after hours component of the service. The after-hours component of the service includes weekdays 16:30-21:00 and all day on weekends and public holidays.

Evaluation of the service was conducted using qualitative inquiry conducted through a telephone survey with 12 patients who had utilised the service, a written survey completed by nine allied health clinicians and informal feedback from internal stakeholders.

Table 2: Service utilisations against total presentations greater than 65 years old



Source: EDIS and manual collection 2008

The data obtained (formal and informal) in evaluating the implementation of the settling service indicated a high level of satisfaction with the service. Feedback from patients regarding the after-hours service indicated that they were happy to use the service again if needed and were satisfied or very satisfied with the time of day that they were taken home. Staff found the service provider's timeliness of response good or excellent and indicated that if the service had not been available, patients would have had to stay overnight. The setting service was considered to fill a service gap where other transport and support options were not available or appropriate. It was viewed as a unique service that allowed for an earlier, safer discharge for elderly patients, some of whom had no other supports (formal or informal) available to them. The service received strong support from internal stakeholders.

The average cost per settling package in 2008 was $A170.00, with additional costs attributed to hospital staff time required to assess and refer the patient, coordinate the service and arrange payment of invoices. These costs are minimal considering that if the settling service had not been available, the cost of the person staying in hospital [11] for a longer period, or overnight would have been considerably greater, and would have delayed other admissions due to bed availability. If the settling service had not been available and the person had been sent home by taxi with no support, then it is likely there could have been other impacts on the person, such as stress and possible re-presentation to hospital if the discharge had failed. It was therefore deemed that the benefits outweighed the costs of the service.

Conclusions

Qualitative data identified a service need that could be addressed to facilitate discharge and prevent avoidable admissions. The settling service was developed in response to this identified need. It provided a part of a transitional care model to address transport and short-term low care needs for older patients presenting to ED or admitted to the AAU. Evaluation of the service demonstrated that it facilitated an earlier discharge than what was possible prior to implementation of the service. The service has therefore provided benefits in easing the pressure on beds in the acute hospital and in reducing bed day costs.

Social Work was well placed to develop this program, given its expertise in psychosocial assessment and intervention with older patients and their carers, knowledge of community support services and competence in program management.

Information regarding the settling service has been shared freely with other hospitals in Australia, on request, since its inception.

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Competing Interests

The authors declare that they have no competing interests.

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Ross Smith

*In this issue of the **Asia Pacific Journal of Health Management** we profile Queensland identity Ross Smith, Chief Executive Officer of one of Australia's largest aged care providers. After an incredible 16 years at the helm, Ross still has amazing ambition for RSL Care but is standing aside to allow the infusion of new skills and capabilities to lead the organisation in its next phase of development over the next five years. Ross, like many baby boomers, is clearly uncomfortable with the notion of retirement.*

Ross was attracted to take up an appointment as Manager of Cunnamulla Hospital Board in Far South Western Queensland in 1978 but quickly developed a career goal to manage Queensland's largest facility, Royal Brisbane Hospital. He continued part time academic studies to complete a health administration degree entirely through external study, at one stage travelling with his family in a caravan as a relieving hospital manager. His roles have included large and small hospital boards and regional health authorities, central financing in Queensland Health for all public hospitals as well as setting up the HACC Program. Always an adventurer, Ross resigned from government in 1996 to continue a love of aged care which is one of the greatest challenges of the next 50 years. Numerous statistics show RSL Care's growth under his leadership: for example, clients grew from around 2000 to more than 24000 with an increase in assets from $75M to $1.2B.

Despite the demands of full time employment and part time study, Ross has always found time to commit to industry associations. He served ACHSM as Queensland registrar and vice president and the national branch for ten years before mandatory retirement from Federal Council. History dims his contribution to the leadership of the National Education and Examination Committee and subsequent election as Federal President from 1998 to 2000.

In the aged care space, Ross was President of Aged Care Qld Inc and Deputy President of the National Aged and Community Services Association, holding these roles right up to the present. He is a staunch advocate for the right of people to receive community care in their own homes. Health and aged care is indeed much richer for his leadership. In 2003, Ross was awarded the ACHSM Gold Medal for entrepreneurial leadership in aged care.

Ross Smith

What made you venture into health management?

My initial appointment was driven by twin desires for promotion and for escape from the metropolitan area. I enjoy the bush. However, I was quickly captured by the health inequities of remote populations and especially in Far South Western Queensland where there is a significant Aboriginal population and the contingent discrepancies in education and employment. I remain fascinated by the unlimited challenges and opportunities offered by Australia's ageing demographics. The relinquishment of my CEO role puts me in a unique position to engage with communities in a different way in Australia and perhaps overseas. I am still venturing, taking on a board role as a director of one of the initial Medicare Locals; yet another and quite different aspect to may career to date.

