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How do we develop positive health policy?

The Issue Features:
Practical toolkit
High-quality leadership
Resilience program
…….and much more

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David Briggs

Editor of Asia-Facific Journal of Health Management

At the time of publishing the APJHM wishes to advise that ACHSM has recently entered an agreement with The Society of Health Administration Programs in Education (SHAPE) to jointly publish the APJHM. SHAPE also has prime responsibility for editorial matters.

At the moment we are also transferring from our current online submission to new software that is more cost effective. Potential authors will not notice the change while existing authors awaiting review have been transferred to the new system. This Issue represents a mix of articles from both systems. We regularly have about twenty articles in process which is a lot of work for a very small part-time editorial production staff. As we get familiar with the new system, we will look to publishing articles as ready and subsequently aggregate them into issues. We will also look at increasing the number of articles in an issue.

In this issue we start with the editorial and then present a research article from Matus, Wenke and Mickan that has an objective, the development a practical toolkit of evidence-informed strategies for building research capacity in Allied Health. The focus on allied health continues with a further research article from McKeever and Brown who ask the question 'What are the client, organisational and employee – related outcomes of high quality leadership in the Allied Health Professions?' The authors undertook a scoping review around these aspects in Allied health.

Heather, Shannon and Person present a research article that analyses a 'Resilience Development Program', set in the Tasmanian, Australia health system. The analysis occurred at a time of 'downsizing' and organisational restructure. The research suggests that resilience training may assist particular groups of employees.

Ayeleke. North, Wallis and Durham contribute a research article entitled 'Implications of New Zealand's primary health care policies for management and leadership'. The authors used a qualitative content analysis of relevant documents to identify two key policy trends relating to primary healthcare. They identified two key policy trends that traverse population health, community participation, integration and collaboration and leadership and management capacity and capability.

Neil, Murphy and Chapman examine the health literacy environment of a regional Australian elective surgery access unit. The article describes the experience of consumers in engaging the physical environment of the health system. The article provides a starting point for services to enhance access for others attempting to gain improved access.

McConnell, Linwood, Day and Avery provide a descriptive analysis of a health management work integrated learning course in a move that is described as moving from health service management learning to employment readiness. It provides a descriptive analysis of students' performance results in a particular program that utilises integrate work learning.

A contribution from Abdullah Alsubaie describes job satisfaction and retention of nursing staff in Saudi hospitals. The author provides an integrative review of previous studies that suggests that hospitals need to ensure high levels of job satisfaction and decent wages to ensure maximum retention of nurses. Islam, Majdzadeh, Qyddus and Ashraf provide a research article that asks, 'Does integrated healthcare systems reduce the cost of quality of care for older people?' This is a scoping review in respect to integrated care approaches for older people in Australia.

Jafari, Bagheri-Nesami, Rezai, Zamani and Goudarzian provide a research article that describes accreditation of human resources and physical space of the Iranian Heart

Centre. The article compares that activity with national and international standards and makes a judgement that standards were moderately standard and that human resources needed to be more equitably distributed and the design of physical space needs greater consideration in terms of quality and patient satisfaction. In our last article Sharma and Prashar provide an article that examines the feasibility of eHealth implementation in hospitals in India., by comparison with that which is occurring in other countries.

HOW DO WE DEVELOP POSITIVE HEALTH POLICY?

During the recent Australian Federal election held on the 18th May 2019 much was made by all sides of the political divide about health and health services, much was praised, and more was promised in the name of health policy and improved approaches to health care delivery. Given that the 'quiet Australians' have made their choice and the political angst and dust has diminished, it might be time to return to the debate to determine what it was that we all agreed to and where do we go from here.

This Journal would appreciate informed contributions to the debate about health reform.

According to recent issues of Conversations pre-election [1] the budget provided funds to modernise Medicare, move towards changes to payment from fee for service to lump sum payments for some chronic diseases such as diabetes, lifting the indexation freeze on all GP services and some diagnostic services, funding for youth mental health, but not for addressing the underlying structural reforms. The budget included increased funding to train new rural GPs. Funding for increased diagnostic services, pharmaceuticals, new hospitals and regional cancer centres, additional mental health facilities, increased dementia and veteran supplements and aged care.

There is more detail in the budget papers and they mostly go to specific intervention that are recognised as being useful, but little suggestion of funding or advancing health system reform? Of course, my comment here is also influenced by what we all define as health reform as I suspect that there is not a commonalty of meaning amongst all of us what as to that meaning is.

The experts, in these 'Conversations' as is expected had differing views in their responses, based on their research expertise and both their and their organisations philosophical underpinnings. One response sees us 'slowly creeping towards the 21st century' and away from individual services and episodic conditions'. This is seen as a 'move towards a more prevention- orientated approach to chronic disease.'

Other points to the aged care and disability sectors, pointing to the slow and struggling implementation of the National Disability Insurance Agency and Insurance Scheme. There was also a suggestion that there was little in the budget 'for prevention, Indigenous health and to address disparities' but some positive anticipation for the proposed National Rural Generalist Training Pathway. Public hospitals seem to have been given scant attention, but our expert suggests that this might be contingent on COAG negotiations on health funding, between the Commonwealth and the States and Territories (COAG) to be negotiated and completed in 2019. Another contributor takes notice of the major structural challenges in 'mental health, suicide prevention and the investments made towards addressing those challenges.' One contributor asks 'who decides the priorities for new funding for research? The greater detail of this Conversation and the views and contexts in which their contributions were made is available for all to read.[1]

Another colleague in the range of Conversations [2] reporting of health reform in 2016 suggests 'five tips to get the government started on real health reform'. Those tips are that 'patients must be at the centre of the health system, invest in health promotion, not just illness treatment, make the reforms sustainable, apply a whole of government approach and that data is key. [2] All admirable tips and worthy of consideration. However, the author indicated that these 'tips' were brought before our 'political masters' back in 2007 and, states that they 'could serve the same purpose today (then nine years ago now 12 years ago). This certainly diminishes your enthusiasm for successful health reform any time soon!

After the election the ABC 7.30 Report hosted mostly by Leigh Sales [3] presented a four-episode series about the Australian health system. The series began by acknowledging that internationally Australia had one of the better health systems but at the same time suggesting that there was a need for significant change and the challenge for us all was managing the burden of chronic disease while experiencing extended life expectancy, and seemingly remaining in the curative

mode of care. General practice and primary care were identified as being central to the required response to mental health and chronic disease. Funding was described for both chronic disease and prevention with a caution from those interviewed that chronic disease is beginning to impact on younger age groups.

Those senior colleagues interviewed in this program highlighted the need to move away from fee for services approach to primary healthcare services to package of care arrangements. Exploring the data on healthcare access and outcomes brought out the challenge that we do not really have universal healthcare but 'post code' health care where those in postcodes with poor socio-economic status had poorer access and health status than those who lived in post codes where the more affluent lived. Not anything new there but it brought the response that we do have universal healthcare but that access for some was not equitable! Others might suggest that we have systems of healthcare, not a healthcare system.

Those interviewed suggested that we were a world leader in access and treatment for emergency care. While some consumers of care spoke of the lengthy delays for some diagnostic and surgical interventions when it matters and that waiting times were unreasonable. The suggestion was that there are the official waiting times and that many were on the un-official waiting lists before you got onto the officials lists. There was discussion of the impact of high occupancy and short turnovers and admissions that could have been preventable and avoidable.

The high cost of specialist services was also discussed as a significant issue. A patient from one Australian State was surprised that on moving interstate he not only had to engage a new general practitioner but again went to the bottom of the waiting list in the new State! A case of health systems rather than a health system? Hidden waiting lists and unmet demand were also traversed. There was a clear view that we needed to focus on prevention and reduce hospital admissions.

The eternal issue of the great divide to access from rural dwellers and, more generally the inadequate access to dental care and the important role of the Royal Flying Doctors Scheme were traversed. There was positive support for the proposed multi skilled rural generalist role. The lack of access to services because of cost, inadequate or non-existent public transport or inadequate workforce were significant issues.

The final episode about the future was more positive with clinicians being passionate about, innovation, technologies, genomics and gene technology and the potential these areas will bring to our health system, potentially in the shorter term.

There is a lot to consider in this editorial. We have attempted health reform over time and in different guises. If you were the Minister for Health what might you do to advance the cause of positive healthcare policy in the Australian context?

DS Briggs

Editor

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RESEARCH ARTICLE

A PRACTICAL TOOLKIT OF STRATEGIES FOR BUILDING RESEARCH CAPACITY IN ALLIED HEALTH

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ABSTRACT

OBJECTIVES

The objectives of this project were firstly to develop a practical toolkit of evidence-informed strategies for building research capacity in allied health, and secondly to disseminate and apply this toolkit to inform tailored research capacity building plans for allied health teams.

DESIGN:

This project used a plan, do, study, act (PDSA) quality improvement methodology to develop, disseminate and apply a toolkit which was based on the results of a recent systematic review of allied health research capacity building frameworks and a narrative review of other interventions and theoretical recommendations.

SETTING

Eight allied health professional teams in a publicly funded tertiary health service were supported to develop tailored research capacity building plans based on their specific needs, goals and context.

MAIN

outcome measures: The outcomes of this project were evaluated using process measures including whether a research capacity building plan was developed and to what extent short-term goals were achieved within three months.

RESULTS

A practical toolkit was developed which consolidates existing evidence-informed strategies and organises these around three components including 'supporting clinicians in research', 'working together' and 'valuing research for excellence' and 17 sub-components. Several barriers and facilitators to applying the toolkit to teams were identified and this paper suggests some recommendations and future directions for addressing these.

CONCLUSIONS

This toolkit may be a useful resource to inform the development of team-based research capacity building plans for allied health. The application of the toolkit may be enhanced by a need's assessment and facilitation from a researcher.

KEYWORDS

allied health, research capacity building, research culture

INTRODUCTION

Building the research capacity and capability of Australian health services is recognised as a priority because of the benefits this brings for individuals, the nation and the economy.[1] Research capacity building is "a process of developing sustainable abilities and skills enabling individuals and organisations to perform high quality research".[2] The goal of research capacity building is to complement health professionals existing clinical expertise with research skills. [3]

Allied health professionals represent the third largest clinical workforce in Australia and include physiotherapists, occupational therapists, dietitians, speech pathologists, social workers, psychologists, pharmacists and podiatrists.

Allied health professionals who are engaged in performing research tend to have more positive perceptions of research, be better at applying research evidence to inform their practice and enjoy greater job satisfaction. [3-6] Research also provides a means for allied health professionals to evaluate the quality and efficiency of their services, [3, 6] contribute to a wider base of evidence to inform service planning and delivery, advance their profession's base of knowledge and influence funding bodies. [3, 5, 7]

Although Australian allied health professionals have reported that they are interested in conducting research [8-10], their research culture and engagement remains relatively limited [11, 12] due to a number of barriers including a lack of time, other work roles taking priority and a lack of research skills.[12, 13] The most common motivators for doing research are to address identified problems in practice, provide the best possible care for clients, build the evidence base to inform service delivery, improve job satisfaction and enhance career opportunities.[5, 6, 12, 13] Based on a recent needs assessment conducted in our health service in 2017, 62% of responding allied health professionals were engaged in research activity over the preceding 20 month period, with the most commonly undertaken activities being collecting data, completing a literature review, and writing an ethics application. [14] Overall, participants self-reported moderate to high levels of skill and success in undertaking research, although there was variability between professional groups. The most common barriers and motivators to engaging in research were comparable to those reported in the literature.

In efforts to address these barriers and motivators, several allied health research capacity building interventions have been implemented in Australia [4, 9, 10, 15-19] and internationally. [20, 21] Additionally, numerous strategies have been recommended based on evaluations of the needs, interests and experiences of allied health professionals [3, 5, 6, 8, 12, 13, 22] and mixed groups of health professionals.[7, 23, 24] Commonly recommended strategies include protected time, funding, support from managers, mentoring, partnerships and dedicated research facilitators. [8, 12, 22]

Several existing frameworks outline potential strategies for allied health research capacity building. [4, 7, 21] Slade et al [25] recently conducted a rapid review of published theories and frameworks for embedding research in the allied health clinical sector.[25] The recommendations from this review were aimed at informing a future policy framework for embedding allied health research into routine clinical practice across public and private healthcare systems, rather than having a practical focus for clinicians and managers. Another recent systematic review by Matus et al [26] synthesised existing research capacity building frameworks relevant for allied health professionals. Three interconnected and interdependent themes were commonly found from the frameworks including 'supporting clinicians in research', 'working together' and 'valuing research for excellence'. These three themes, 17 subthemes and supporting evidence-informed strategies form the basis of a succinct and integrated new allied health research capacity building framework.[26] However, this framework is not yet in a practical format for implementation by clinicians and managers.

The objectives guiding this service improvement project were firstly to develop a practical toolkit of evidence-informed research capacity building strategies for allied health; and secondly to disseminate and apply this toolkit to inform the development of tailored research capacity building plans for allied health teams based on their specific needs and context. To exemplify the second objective, we will describe a short-term case study of how one allied health team was supported to develop a tailored research capacity building plan using the toolkit.

METHODS

This project used a quality improvement methodology based on the plan, do, study, act (PDSA) cycle, with two phases to address the project's objectives: 1. development of the toolkit and 2. dissemination and application of the toolkit. Ethical approval was sought however the project was judged to be service improvement and exempt from ethical review. HREC/17/QGC/360.

SETTING

The project was undertaken in a large publicly funded Australian tertiary health service which includes two hospital facilities (750 and 364 beds) in addition to outpatient and community-based services. This health service employs approximately 900 allied health professionals including dietitians, radiographers, sonographers, occupational therapists, pharmacists, physiotherapists, psychologists, social workers and speech pathologists. Since 2014, the health service has significantly

invested in building allied health research activity by appointing a Professor of Allied Health and three Allied Health Research Fellows, who together have implemented and evaluated a range of education, mentoring, and funding initiatives. [27, 28]

Phase 1: Development of the toolkit

The toolkit was based on a recently developed allied health research capacity building framework which was informed by the results of a systematic review [26], as described in the introduction. The evidence-informed strategies included in this framework were further consolidated and supplemented with other published interventions and theoretical recommendations.[4, 7, 15, 17, 21, 22] These articles were identified using the same search strategy as the systematic review, but were not included in the systematic review because they comprised single strategies and interventions rather than a suite of different approaches.[26] The authors consulted with the allied health research fellows working in this health service to achieve a consensus regarding the strategies to be included in the toolkit and to refine the content of the toolkit prior to its dissemination.

Phase 2: Dissemination and application of the toolkit

Participants and procedures

The toolkit was first presented at an allied health leadership and governance meeting which was attended by the senior managers of each allied health professional group in November 2017. To support the application of the toolkit, profession-specific needs assessments were undertaken during April 2017 as part of a larger project [14]. These needs assessments included baseline measures of research skills, successes, barriers and motivators using the Research Capacity and Culture (RCC) tool [2] and an audit of research activity conducted by each group.

Senior managers of the eight largest allied health professional groups in our health service were invited to participate in meetings with JM and SM to review the results of their needs assessment and discuss how the toolkit could be used to inform tailored research capacity building plans for their teams. All managers were encouraged to identify suitable strategies which were relevant to their needs, goals and context, including a mix of strategies from each of the three components of the toolkit. Senior managers and their teams were additionally invited to participate in a three-month project to develop and implement a more detailed research capacity building plan with support from a project officer (JM).

The outcomes of this project were evaluated using process measures, including whether a research capacity building plan was developed and to what extent short-term goals were achieved within three months. These process measures were collected by project officer JM through consultation with the managers and research team. They were selected to monitor progress towards achieving longer term outcomes including increased research engagement and outputs. Subjective barriers and facilitators to the process of developing and implementing the plans were recorded using reflective notes and meeting minutes.

RESULTS

Phase 1: Development of the toolkit

A practical allied health research capacity building toolkit was developed (see Appendix 1). This toolkit consolidates evidence-informed strategies extracted from existing frameworks [4, 15, 17, 20-22] and other interventions and theoretical recommendations.[3, 5-10, 12, 13, 18, 23, 24] These strategies are organised around three components including 'supporting clinicians in research', 'working together' and 'valuing research for excellence' and 17 sub-components (see Figure 1). Some examples of subcomponents include providing opportunities to get involved in research, encouraging a team-based approach; prioritising research that is 'close to practice' and integrating local research findings back into practice.

FIGURE 1 – COMPONENTS AND SUBCOMPONENTS OF ALLIED HEALTH RESEARCH CAPACITY BUILDING TOOLKIT

Supporting clinicians in research	Working together	Valuing research for excellence
- Opportunities to get involved - Research friendly workplace - Mentoring/supervision - Skill mix of teams - Education and training - Post-graduate study - Protected time and funding - Reward and recognition - Access to resources	- Collaborations and partnerships - Shared purpose and drivers - Coordinated approach including team projects - Shared expertise	- Visible support for research - Research as core business - Prioritise research that is 'close to practice' - Integrate local research findings back into practice

Phase 2: Dissemination and application of the toolkit

All eight senior managers participated in at least one meeting to review the results of their needs assessment and discuss how the toolkit could be applied to inform a tailored research capacity building plan for their team. Although some of the professional groups had previously accessed support from allied health research fellows or university colleagues, they had not utilised the new research capacity toolkit prior to participating in this project. Teams 1-6 attended a single meeting and generated a list of strategies to be implemented. Teams 7 and 8 requested support to develop a more detailed research capacity building plan consisting of long and short-term goals. Team 8 also requested support to begin implementing their plan. In line with Roger's Diffusion of Innovation theory, Team 8 was selected because they demonstrated the greatest level of motivation and as such were deemed most likely to become early adopters of change within the organisation. [29]

Over a three-month period, project officer JM worked closely with a group of five senior and middle managers and ten research-interested clinicians from Team 8 to prioritise and action a selection of strategies relating to their short-term goals. Seven formal face-to-face meetings were organised and chaired by the project officer in the team's

workplace. During these meetings, the project officer presented data from the need's assessment, suggested potentially relevant strategies from the toolkit and facilitated discussion. The meeting agendas included achieving agreement regarding the team's long- and short-term research capacity building goals, developing tailored strategies, allocating roles and responsibilities within the team and reviewing progress. Between meetings, the project officer also supported individual team members to action their allocated tasks. The final list of strategies and summary of progress after three months are outlined in Table 1. Most of the strategies addressed the component 'supporting clinicians in research'. At the end of the three-month period, over half of the strategies in the plan had been achieved, while the others remained in progress. The strategy 'negotiating shared research priorities and projects' had not commenced because the team decided to prioritise identifying their own strategic drivers first, to ensure that future research collaborations will be relevant to their service needs.

TABLE 1: TEAM 8'S RESEARCH CAPACITY BUILDING PLAN – STRATEGIES RELATING TO SHORT-TERM GOALS

STRATEGY	PROGRESS AFTER 3 MONTHS
Supporting clinicians in research	
Establish a peer support group for research.	Achieved
Create opportunities for staff to participate in small and/or team-based research projects.	In progress
Consistently implement journal club across teams.	In progress
Identify potential research mentors (internal and external).	In progress
Develop a register of current and future research projects.	Achieved
Develop a directory of local research resources and supports.	Achieved
Develop a guideline for 'how to do research' in local context.	Achieved
Working together	
Negotiate shared research priorities and projects with academic partners at a co-located university.	Not commenced
Valuing research for excellence	
Identify strategic drivers for research.	Achieved
Prioritise 1-3 topics/projects which align to strategic drivers.	In progress
Establish a process for approving staff to conduct research projects, secondments and HDR.	Achieved
Communicate senior managers' commitment to research.	Achieved
Clarify expectations regarding research engagement of junior, senior and management staff.	In progress
Include research activities in staff role descriptions.	In progress

Barriers and facilitators

Several barriers and facilitators to applying the toolkit were identified based on reflections by the project officer (JM).