What is the most rewarding and enjoyable aspect of your role?

My employment in aged care is intensely linked to a belief system that as part of the care team, I have made a difference to the lives of thousands of clients and their carers. Since I have been able to work both at the strategic and tactical levels, I have also been able to impact some of the current aged care reforms represented in the Productivity Commission's 2011 Report on Care of Older Australians. Specifically, I have been greatly rewarded from the increase in the number of RSL Care staff but more importantly the opportunity to increase the quality and career prospects of the workforce.

What is the one thing you would like to see changed?

If I had a magic wand for just one day, I would make community-based aged care much simpler for the client, their carers and for aged care providers. Department of Health and Ageing funds some eighteen different programs not to mention Department of Veterans' Affairs, State and Local Governments. All this good intention comes with a huge range of regulation about eligibility, admission and discharge procedures, fee co-contribution, etc. Community care agencies do a wonderful job but it is hard to demonstrate a client-centred continuum of care when we have 'stop-go' police jumping out everywhere to disrupt good care in the interests of this complex program approach.

Who or what has been the biggest influence in your career?

The founding father of the ACHSM Qld Branch, Jack Richards, was instrumental in encouraging me to join the College. However, there have been many people who have inspired me; many of them were College members and not all were senior to me. Our industry undergoes regular change and it was clear to me that the people who managed their own careers were the winners.

Where do you see health management heading in 2020?

The COAG reforms in health, aged care and disability will guide our direction in the next five to ten years. Advances in medical sciences are exciting but combined with unrelenting public scrutiny of health management accountability; there are challenges in achieving a balance in a difficult global economy. The reforms will be led by good, principled people who can balance the needs of the client/patient with the needs of effective and efficient service provision.

What encouragement would you offer to emerging leaders?

Imagine your goals, double them and you will probably achieve even more. We live our lives in real time but if I had an instant replay button, I would certainly choose health services management all over again. The possibilities are limitless.

Sue Brockway

Sue Brockway

Many readers will know Sue Brockway, the ACHSM librarian, personally, but even those who don't will have appreciated the excellent quality Library Bulletins that she has prepared as both part of this Journal's activities and through electronic bulletins circulated to the membership. Sue has decided to leave her role with the College and the Journal and concentrate on much more important things closer to home such as family and friends and taking more time to enjoy them.

Sue has worked with the Journal since its inception and has been an important and valued member of the editorial team. She has worked tirelessly and professionally to ensure the production of the most up-to-date reading lists, both general and around specific themes. Sue has also managed the ACHSM Library that has two main content areas of expertise: firstly, facilities and infrastructure planning and development; and secondly, health management, executive leadership and professional development.

Sue started her career with the College as a Librarian in September 1993, with a background working for the North Sydney Area Health library service. During this time she has produced hundreds of library bulletins and reading lists for our members and health planners and managers across the Asia Pacific.

Sue has made an important contribution to the Journal and the Library and we intend to build on the strengths and successes that she has achieved in the next stage of Journal development that we aspire to achieve. Access to well researched data and professional support through library services is a hallmark of professional colleges.

On behalf of David Briggs and the APJHM editorial team, I would like to sincerely thank Sue for her valuable contribution to the Journal and its services to members.

Manuscript Preparation and Submission

General Requirements

Language and format

Manuscripts must be typed in English, on one side of the paper, in Arial 11 font, double spaced, with reasonably wide margins using Microsoft Word.

All pages should be numbered consecutively at the centre bottom of the page starting with the Title Page, followed by the Abstract, Abbreviations and Key Words Page, the body of the text, and the References Page(s).

Title page and word count

The title page should contain:

1. **Title**. This should be short (maximum of 15 words) but informative and include information that will facilitate electronic retrieval of the article.
2. **Word count**. A word count of both the abstract and the body of the manuscript should be provided. The latter should include the text only (ie, exclude title page, abstract, tables, figures and illustrations, and references). For information about word limits see *Types of Manuscript: some general guidelines* below.

Information about authorship should not appear on the title page. It should appear in the covering letter.

Abstract, key words and abbreviations page

1. **Abstract** – this may vary in length and format (ie structured or unstructured) according to the type of manuscript being submitted. For example, for a research or review article a structured abstract of not more than 300 words is requested, while for a management analysis a shorter (200 word) abstract is requested. (For further details, see below - Types of Manuscript – some general guidelines.)
2. **Key words** – three to seven key words should be provided that capture the main topics of the article.
3. **Abbreviations** – these should be kept to a minimum and any essential abbreviations should be defined (eg PHO – Primary Health Organisation).