Barriers included a lack of time to dedicate to the process of developing and implementing research plans due to organisational pressures to maximise clinical service provision. Some senior managers perceived a lack of incentives to prioritise research capacity building over other competing operational and service delivery demands. Several managers and clinicians reported a low level of confidence to lead or facilitate research within their teams. Other barriers included selecting too many strategies at once, which became overwhelming, and not knowing how to effectively implement these strategies.
Facilitators included building on existing motivators, linking research engagement goals to strategic plans and key performance indicators, making clear plans for how to implement and evaluate the success of prioritised strategies, and actively involving the whole team in the process of developing their research capacity building plan, including managers and clinicians. Indeed, the formation of a research committee by Team 8 allowed for a number of strategies to be actioned within the team and allowed for greater ownership of the strategies.

DISCUSSION

This quality improvement project developed a practical toolkit of evidence-informed research capacity building strategies. We described the dissemination and application of the toolkit within eight allied health professional teams, including a case study of one team who used the tool to develop and implement a tailored research capacity building plan.

To our knowledge, this is the first project which has described a practical toolkit to promote research capacity building in allied health teams. Two previous studies found that team-based interventions may be effective in terms of improving participants' research capabilities, confidence and outputs, developing linkages and collaborations, and increasing perceived research capacity and culture at the level of individuals, teams and the organisation. [15, 20] Whereas these previous studies implemented standardised interventions, the current study focussed on facilitating teams to develop locally tailored plans consisting of a combination of strategies which were relevant to their goals, needs and context. Given the multiple competing demands operating in health services, this toolkit may assist managers to prioritise the investment of limited time and resources for best outcomes in terms of maximising allied health research engagement. We found that a facilitator (in our case a project officer) was able to guide managers to select, tailor and implement appropriate strategies for their team, from the toolkit.

LIMITATIONS AND FUTURE DIRECTIONS

A limitation of this study is that it was descriptive summary in one health service. While the present study highlights some potential benefits, further research is indicated to evaluate the development and implementation of tailored research capacity building plans based on the toolkit. A mixed methods approach would be useful to evaluate a range of potential short, medium, and long-term outcomes including improvements in allied health professionals' knowledge, skills, confidence and attitudes towards research; changes in the proportion of staff who are using, participating in and leading research; increases in traditional research outputs such as peer-reviewed publications, conference presentations and competitive grant funding; the establishment of additional research collaborations and partnerships; changes in clinical practice and patient outcomes Implementing research plans within a team requires some kind of behaviour change by both clinicians and their managers, and for such a change to occur, individuals require adequate opportunity, capability and motivation.[30] While this toolkit provides information about "what" strategies to implement, which may guide planning and evaluation, it does not offer guidance for "how" to implement these strategies or "how" to facilitate behaviour change.

The current study found that both managers' and clinicians' support and active involvement in the process of developing goals and plans for research capacity building is important. This finding confirms and builds on previous literature which suggested that senior managers' support for research is needed across the whole organisation. [22] Future research may wish to investigate how a knowledge translation approach could support behaviour change by evaluating the barriers and facilitators more systematically and from different sources. This could then inform the development of targeted behaviour change interventions such as education, training, modelling, incentivisation and environmental restructuring. [30]

While other research capacity building approaches have been focussed at the level of individuals, [10, 28] organisations [4, 16, 17] or policy, [9, 21, 25] this project was targeted at the level of teams. Another suggested future direction for research is to apply the toolkit at both organisation and team levels, in addition to supporting individual research-interested clinicians, as part of the recommended 'whole of system' approach.

PRACTICAL RECOMMENDATIONS

In the present study, application of the toolkit was informed by the results of a needs assessment which identified the unique strengths, areas for development, barriers and motivators operating in each team. A rigorous needs assessment is helpful for measuring baseline research capacity and culture, thus ensuring that strategies address areas that require attention and providing a means of evaluating change over time. Previous research suggests it may be more useful to focus on enhancing motivators rather than removing barriers.[11] Thus, it may be advantageous to prioritise implementing research capacity building strategies which target teams' existing motivators for conducting research, as identified through a needs assessment.

While all health professionals should be using research evidence to inform their practice, not all are expected to undertake projects that will generate new research evidence.[31] It has previously been recognised that research capacity building initiatives need to be flexible to accommodate different contexts, professional backgrounds and levels of interest and experience in using and generating research [32]. Indeed, a recent Australian study of 95 AHPs from eight professional teams suggested that a one size fits all approach is unlikely to be effective and that research capacity building initiatives should target professional teams separately and according to their specific needs.[11] Therefore, it is recommended that a facilitator with research experience is available to support the process of developing tailored research capacity building plans which take into consideration the goals, interests and developmental level of each team.

CONCLUSIONS

This practical toolkit of strategies to build allied health research capacity may be a useful resource for informing allied health research capacity building plans. The application of the toolkit may be enhanced through the use of a needs assessment and local facilitation. Consideration should be given to systematically evaluating and addressing barriers and facilitators to applying the toolkit, possibly as part of a knowledge translation approach.

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	Supporting clinicians in research	Working together	Valuing research for excellence
Sub-components	- Opportunities to get involved - Research friendly workplace - Mentoring/supervision - Skill mix of teams - Education and training - Post-graduate study - Protected time and funding - Reward and recognition - Access to resources	- Collaborations and partnerships - Shared purpose and drivers - Coordinated approach including team projects - Shared expertise	- Visible support for research - Research as core business - Prioritise research that is 'close to practice' - Integrate local research findings back into practice

Supporting clinicians in research:

Opportunities to get involved:

- Encourage and provide opportunities for all practitioners to get involved in doing research. [1,2,5,6]
- Support practitioners to participate in different ways, depending on the service needs and individuals' interests, motivation and available time. [1,2,6,7]

  Examples of research participation include: [2,8]
  - identifying research ideas based on problems, gaps and issues in practice
  - helping design feasible, practical and cost-effective methodologies
  - collecting and/or analysing data
  - helping write research reports and manuscripts for publications
- Give individual practitioners the opportunity to engage in small research projects. [1,6]
- Use journal club to help support research projects by critically appraising relevant literature. [1]

Research friendly workplace:

- Accommodate and value individuals' different research interests, motivations, abilities, time commitments and career paths. [1]
- Consult staff members about what they think is needed to build research capacity. [4]
- Promote the everyday application of critical thinking skills and evidence-based practice, as these skills are foundational to doing research. [2]
- Prioritise supporting and strengthening the research abilities and interests of those practitioners who are most interested and motivated to participate in research. [7,9,10]
- Be flexible in supporting flexible work arrangements for research. [10,18]
- Support secondment opportunities as a means of building research skills. [2]
- Support staff with joint clinical and academic appointments. [16]

Protected time and funding:

- Quarantine time for research within work hours [7,10,11,12], e.g. one day/week per team or department. [13]
- Protect funding for clinical backfill arrangements. [2,4,5,10]
- Develop systems that allow practitioners to take time off-line to do research. [5]
- Provide access to some in-kind [internal] funding. [5,15]
- Assist practitioners to identify and apply for research funding. [6,18]
- Make use of local funding opportunities. [2]
- Optimise access to information about upcoming funding opportunities. [2]
- Strategically make use of supernumery resources [e.g. students] to assist with either doing research (i.e. honours students) or to support clinical backfill. [1]
- Collaborate with academics and research fellows/facilitators/officers to help secure funding. [5,6]
- Pool funds to employ a research assistant who can assist practitioners to conduct research. [4]

Mentoring:

- Seek out mentoring/supervision from more experienced researchers. [1,2,4,5,6,7,10,11,12,13,14,18]
- Identify potential research mentors, role models and champions in your team. [5]
- Match novice researchers with more experienced researchers. [2]
- Seek opportunities for mentoring in individual or group formats. [2,4]
- Develop structures/processes for research mentoring e.g. regular meetings, [1] formal agreements. [2,6]
- Support sustained engagement with mentoring relationships over time. [2,6,18]

Skill mix of teams:

- Consider research skill mix of teams when planning staffing. [2]
- Make the most of existing research capacity within the team/service [2], e.g.
  - engage those practitioners who already have some skills to help more novice researchers.

Education & training:

- Undertake research training needs assessments. [2]
- Seek out education and training that is appropriate to the needs, interests, existing skills and backgrounds of individuals and teams. [2,5,6,7,11,12,13]
- Engage with university partners to access additional research education and training. [1,5,6]
- Optimise access to information about upcoming education and training opportunities. [2,4], e.g. by developing or using an existing local website/intranet page to disseminate information. [1]
- Develop a directory of local research resources and supports. [2]
- Support practitioners to undertake research higher degrees or other formal post-graduate study to build their research skills. [1,6,7]
- Increase incentives for practitioners to acquire research qualifications. [5]

Reward and recognition:

- Identify and reinforce intrinsic rewards for research (e.g. skill development, personal satisfaction from succeeding at a challenging task). [4]
- Provide extrinsic rewards and incentives for research achievements (e.g. financial incentives, recognition, greater professional/career opportunities including secondments). [2,5]
- Support research career opportunities including access to research career pathways. [2,3,5]
- Organise local team events for practitioners to present their research. [4,10,16]
- Encourage and support practitioners to attend external conferences. [4,18]

Access to resources:

- Provide access to infrastructure and resources such as library, software, desk and computer use. [5,13]
- Engage with university partners to access additional infrastructure and resources (e.g. libraries and software). [5]

Working together:

Collaborations and partnerships:

- Build and maintain strategic research collaborations/partnerships/networks/linkages to exchange ideas, knowledge, skills and expertise, share resources and work on projects together [1,2,3,4,5,6], and build a 'critical mass' of research-active staff. [5]

- Collaborate/partner with:
  - Colleagues in your own team [1,2,4]
  - Other professional groups [2,3,6,16]
  - Other teams, services and organisation [1,2,3,4,5]
  - Universities [1,2,5,6,7,14]
  - Industry [1]

- Develop partnerships with academics and students (co-supervise honours students). [1,2,5,6,7,14]

- Integrate practice-driven questions with the perspectives and skill base of academic partners. [1,6]

- Establish conjoint/collaborative academic-practitioner positions. [1,2,5]

- Focus on building and maintaining partnerships over time. [2]

Shared purpose:

- Identify the strategic research drivers for your team/service and for potential partners. [1]

- Link up with partners who are geographically close and have common local drivers. [1]

- Organise networking events to discuss and develop research ideas. [1]

- Develop a shared vision and common values to underpin partnerships. [1]

- Co-ordinate research priorities with those of universities and other organisations. [1]

- Get equal commitment from all partners. [1]

- Specify proposed outcomes and impacts of collaborative projects early on, and link these to the strategic aims of the partner organisation/s. [1]

- Commit time to the early stages of developing collaborative projects. [1]

- Jointly implement research projects and evaluate outcomes. [6]

- Share ownership/authorship of research. [1]

- Develop partnerships through co-funded research projects. [5]

Team-based approach:

- Coordinate team-based projects as well as individual research projects. [1,2,5,6,10,13]

- Managers to lead/facilitate team-based projects. [2,7]

- Create a research register of current and potential research questions and project ideas. [16]

Shared expertise:

- Share research knowledge and skills with others in your team and wider networks. [2]
- Match up novice and experienced researchers. [2]
- Share research interests and findings of previous research projects. [4]

Valuing research for excellence:

Visible support for research:

- Managers to demonstrate visible/tangible support and endorsement of research, [1,2,4,5,15,17]
  e.g. developing structured processes and systems for research. [1,5]

Research as core business:

- Value and prioritise research as part of core business, as reflected in the team's mission, vision and strategic planning. [5]
- Add research as a regular agenda item for discussion in team meetings. [3,4,16]
- Conduct team-based research strategy/planning meetings. [1,3]
- Encourage and expect staff to participate in research. [2,4]
- Get leaders/managers actively involved in research. [2]
- Legitimise a range of research activities as being part of usual practice, including audits, action research and participatory enquiry. [1,2]
- Keep research issues a factor in daily practice planning. [4]
- Reward staff who engage in, lead, and facilitate research. [17]
- Include research in Role Descriptions, especially for senior staff. [2,4,5,7]
- Include research in Role Descriptions for new positions/future recruitment - to attract research interested/active applicants. [7]
- Include research in PAD/PDP, annual performance appraisals. [2]

Prioritise research that is 'close to practice':

- Prioritise research projects which address local service issues and needs, and which will directly inform clinical decision-making in practice. [1,2,3]
- Identify strategic drivers for research within the team/service. [1]
- Systematically solicit and develop research questions and ideas that arise directly from practice. [1]
- Capitalise on dissatisfaction with the "status quo" of service delivery. [4]
- Link outcomes of research projects to the strategic aims of the team. [1]
- Help design and implement projects which use patient-centred outcome measures and realistic methodologies that are feasible in practice. [2]

Integrate local research findings back into practice:

- Apply locally developed research knowledge to inform clinical practice and local strategy policy. [2,6]
- Encourage action research and participatory inquiry involving cycles of action, reflection and dissemination of research findings into practice. [2]
- Create opportunities and encourage practitioners to disseminate research findings widely [e.g. journal article publications, conference presentations, local reporting, fact sheets, media], so that they can have an impact on practice both locally and beyond. [2,4,6]

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REVIEW ARTICLE

WHAT ARE THE CLIENT, ORGANISATIONAL AND EMPLOYEE – RELATED OUTCOMES OF HIGH QUALITY LEADERSHIP IN THE ALLIED HEALTH PROFESSIONS? A SCOPING REVIEW

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ABSTRACT

BACKGROUND:

Leadership is viewed as the panacea for the complex problems in modern health care where chronic disease, contracting budgets and rising consumer expectations are challenging care provision. As the second largest workforce in Australia, Allied Health Professionals (AHP) are core contributors to health teams however they are largely absent from leadership positions and there is little evidence of their impact on client and wider health system outcomes.

AIM:

A scoping review was carried out to synthesise evidence on the domains of client, organisational and employee-related outcomes of high quality leadership in Allied Health. Method: A search of grey literature, peer and non-peer reviewed literature was undertaken using Embase, Emcare, SCOPUS and Psychinfo from 2010-2017. Data were sourced from journals, government reports, conference presentations and other grey literature. The reference list of key articles was hand searched for relevant research.

RESULTS:

A total of 5880 articles were identified and after screening 35 articles were included for in depth review. Leadership contributed towards positive outcomes in all three domains and had influence across professional groups and services. Leaders are highly valued and respected by their teams. Allied Health leaders did not feature in any of the articles and AHP were the focus of only seven studies. The majority of articles were conference papers or case reviews that provided little robust data making it difficult to draw substantive conclusions on the outcome of AHP leadership.

CONCLUSION:

There was a lack of robust data specific to AHP leaders. Future research should attempt to gather evidence of the outcomes of AHP leadership through qualitative and quantitative means to substantiate the anecdotal evidence for high quality AHP leaders.

KEYWORDS

allied Health, leadership, outcomes, healthcare.

INTRODUCTION

Healthcare is changing at an unprecedented pace. Rising numbers of people with chronic diseases, ageing populations, advancing health technologies rising consumer expectations, and contracting budgets challenge healthcare delivery. [1, 2] Workforce innovation is needed to ensure health systems can meet the increased demands of 21st century populations. [1, 3] Leadership is viewed in some circles as the solution for these challenges.

As the second largest workforce in Australia, Allied Health Professionals (AHP) are important contributors to enhanced health service delivery and improved clinical and organisational decision-making. [4, 5] Allied Health are health professions from a range of skills, backgrounds and practices excluding medical or nursing. A further delineation was recently proposed by the department of

health and human services in Victoria (DHHS) breaking the workforce in to Allied Health Therapy and Allied Health science. [6] The therapy group consists of professions such as Physiotherapy, Occupational Therapy, Dietetics, Social Work and Speech Pathology: Allied Health sciences include radiographers, sonographers and Pharmacists among others.

Varying government reports espouse the benefits of leadership in AHP for practice changes and reforms. [2, 7, 8] Allied Health have embraced workforce reforms with increasing use of Allied Health Assistants (AHAs). In the 2016 Grattan report it was estimated that AHP could save an estimated $43m per year if they fully implemented the recommendations of role substitution by AHAs. [2] A recent report by the peak body representing regional and rural allied health disciplines Services for Australian Rural and Remote Allied Health (SARRAH) highlighted the valued innovation and clinical leadership displayed by AHP in chronic disease management, demonstrating how intervention and coordinated care can enhance client outcomes, avoid needless hospital admissions and unnecessary medical procedures. [8]. However, AHP are under-represented in leadership roles and there is a dearth of data on the outcomes of AHP leaders and questions about the impact of their leadership. There are calls within the profession for more AHP leaders and greater visibility for the outcomes of AHP leaders. [7, 9-11].

AIM

There is a pressing need to investigate the outcomes of AHP leadership and raise their influence at a strategic leadership level to benefit the health system. The scoping review presented addresses the following question: "what are the client, organisational and employee-related outcomes of high-quality leadership in the AHP?" Allied Health therapies were chosen as the key population for this review

METHOD

As research on leadership in the AHP is scarce, a scoping review approach was selected to identify gaps in the empirical literature and provide a picture of AHP leadership. The framework for conducting a scoping review as outlined by Arksey and O'Malley was followed. The following sections describe the process under each of the framework headings. [12]

STEP 1: IDENTIFY THE RESEARCH QUESTION.

There is a dearth of literature on AHP leadership in peer reviewed publications and research about AHP is complicated by the varying definitions and diversity in the AHP workforce. [7, 9, 10] Additionally, outcome is an all-encompassing term that needed to be refined. In order to narrow the search, the term 'outcome' was refined to include three key areas; client, organisation and employee. The following research question guided the scoping review: "What are the client, organisational and employee-related outcomes of high quality leadership in the Allied Health Professions?"

STEP 2: IDENTIFY RELEVANT STUDIES.

An inclusive approach was used to search the evidence, this included database searches, grey literature reviews, hand searching key journals, reviewing reference lists of pertinent articles as well as linking with existing knowledge networks in professional associations. The search strategy resulted in a considerable volume of data, building a descriptive account of the available evidence.

Peer-reviewed literature:

Four key databases were searched: Embase, Emcare, CINAHL and Scopus. The key search terms used are outlined in Table 1.

Grey literature:

Reports, reviews and policy papers were sourced from a number of government and private agencies such as Centre for Workforce Intelligence (2013), The Kings Fund (2015, 2016), DHHS (2016, 2014), Grattan Institute (2014) and SARRAH (2016). A search was also conducted for the representative bodies of each of the chosen professional group. These were Dietetics Association of Australia, Occupational Therapy Australia, Australian Physiotherapy Association, Speech Pathology Australia, Exercise Science Association of Australia, Social Work Australia, Australian podiatry association and Chiropractic Australia.

Search strategy:

Due to resource and time constraints the search was limited to literature published from 2010-2017. It has been noted by other researchers that healthcare research is dominated by poor quality research. [13] Recently there has been an increased attention paid to the Allied Health workforce and their leaders, it was anticipated that it would result in a corresponding increase in research material. [9-11]

Previous research with a search period from 1980- 2017 has identified a dearth of outcome studies pertaining to AHP leaders. [9, 11, 15] A similar search parameter for this study would likely yield similar results, thus a more recent time period was chosen to identify newer studies. To be included articles needed to be written in English and include the Allied Health therapy professionals: Occupational Therapists, Physiotherapists / Physical Therapists, Social Workers, Speech-language Pathologists, Dietetics, Podiatrists, and Exercise Physiologists (OT, PT, SW, SP, DT, Pod and EP). These professionals were included as they are involved in service delivery across the continuum of care in the Victorian public health system thus giving greater context to the search strategy. The databases were searched using the terms as outlined in table 1.