Main manuscript

The structure of the body of the manuscript will vary according to the type of manuscript (eg a research article or note would typically be expected to contain Introduction, Methods, Results and Discussion – IMRAD, while a commentary on current management practice may use a less structured approach). In all instances consideration should be given to assisting the reader to quickly grasp the flow and content of the article.

For further details about the expected structure of the body of the manuscript, see below - Types of Manuscript – some general guidelines.

Major and secondary headings

Major and secondary headings should be left justified in lower case and in bold.

Figures, tables and illustrations

Figures, tables and illustrations should be:

- of high quality;
- meet the 'stand-alone' test;
- inserted in the preferred location;
- numbered consecutively; and
- appropriately titled.

Copyright

For any figures, tables, illustrations that are subject to copyright, a letter of permission from the copyright holder for use of the image needs to be supplied by the author when submitting the manuscript.

Ethical approval

All submitted articles reporting studies involving human/or animal subjects should indicate in the text whether the procedures covered were in accordance with National Health and Medical Research Council ethical standards or other appropriate institutional or national ethics committee. Where approval has been obtained from a relevant research ethics committee, the name of the ethics committee must be stated in the Methods section. Participant anonymity must be preserved and any identifying information should not be published. If, for example, an author wishes to publish a photograph, a signed statement from the participant(s) giving his/her/their approval for publication should be provided.

References

References should be typed on a separate page and be accurate and complete.

The Vancouver style of referencing is the style recommended for publication in the APJHM. References should be numbered within the text sequentially using Arabic numbers in square brackets. [1] These numbers should appear after the punctuation and correspond with the number given to a respective reference in your list of references at the end of your article.

Journal titles should be abbreviated according to the abbreviations used by PubMed. These can be found at: http://www.ncbi.nih.gov/entrez/query.fcgi. Once you have accessed this site, click on 'Journals database' and then enter the full journal title to view its abbreviation (eg the abbreviation for the 'Australian Health Review' is 'Aust Health Rev'). Examples of how to list your references are provided below:

Books and Monographs

1. Australia Institute of Health and Welfare (AIHW). Australia's health 2004. Canberra: AIHW; 2004.
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Further information about the Vancouver referencing style can be found at http://www.bma.org.uk/ap.nsf/content/LIBReferenceStyles#Vancouver

Types of Manuscript - some general guidelines

1. Analysis of management practice (eg, case study)

Content

Management practice papers are practitioner oriented with a view to reporting lessons from current management practice.

Abstract

Structured appropriately and include aim, approach, context, main findings, conclusions.
Word count: 200 words.

Main text

Structured appropriately. A suitable structure would include:

- Introduction (statement of problem/issue);
- Approach to analysing problem/issue;
- Management interventions/approaches to address problem/issue;
- Discussion of outcomes including implications for management practice and strengths and weaknesses of the findings; and
- Conclusions.

Word count: general guide - 2,000 words.

References: maximum 25.

2. Research article (empirical and/or theoretical)

Content

An article reporting original quantitative or qualitative research relevant to the advancement of the management of health and aged care services organisations.

Abstract

Structured (Objective, Design, Setting, Main Outcome Measures, Results, Conclusions).

Word count: maximum of 300 words.

Main text

Structured (Introduction, Methods, Results, Discussion and Conclusions).

The discussion section should address the issues listed below:

- Statement of principal findings;
- Strengths and weaknesses of the study in relation to other studies, discussing particularly any differences in findings;
- Meaning of the study (eg implications for health and aged care services managers or policy makers); and
- Unanswered questions and future research.
  Two experienced reviewers of research papers (viz, Doherty and Smith 1999) proposed the above structure for the discussion section of research articles. [2]

Word count: general guide 3,000 words.

References: maximum of 30.

NB: Authors of research articles submitted to the APJHM are advised to consult 'Writing a research article: advice to beginners' by Perneger and Hudelson (2004) and available at: <http://intqhc.oxfordjournals.org/cgi/content/full/16/3/191> This article contains two very useful tables: 1) 'Typical structure of a research paper' and 2) 'Common mistakes seen in manuscripts submitted to this journal'. [3]

3. Research note

Content

Shorter than a research article, a research note may report the outcomes of a pilot study or the first stages of a large complex study or address a theoretical or methodological issue etc. In all instances it is expected to make a substantive contribution to health management knowledge.