TABLE 1. SEARCH TERMS

SEARCH NUMBER	SEARCH TERMS
1	Leader* OR Manage*
2	"Allied Health"
3	"occupational therap*"
4	physiother* OR "physical therapist"
5	dietician OR dietetic*
6	"social work*"
7	"speech pathology*" OR "speech ther*" OR "speech and language therap*"
8	podiatry* OR chiropody*
9	Exercise physiologist
10	Employee OR staff
11	Organi$ation OR "health service"
12	Patient OR client
13	2 AND 3 AND 4 AND 5 AND 6 AND 7 AND 8 AND 9 AND
14	AND 13 AND 10
15	AND 13 AND 11
16	AND 13 AND 12
17	LIMIT 14 TO 2010-CURRENT
18	LIMIT 15 TO 2010-CURRENT
19	LIMIT 16 TO 2010-CURRENT

STEP 3: SELECT STUDIES

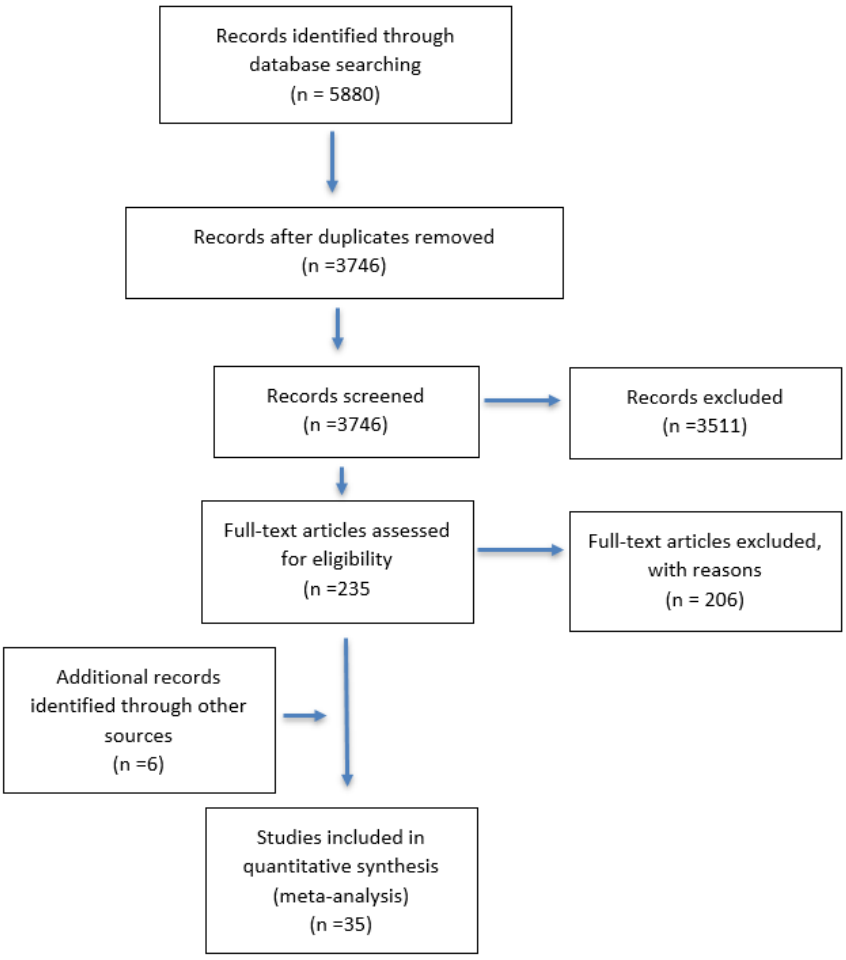
The inclusion and exclusion criteria are included in Table 2 below. To be included at least one AHP group needed to be part of the study population. This could be explicitly stated in the methodology or references made to a multidisciplinary team (MDT). Often, the composition of the population could only be ascertained following abstract or full text review. Grey literature data were included if they reported broadly on leadership under the terms "workforce redesign" or "innovation". AHP were rarely the focus of workforce redesign yet it was assumed that any workforce reform would have included the second largest workforce. Therefore, relevant reports were included for review even if they didn't mention the AHP workforce explicitly. This

decision was agreed with the research team as a means of expanding on the grey literature available. Research articles were excluded if they exclusively mentioned workforces who weren't AHP, if the articles were opinion pieces or if the research was actually a marketing or publicity write up for a type of leadership training. The Prisma Table in Figure 1 depicts the search strategy employed to result in 35 articles for inclusion.

TABLE 2. INCLUSION AND EXCLUSION CRITERIA FOR SCOPING REVIEW

INCLUSION	EXCLUSION
Research involving Allied Health as a main population or members of a multidisciplinary team	Papers that were not original research e.g. commentaries or opinion pieces
Data published between 2010-2017	Papers that specifically mentioned any Allied Health Science professions
Data that reports on outcomes of leadership or managers in a healthcare setting	Research reporting on Allied Health leaders in academia
Applied research or literature reviews reporting on applied research	Articles that were sponsored piece of research about the outcomes of a leadership training initiative
Grey literature referencing workforce, redesign or innovation	

FIGURE 1: PRISMA TABLE



STEP 4: CHART, COLLATE, SUMMARISE, AND REPORT RESULT

Key terms and information from the relevant articles were charted in an excel document. Each article was read and analysed by the principal researcher and the data was recorded in a table using the headings as advised by Arksey and O'Malley. [12] Knowledge about leadership outcomes increased with each article, and data previously deemed irrelevant or excluded from the analysis were identified as key concepts. This process also identified useful articles from the reference lists and resulted in additional articles for inclusion. This built a broad picture of outcomes and gave clarity to the topic.

RESULTS

LEADERSHIP MODELS OR TRAITS.

Many of the chosen literature referenced leadership models, theories or styles. The focus of this review was not to describe any particular type of leadership model however it is beneficial to describe some of these styles as it elucidates the concept of an effective leader. The most common model was Transformational leadership; described in four papers. [16-19] Other studies, while not directly measuring it, provided descriptions of a leader that closely aligned with transformational leadership concepts as described in table 3. [20-22]. A recent report carried out

for the Department of Health and Human Services (DHHS) in Victoria advocated for further training in transformational leadership to better equip AHP to lead services and teams for better patient care. [10].

Other leadership types mentioned were resonant leadership, situational leadership and humble leadership; further details are found in table 3.

There was no consensus about what traits or characteristics make up an ideal leader yet certain behaviours were frequently listed and these built a picture of a high quality leader. Many of these traits aligned with transformational leadership. These traits are listed in table 4 below. Effective leaders were those who were supportive of their teams and took an active role in the work or practice changes occurring. Leaders also had excellent communication evidenced by disseminating clear expectations on role performance and giving feedback. Leaders also established conditions and roles that challenges employees' skills. While tangible resources were beneficial to the employees and helped with the success of projects; it seemed to be the symbolic actions of leaders and such as time spent with teams and regular performance feedback that were valued most. [16, 21, 25]

RESEARCH ON LEADERSHIP IN THE ALLIED HEALTH PROFESSION

This scoping review identified little research specific to AHP leadership. The limited number of formal leadership positions in Allied Health has been raised by previous researchers and may account for the lack of literature pertaining to this workforce. [11] However, a gap in research knowledge is not unique to AHP and has been identified by other health researchers who have previously tried to build robust data about health care leadership. [9, 10] In their review on leadership in the National Health Service (NHS), West and colleagues articulated that the huge quantity of published literature on health leadership has not added quality knowledge in the field. His team utilised leadership information from a wider (non-health) context, espousing that data are generalizable to the healthcare setting. [13]. A similar approach was taken in this review, broadening the scope of research to multidisciplinary teams in healthcare (acknowledging that Allied Health would form art of these teams) to build evidence on AHP leadership.

AHP were the key population in seven investigative studies. [19, 22, 30, 31, 33, 34, 36] Two policy papers looked at Allied Health workforce models and Allied health board members and one paper was a keynote address on the practical and varied leadership successes of Occupational Therapists.[7,11,37] The remaining studies described interventions implemented within an MDT of which AHP were either directly mentioned or content analysis of the articles identified many informal leaders such as senior clinicians and heads of profession who had positive influence on the outcome being studied.

OUTCOMES OF LEADERS

The outcomes of leaders and leadership tended to group into three main domains: client-related, employee/staff related and organisational or system-related outcomes. The domains used in the following section are mainly artificial boundaries for the purpose of reporting and overlap does occur. For example, increased moments of hand hygiene will reduce hospital acquired infections, improving client outcomes; however hand hygiene rates are a quality and safety priority for health services and are

reported to the Department of Health and Human Services thus it can also be an organisational outcome. [38] A summary of the main outcomes for each domain are listed in table 5.

TABLE 3: LEADERSHIP STYLES AND MODELS

Transformational leadership [26]	Composed of four dimensions: Idealised influence, inspirational motivation, intellectual stimulation and individualised consideration. The leader acts as a role model to inspire and motivate employees to reach and surpass their expectations.
Situational leadership [20]	Ability to adapt leadership style depending on the task or team at hand. It contains two dimensions: task behaviour and relationship behaviour
Resonant leadership [23]	The art of persuading people to work toward a common goal. Consists of four styles of leadership: visionary, affiliative, coaching and democratic.
Humble leadership [24]	A humble leader is one who gives lower self-ratings of leadership effectiveness compared to their team.