Abstract

Structured (Objective, Design, Setting, Main Outcome Measures, Results, Conclusions).

Word count: maximum 200 words.

Main text

Structured (Introduction, Methods, Findings, Discussion and Conclusions).

Word count: general guide 2,000 words.

As with a longer research article the discussion section should address:

- A brief statement of principal findings;
- Strengths and weaknesses of the study in relation to other studies, discussing particularly any differences in findings;
- Meaning of the study (eg implications for health and aged care services managers or policy makers); and
- Unanswered questions and future research.

References: maximum of 25.

NB: Authors of research notes submitted to the APJHM are advised to consult 'Writing a research article: advice to beginners' by Perneger and Hudelson (2004) and available at: <http://intqhc.oxfordjournals.org/cgi/content/full/16/3/191> This article contains two very useful tables: 1) 'Typical structure of a research paper' and 2) 'Common mistakes seen in manuscripts submitted to this journal'. [3]

4. Review article (eg policy review, trends, meta-analysis of management research)

Content

A careful analysis of a management or policy issue of current interest to managers of health and aged care service organisations.

Abstract

Structured appropriately.

Word count: maximum of 300 words.

Main text

Structured appropriately and include information about data sources, inclusion criteria, and data synthesis.

Word count: general guide 3,000 words.

References: maximum of 50

5. Viewpoints, interviews, commentaries

Content

A practitioner oriented viewpoint/commentary about a topical and/or controversial health management issue with a view to encouraging discussion and debate among readers.

Abstract

Structured appropriately.

Word count: maximum of 200 words.

Main text

Structured appropriately.

Word count: general guide 2,000 words.

References: maximum of 20.

6. Book review

Book reviews are organised by the Book Review editors. Please send books for review to: Book Review Editors, APJHM, ACHSM, PO Box 341, NORTH RYDE, NSW 1670. Australia.

Covering Letter and Declarations

The following documents should be submitted separately from your main manuscript:

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- Author/s information, Name(s), Title(s), full contact details and institutional affiliation(s) of each author;
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1. Authorship responsibility statement

Authors are asked to sign an 'Authorship responsibility statement'. This document will be forwarded to the corresponding author by ACHSM on acceptance of the manuscript for publication in the APJHM. This document should be completed and signed by all listed authors and then faxed to: The Editor, APJHM, ACHSM (02 9878 2272).

Criteria for authorship include substantial participation in the conception, design and execution of the work, the contribution of methodological expertise and the analysis and interpretation of the data. All listed authors should approve the final version of the paper, including the order in which multiple authors' names will appear. [4]

2. Acknowledgements

Acknowledgements should be brief (ie not more than 70 words) and include funding sources and individuals who have made a valuable contribution to the project but who do not meet the criteria for authorship as outlined above. The principal author is responsible for obtaining permission to acknowledge individuals.

Acknowledgement should be made if an article has been posted on a Website (eg, author's Website) prior to submission to the Asia Pacific Journal of Health Management.

3. Conflicts of interest

Contributing authors to the APJHM (of all types of manuscripts) are responsible for disclosing any financial or personal relationships that might have biased their work. The corresponding author of an accepted manuscript is requested to sign a 'Conflict of interest disclosure statement'. This document will be forwarded to the corresponding author by ACHSM on acceptance of the manuscript for publication in the APJHM. This document should be completed and signed and then faxed to: The Editor, APJHM, ACHSM (02 9878 2272).

The International Committee of Medical Journal Editors (2006) maintains that the credibility of a journal and its peer review process may be seriously damaged unless 'conflict of interest' is managed well during writing, peer review and editorial decision making. This committee also states:

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Criteria for Acceptance of Manuscript

The APJHM invites the submission of research and conceptual manuscripts that are consistent with the mission of the APJHM and that facilitate communication and discussion of topical issues among practicing managers, academics and policy makers.

Of particular interest are research and review papers that are rigorous in design, and provide new data to contribute to the health manager's understanding of an issue or management problem. Practice papers that aim to enhance the conceptual and/or coalface skills of managers will also be preferred.

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All submitted research articles and notes, review articles, viewpoints and analysis of management practice articles go through the standard APJHM peer review process.

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1. Manuscript received and read by Editor APJHM;
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3. Upon receipt of reports from the reviewers, the Editor provides feedback to the author(s) indicating the reviewers' recommendations as to whether it should be published in the Journal and any suggested changes to improve its quality.

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NB

All contributors are requested to comply with the above guidelines. Manuscripts that do not meet the APJHM guidelines for manuscript preparation (eg word limit, structure of abstract and main body of the article) and require extensive editorial work will be returned for modification.

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