TABLE 4 TRAITS OF AN EFFECTIVE AHP LEADER REPORTED IN THE EMPIRICAL LITERATURE

TRAITS OF AN EFFECTIVE LEADER	RELEVANT LITERATURE
• Providing resources – physical and symbolic (time/opportunities)	[16] [25, 27-31]
• Formulating clear goals and objectives	[16, 17, 19]
• Aligning goals with organisational strategies	[20, 23]
• Provides role clarity to staff	[17] [21]
• Displays content knowledge about the specifics of their employee's role	[24, 30]
• Collaborates with team to experiment with innovative ways of working	[20, 21]
• Provides a work environment and role that sufficiently challenged teams	[23]
• Is directly involved in a project or practice change	[25, 28, 33, 35, 36]
• Is perceived as being helpful and supportive of staff needs	[30, 32]
• Acknowledges and rewards effort	[34, 35]
• Provides regular transparent communication with team	[16, 31, 34]
• Affords teams autonomy and flexibility in their working role	[20, 22, 30, 31]
• Provides regular performance feedback	[24, 28]

TABLE 5 OUTCOMES FOR APH LEADERS

CLIENT	ORGANISATION	EMPLOYEE
Enhanced uptake of evidence-based practice [24]	Superior quality ratings provided by national agency [39]	Reduced burnout [17, 18]
Implementation of evidence-informed guidelines in cancer care [27]	Ready for change with quicker take up of new organisational change [21]	Enhanced job satisfaction [19, 21, 34]
Greater collaboration with carers to assist in client care [24, 25]	Quicker workforce redesign practices implemented [5]	Greater role clarity and self-efficacy [16, 23]
Improved uptake of infection control guidelines in spinal cord units [28]	Sustainability of a new client-centred model of care [16]	Increased sense of empowerment and engagement in their role [17,18, 23]
Quicker response time and effectiveness of CPR performance [41]	Increased skill in an extended scope of practice team [42]	Low rates of conflict in the team [40]
Increased quality of client care due to improved access to leaders [36]	Improved team learning and collaboration with increased quality of client care [20]	
	Reduced length of stay, reduce duplication of processes improved discharge processes [43-45]	
	Reduced attrition and enhanced retention of staff [22, 30, 34]	

OUTCOMES FOR CLIENTS

With the exception of Yeung's investigation into the influence of team leadership on quality of Cardiopulmonary resuscitation (CPR) during a simulated cardiac arrest situation no causal effects of leadership on client care were reported. In his study, leaders who had better leadership skills (as rated on a leadership questionnaire) were more effective in the simulated CPR as evidenced by quicker time to delivering defibrillation and better techniques that would have revived the patient sooner. [41]

Leaders were also found to influence knowledge translation that enhanced clinical care. Humble leaders were more effective in creating conditions in which evidence-based implementation would succeed. [24] Teams in cancer care whose managers were committed to and supportive of the roll out of an evidence- endorsed survivorship care plan reported they were more likely to use the tool in practice. [27] A study by Hanssen investigating a competence building program (CBP) to improve collaboration between staff and carers identified strong leadership engagement and active support as elements in successful implementation. [25] Sites without such support failed in the implementation of the CBP. Leaders were key players in the enactment of infection control guidelines to prevent the spread of Methicillian-resistant Staphylococcus Aureus (MRSA) on a Spinal Cord injury unit. Staff reported that leadership involvement encourages staff to implement the MRSA guidelines. [28]

OUTCOMES FOR ORGANISATIONS

Organisational outcomes were extrapolated from the results of practice improvements, model of care changes and policy initiatives under the assumption that outcomes would deliver team or service efficiencies. In his research into clinical board membership and health service performance in the National Health Service (NHS) Veronesi found a statistically significant pattern linking the number of clinicians on hospital boards with superior Healthcare Commission (HC) quality ratings. [39] The researcher concluded that a 10% increase in clinicians on boards had positive consequences for HC ratings and hospital outputs and outcomes. In her research that mapped AHP leadership on top management teams (TMT) Boyce cited numerous potential roles for AHP to enhance organisational outcomes. She concludes that the impact of AHP on organisational effectiveness will be maximised by having strong leaders in executive positions. [11] In a study of child welfare workers, leadership behaviours were associated with higher readiness for organisational change and resulting improved operational performance. [21]

A number of studies report on the important role leaders played in improved hand hygiene (HH). In one study it was noted that visible leadership on the wards such as participating in audits, providing feedback and incentives and disseminating results caused a 231% increase in moments of HH. [32] Similar improvements in moments of hand hygiene were reported in other studies where leaders were actively involved in efforts to improve HH. [29, 32, 35, 46, 47]

Leaders work to enhance organisational performance through their influence on team processes and outputs. Three research articles provided examples of how leadership enhanced the performance of multidisciplinary teams (MDT) resulting in shorter length of stays, reduced duplication of processes and coordinated discharges. [43-45] Solimeo noted that teams who successfully implemented a new model of care in primary care in the USA had active involvement of their leaders. [16] The researchers mentioned specific leadership actions such as championing new ideas, investing in team building, shielding teams from distractions and enabling teams to innovate in their practice had a greater influence on the success of the model of care change than the introduction of electronic medical records and education session.

The most commonly studied organisational outcome of leadership were staff recruitment and skill retention. Supportive leaders were ranked by Scanlon as the 4th highest influence on intention to leave after dysfunctional teams, by mental health Occupational Therapists. [22] In two studies of rural AHP, managers who supported professional development and provided effective supervision were cited as two of the main reasons staff wished to remain in their current role. [31, 34] The researchers acknowledged that recruitment in rural areas is difficult and the existence of a number of environmental barriers that are outside of a manager's control, such as job opportunities and breadth of public services for their families can play a role in attracting and retaining staff. Nevertheless, manager support is an important factor that can be controlled and positively influences staffing.

OUTCOMES FOR EMPLOYEES

Leadership behaviours were frequently cited as enhancing employee well-being and satisfaction. Leaders who provided workload autonomy, listened to team concerns and provide role clarity contributed to positive employee feelings: the outcomes of such feelings were empowerment, enhanced spirit at work, job satisfaction and intrinsic motivation. [19, 23] The researchers noted that the longer employees spent with their high performing leader the greater their satisfaction and work commitment (19). Similar results were reported by members of an MDT working in mental health and hospice settings as a result of their engaged and influential leader. [16, 17]

Researchers attest to the importance of leaders in buffering employees against mental illness, conflict, stress and burnout. In a scoping review on the sources of conflict in the workplace, Kim reported on the relationship between ratings of leadership quality and reports of conflict. The researcher noted that high ratings of leadership quality correlated with low reports of conflict and sick leave and increased feelings of personal accomplishment. These were found to mitigate mental ill-health. [40] Green noted that leaders who provided goals, gave direction and worked to enhance a positive organisational culture had employees with lower measures of burnout. [17] It was interesting to note that even with the presence of high workloads in stressful and emotionally demanding roles (e.g. mental health, child protection and palliative care) that a leader who exhibits supportive, helpful and encouraging traits can moderate the negative effects of these demanding roles. [17, 19, 23]

DISCUSSION

This scoping review examined the employee, client and organisational outcomes of high quality Allied Health leadership. The results point to a connection between effective leadership and positive outcomes in all three domains. The findings demonstrate the wide-reaching influence of leadership in healthcare.

There is a dearth of high quality research on the outcomes of AHP leaders and on the AHP workforce; this came through in the current review. Few articles provided substantive outcome data on AHP, and researchers concluded that research is needed to identify the positive impact of leaders on health outcomes. [9-11] While anecdotal and evidence-based reports espouse the value of AH interventions, the lack of data pertaining to the AHP workforce makes it difficult to draw substantive conclusions on the value-add of AHP. Researchers acknowledge that better data is needed to inform governments and funding agencies of the impact of leaders. [7, 37, 39, 48] That said, the absence of robust data does not mean there is not a role for AH leaders in healthcare. In fact, as reported in Veronesi's study on hospital boards, the professional background of a health leader may not be as important an influence on hospital quality as the number of clinicians on the hospital board. [39] Interpreted this way, any professional group can improve quality scores for the health services not just medical and nursing. Boyce substantiated this by concluding that the presence of AHP on top management teams can improve client and service level outcomes. [11]

Leaders advance client care by the influence they exert on their teams rather than their hands-on clinical practice. Numerous examples of effective team leadership substantiates this view. [7, 49] Allied Health predominantly work in multidisciplinary teams and are ideally suited to apply leadership skills beyond their profession to deliver effective care in teams. [48] It would be beneficial to explore the impact of AHP on MDT in more detail.

Effective AHP leaders in rural areas were associated with higher retention rates, buffering against high workloads that are associated with intention to leave, thus maintaining a health service for the local community. [30-34]

Project management, evidence-based protocols and policy direction are the means to enhance health outcomes yet they are only as good as the people who use them. [49, 50] Leaders establish work conditions that are conducive to superior employee and organisational outcomes. [16, 19, 21] They often influence behaviours and embed changes that sustain quality improvements. This is an important function of AHP leaders and should be more widely communicated to senior executives, policy makers and governments.

Leaders can buffer teams against the negative effects of highly demanding work conditions, reducing stress and burnout. [17] There has been a recent focus on employee well-being acknowledging that it has a negative effect on overall organisational performance. [51] Efforts have included external training and in-house wellness strategies the benefits of these may not carry over to the workplace. The affirmative actions of leaders to enhance employee well-being that were in this review point to an (as yet) untapped resource in leaders for employee and organisational benefits. What is clear is that AHP leaders have positive and wide-ranging influence on a number of domains. They possess the characteristics of high performing leaders and are key players in healthcare teams. The lack of research and associated knowledge of their outcomes needs to be addressed in order to raise the profile of AHP Leaders and further advantage the population they serve.

LIMITATIONS

This scoping review gathered a large quantity of evidence about the important role of Allied Health as it included conference presentations and non-peer reviewed research that would have been excluded from a more rigorous systematic review. Conference presentations contained some interesting data on practical application of leadership in health. However an inherent difficulty about conference papers is the lack of detail they provide about their project, hampering efforts to build knowledge on the topic. Within the research identified in this review there is a preponderance of weak study designs. More than half of the articles reported on data gathered from case studies that sourced data from one-time sampling of leader's performance over a relatively short period of time. Case studies provide great breath to the study of leadership, giving rich qualitative data, however the data

lacks depth and the results are often unique to the study setting.

RECOMMENDATIONS

AH leaders have a valuable role to play in all areas of the health system and this needs to be publicised and communicated to clients, colleagues and policy makers. Notwithstanding the death of formal organisational outcomes linked to leaders, there is clear evidence of the role leaders have on emerging outcomes such as models of care, employee satisfaction and workforce efficiencies. Future research should gather qualitative perspectives from AHP leaders and quantitative data to evidence the outcomes of high quality leadership in AHP.

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RESEARCH ARTICLE

ANALYSING A RESILIENCE DEVELOPMENT PROGRAM: WHO BENEFITS

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ABSTRACT

OBJECTIVE:

This article presents findings from an analysis of resilience and resilience development.

DESIGN:

Convergent, mixed-methods research used an online survey to gather data from participants in a resilience development program, in combination with a small number of semi-structured interviews with managers.

SETTING:

The research was carried out on public sector health and human services managers and staff, during a time of 'downsizing' and organisational restructuring.

MAIN OUTCOME MEASURES:

The Wagnild Resilience Scale was used to measure resilience levels and their association to respondent demographic, educational and professional groupings.

RESULTS:

Interviews with senior managers found a consensus of opinion that resilience was important; and the resilience development program either had, or potentially had, benefits for their workforce. Perceptions about exactly who would benefit differed between senior managers and participants in the program. Participant survey results indicated that respondent characteristics (age, occupational group, highest level of education and departmental role) were associated with differing levels of resilience.

CONCLUSIONS:

This study found that resilience development may benefit two groups of employees in particular: non-nursing staff under 50 years of age, and managers. These findings add to the body of knowledge associated with staff resilience development, organisational change management and organisational learning. These results inform health service manager practice by suggesting potential target groups for resilience development.

KEYWORDS

resilience; human resource development; change management; health and human services; leadership development

This paper examines a common experience within Australian public sector health and human services organisations: the 'in-house' development and implementation of resources and programs to help support staff through downsizing and organisational change. In 2015, a series of public sector downsizing events in the (then) Tasmanian Department of Health and Human Services (DHHS) led to the development of a range of 'resilience' resources by the Leadership and Management Development Unit (LAMDU). A series of workshops were held to introduce these resources and an accompanying resilience coaching program was provided. Research was undertaken to investigate the level of resilience amongst program participants and the perceptions of senior managers as to the effectiveness of the program.

INTRODUCTION

DRAWING ON THE LITERATURE, DEVELOPING RESILIENCE RESOURCES

While individual reactions to organisational change are often complex and multi-faceted, studies suggest that change requiring staff downsizing leaves employees less motivated to contribute to organisational success and less willing to apply discretionary effort to accomplishing tasks.[1] 'Normal' responses to organisational change and downsizing may also include anger and overt resistance.[2] Poorly managed change is linked to a rise in employee stress, health issues and voluntary departures.[3] In health facilities, organisational change initiatives have also been linked to negative patient outcomes.[4]

Managing change in a downsizing environment requires both the ability to work through conflict and the ability to build consensus.[5] The negative effects on staff performance and health caused by organisational downsizing can be mitigated, at least in part, through staff resilience. Specifically, building employee resilience has been shown to increase employee engagement and support for change.[6]

In the LAMDU resources, resilience was defined as 'the capacity to cope with change and challenge and bounce back during difficult times'. [7] While initially inspired by similar 'resilience through downsizing' work in the United Kingdom,[8] the LAMDU focus on staff resilience was structured along the lines of 'three capitals': human, social and psychological or identity capital.[9]

TABLE 1. CONCEPTUAL OVERVIEW OF BUILDING STAFF RESILIENCE

HUMAN CAPITAL (SIGNATURE STRENGTHS)	SOCIAL CAPITAL (BUILDING BRIDGES)	PSYCHOLOGICAL CAPITAL (SELF MATTERS)
• Existing education, experience, knowledge, skills and abilities • Refreshing career strengths with SMART personal goals • Physical and mental fitness	• Friends and family • Professional networking and resilient role models • Community and civic engagement	Hope – the will and the way – expect the best and have a plan to achieve it Efficacy – 'can do' – the confidence to succeed Resiliency – bouncing back and beyond Optimism – realistic and flexible

Human capital is the experience and expertise that an individual brings to their working life.[7] The DHHS resources describe these as 'signature strengths': a person's individual way of thinking, feeling and behaving that helps them accomplish their goal. The 'Signature Strengths' workbook guided employees through the process of looking at their education, knowledge, skills and abilities; what (if anything) they would like to develop; and where they want to be in the future.[10] It was stated upfront that the expected results of these exercises would be to develop the kind of 'career optimism' that is positively related to success.[11]

Social capital provides the networks and relationships that support individuals in their home, work and community.[7]

The 'Building Bridges' workbook contained exercises that not only looked at harmonising the competing demands employees may face between home and work, but also strategies for managing the boundaries between. These included the development of both formal and informal professional networks and the connections that employees could make to the broader community.[12]

Developing psychological capital speaks to the links between individual psychological and physical health; organisational health and culture; and productivity.[13] The HERO (hope, efficacy, resiliency and optimism) attributes of psychological capital are particularly valuable in times of change.[7]

The 'Self Matters' workbook encouraged participants to explore the concept of hope as a positive, personal drive, directed by individual agency ('the will') and planning ('the way') to meet challenging situations.[14] Similarly, efficacy was defined as a 'can do' attitude that motivates the individual to choose and welcome challenges and to use their strengths and skills to meet them.[7] Resiliency was defined as not only the ability to bounce back from adversity, but also the will to go beyond the normal, to strengthen positive outlook.[15] Finally, an optimistic style was defined as supporting resilience as it enables the individual to adopt 'can do' thinking, and experience the positive emotions that come with success.[16] The 'Self Matters' workbook suggests ways of cultivating an optimistic style by exercising more control over thinking that may be self-defeating or undermining.[8]

The LAMDU resilience resources were made available on the DHHS intranet as well as the Department of Premier and Cabinet internet page. These included the three resilience workbooks [10, 12, 14] and two guides for managers and coaches. [17, 18] Although the activities in the resilience workbooks could be completed individually, staff were encouraged to work with a coach or their manager and work team. Volunteer resilience coaches were recruited to work with other employees, using the workbooks. The in-house resilience video-conference series attracted an enrolment of over 200 participants, while face-to-face workshops were also provided to over 200 DHHS staff.

METHODS

The appraisal of the LAMDU resilience program was undertaken by a University of Tasmania student, recruited through the State Service Internship Program. During the ten-week internship, a convergent mixed-method research design was used for the purpose of (1) examining the levels of resilience amongst resilience program participants and (2) assessing the effectiveness of the resilience program, in the opinion of senior managers. 'Mixed-methods' was chosen as a pragmatic approach to gathering in-depth information from a few, key senior managers (through interview) as well as a more limited set of information from a staff across the state (through online survey).

When designing the online survey, a number of potential instruments to measure employee resilience were considered. After conducting a review of each instrument, it was decided that the Wagnild (2013) 25-Item Resilience Scale (RS) would be utilised.[20] The RS was chosen due to the fact that it provided a balance between survey length and quantitative data detail. The primary quality of the RS is that it is simple and straightforward for survey respondent to complete and provides the researcher with clear and precise quantitative data.[21]

Along with conducting the RS survey, five interviews were conducted with Senior Managers who had participated in the resilience program. The interviews were conducted in a semi-structured manner and their duration varied between 15-30 minutes. In each interview a number of set questions were asked about the interviewees' knowledge of, interaction with, and opinion of the resilience program. Each interview was recorded, transcribed and validated with the interviewee. In order to analyse the interviews a thematic analysis was conducted, and a number of thematic similarities were identified in the responses of the interviewees.[19]

RESULTS

SURVEY RESULTS

The RS survey was emailed to 291 staff, who were known to have attended one of the resilience events in the last 12 months, and a total of 82 responded (28% response rate). In addition to completing the RS survey, respondents were asked to classify themselves in relation to their gender, age group, role in the department, highest level of education and occupational group. Table 2 provides respondent demographics.

Students t test and analysis of variance (ANOVA) were used to compare mean resilience scores for individual item scores, total resilience and the two dimensions of 'acceptance of self' and 'life and personal' competence across age, sex, occupation, education and role categories. Results tables report comparisons less than or equal to P=0.10. Means (M) and standard deviations (sd) are reported.

Only 6% of survey respondents had RS scores that indicated low levels of resilience (total score of < 121). Another 46% of respondent RS scores indicated moderate resilience (total score 121-145). A slightly larger group (48% of all respondents) registered scores that indicated high levels of resilience (total score 146-175). The mean score for the total

sample was 144.6 (sd 15.2), showing moderate resilience. However, survey results also indicated that some respondent demographic and workplace characteristics were associated with differing levels of resilience. Survey data analysis indicated that there were no significant differences found on any resilience measures at $p \leq 0.10$ for comparisons between men and women. Comparisons across the age groups on selected resilience measures at $P \leq 0.10$ are shown in Table 3. Being 50 years or older was generally associated with increasing resilience.

TABLE 2. SURVEY RESPONDENT DEMOGRAPHICS (N=82)

GENDER (N, %)	
Men	15 (18.3)
Women	67 (81.7)
Age (N, %)	
20-39	9 (11.0)
40-49	22 (26.8)
50-59	43 (52.4)
60 +	8 (9.8)
Occupational group (N, %)	
Administration and clerical [A&C]	31 (37.8)
Allied health professionals [AHP]	22 (26.8)
Nursing and midwifery [N&M]	27 (32.9)
Medical and paramedical [M&P]	2 (2.4)
Highest level of education (N, %)	
Postgraduate university [PG]	44 (37.8)
Undergraduate university [UG]	21 (26.8)
Other qualification [O]	17 (32.9)
Role in department (N, %)	
Senior manager [SM]	14 (40.2)
Middle manager [MM]	23 (28.0)
Front-line manager [FM]	12 (14.6)
Not a manager [NM]	33 (40.2)

TABLE 3. COMPARISON OF MEAN SCORES ON SELECTED RESILIENCE MEASURES ACROSS AGE GROUPS

AGE	20-39 (N=9)	40-49 (N=22)	50-59 (N=43)	60 AND OVER (N=8)	P VALUE
	M ± sd	**M ± sd**	**M ± sd**	**M ± sd**	
I seldom wonder what the point of it all is	4.78 (1.86)	4.41 (1.62)	5.47 (1.18)	5.13 (0.64	0.032
I keep interested in things	5.78 (0.44)	5.68 (0.84)	6.12 (0.88)	6.38 (0.52)	0.090
I do not dwell on things that I can't do anything about	4.43 (1.12)	4.23 (1.41)	5.12 (1.22)	5.50 (0.93)	0.014
Acceptance of self and life summary score	41.78 (7.08)	41.59 (4.55)	44.83 (6.51)	46.37 (3.54	0.080

Comparisons across occupations on selected resilience measures are shown in Table 4. Participants employed in nursing and midwifery tended to be more resilient than those in the other occupations with exception to the first item "Keeping interested in things is important to me".

In table 5 comparisons across educational categories are shown for selected resilience measures. Those with undergraduate level of education tended to report higher resilience on these items.

Comparisons across roles only differed on the item "I usually manage one way or another" (p=0.02) means and standard deviations reported respectively (front-line manager; 5.67±0.89, middle manager; 5.87±0.82, senior manager; 5.07±1.64 and not a manager; 6.09±0.81).

TABLE 4. COMPARISON OF MEAN SCORES ON SELECTED RESILIENCE MEASURES ACROSS OCCUPATIONAL GROUPS

OCCUPATION	ADMINISTRATION & CLERICAL (N=33)	ALLIED HEALTH (N=22)	NURSING AND MIDWIFERY (N=27)	P VALUE
	M ± sd	**M ± sd**	**M ± sd**	
Keeping interested in things is important to me	6.48 (0.67)	6.32 (0.78)	6.0 (0.83)	0.051
I take things one day at a time	4.33 (1.53)	4.77 (1.63)	5.22 (1.12)	0.065
I can usually find something to laugh about	5.67 (0.96)	5.68 (1.08)	6.22 (0.89)	0.061
I do not dwell on things I can't do anything about	4.39 (1.14)	4.77 (1.34)	5.41 (1.28)	0.009
It's okay if there are people who don't like me	5.42 (1.0)	5.09 (1.48)	5.85 (0.99)	0.071

TABLE 5. COMPARISON OF MEAN SCORES ON SELECTED RESILIENCE MEASURES ACROSS EDUCATIONAL GROUPS

EDUCATION	POSTGRADUATE UNIVERSITY (N=4)	UNDERGRADUATE UNIVERSITY (N=21)	OTHER QUALIFICATIONS (N=17)	P VALUE
	M ± SD	M ± SD	M ± SD	
I am able to depend on myself more than anyone else	5.45 (1.37)	6.10 (0.83)	6.0 (1.06)	0.082
I seldom wonder what the point of it all is	4.82 (1.54)	5.71 (0.90)	4.94 (1.39)	0.050
I can usually look at a situation in a number of ways	6.18 (0.79)	6.10 (0.77)	5.65 (0.86)	0.067
I do not dwell on things I can't do anything about	4.86 (1.23)	5.24 (1.37)	4.24 (1.25)	0.058

INTERVIEW THEMES

There were two broad themes that emerged from the thematic analysis of the interview with senior managers. The first consistent theme that emerged was a consensus that the downsizing process caused staff considerable stress. Interviewee three stated that when the reorganisation within her agency began, her staff were initially excited and eager to engage in the change process. Over time, however, people became increasingly disengaged and staff morale levels began to decrease, while stress levels began to increase. Interviewee five stated that the changes to his group had caused significant anxiety amongst staff members. Interviewee one reiterated these points but also stated that her staff felt as if they were losing control of their responsibilities because the cuts had reduced their service delivery capacity. This caused staff to become very concerned about the welfare of their clients, who were being adversely affected.

> *With the loss of the preventative health money, a lot of the upset conversations that I noticed were of the concern for the impact on the health and wellbeing of vulnerable Tasmanians [Interview One].*

The second consistent theme that emerged was the belief that the resilience program either had, or could have, benefits for the workforce. Interviewee one stated that a number of the activities in the workbooks had been very useful for facilitating conversations between her staff, and in her staff forming closer bonds. The program also resulted in her staff having a greater consideration of resilience and greater tolerance of other people's ways of dealing with change. Interviewee two stated that there had been a distinct positive change in atmosphere across her team which coincided with the trial run of the program. She thought that the program's content was very applicable and that the results of the program exceeded her expectations:

> *I would suggest that staff are resonating with the concept of being supported and I think that this is a very strong take home message. If we make that investment in our staff then value to the organisation naturally follows [Interview Two].*

The senior managers differed as to the optimal delivery method for resilience resources. Two interviewees expressed the belief that the best way to engage people in the program would be for those higher up in the department (other Senior Executives like themselves) to promote it in a 'top-down' manner:

> *The CEO can convince the executive team that this is something that really needs to be encouraged and supported and then you start to get it down to the general managers, heads of department, team leaders and so forth [Interview Five].*

Interviewee four, on the other hand, felt that she would have liked to have received more 'bottom up' feedback, comment and support from the LAMDU:

> *As manager, what you get from the participant is just the participant's interpretation. There is no other feedback from the coordinator of the program [Interview Four].*

Interviewee two also stated that she would have preferred to have seen the resilience program implemented as part of a broader change management structure. As this did not occur, she stated that the program should be utilised, in the absence of anything else. The continuity of change was a common theme:

> *Like every other department, we're in a constant state of change. We've gone back to being a state-wide service. Our direct line management is different to what it was previously. We are undergoing a redesign of our service model. There is lots of change [Interview Three].*

The senior managers also differed as to what the optimal target group was for these resources. A belief stated by both Interviewee four and five was that the resilience program should not be a 'one size fits all' program, rather it should only be utilised for people who are clearly struggling to cope. It was not seen as relevant for senior managers:

> *I am not going to say that I need this. Truthfully, I would not waste my time. If I thought that one of my direct reports was struggling with resilience I might suggest this [Interview Four].*

DISCUSSION

The principal findings that emerged from the results were in relation to (1) the importance of resilience development; (2) targeting the most appropriate group for development; and (3) the mode of administration for development activities.

THE IMPORTANCE OF RESILIENCE AND POTENTIAL BENEFITS OF PROGRAMS TO SUPPORT THIS

This was an area of agreement amongst senior managers. While the quantitative evaluation conducted by the student Intern was hampered by the lack of baseline data with which to compare, the qualitative interviews indicated an 'in principle' support for the work.

TARGETING RESILIENCE DEVELOPMENT

On average, DHHS RS results indicated moderate resilience (144). This is the most common result for this instrument, as average scores for most samples range between 140-148.[20] There was, however, some variation across the DHHS sample, based on demographic characteristics.

In direct contrast to the beliefs of some senior manager respondents, the RS results indicated that, overall, managers were not as resilient as non-managers.

Older workers (over 50 years) were generally more resilient. While it is a truism that age and experience do provide some sense of emotional stability, these results also appear to support this.

Those employed in nursing and midwifery registered higher levels of resilience. It was noted that more participants who were older were also in the occupations of nursing and midwifery, but the data suggests that there is a particular association between this occupation and higher resilience. As with age, comparisons between occupations not only assist in identifying groups with higher resilience but also groups that may benefit from being targeted for resilience development. In this case, within DHHS, younger workers and allied health professionals might form a suitable target group.

This approach contrasts with that taken by Lengnick-Hall et. al. (2011), who take a functional approach, and suggest that resilience development should focus on the 'core employee groups'. That is, those employees without which the organisation could not function, or would function poorly.[22]

TOP DOWN OR BOTTOM UP ADMINISTRATION

The senior managers interviewed were somewhat divided as to how to best deliver the resilience program – should there be more leadership from the 'top' of the organisation or more support from the 'bottom' (e.g. the LAMDU)? Reflecting the LAMDU's limited resources, the resilience program was pragmatically designed to deliver a small number of workshops, with a supporting set of coaches and online tools and resources that managers and staff could proactively interact with, at their convenience.

Additional resources would have been required for the LAMDU to play a more active role in the administration of the program and to provide support to senior managers. In an environment of fierce competition for such resources,

this would require that resilience development become a priority within the organisation.

HOW THESE RESULTS COMPARE TO OTHER STUDIES

A 2016 Australian study confirmed the overall efficacy of workplace resilience programs in mediating the impact of organisational change, in a case study of the power distribution industry.[23] While Bardoel et. al. (2014, 283) noted 'limited efforts to design, implement and evaluate Human Resources practices to build resilience', more recent literature suggests that the concept of resilience has become more central.[24] In October 2017, a search for the terms 'resilience' or 'resilient' or 'resiliency' and 'human resource management' in peer-reviewed journal articles published since 2014, yielded 2,272 results.

The analysis of the Tasmanian resilience program was undertaken with limited staffing and, as a result, was somewhat opportunistic. A larger sample size could provide more robust conclusions about the role of resilience within Tasmanian health and human services and would have allowed analysis of the subscales of the RS. The absence of both medicine and paramedicine professions in the results leaves questions about the levels of resilience within those groups. Further research could be undertaken to explore this.

Wang et. al. (2014) found that gender, age and education level impacted on the level of self-reported resilience of Chinese banking employees but found that younger, more highly educated, male respondents were more resilient than their colleagues.[25]

In this study, the impact of education on resilience was ambiguous. Respondents with an undergraduate degree were more resilient and scored highly against three items: 'I am able to depend on myself more than anyone else', 'I seldom wonder what the point of it all is' and 'I do not dwell on things I can't do anything about'. The last item listed was also significant against age, occupation and education. Postgraduates registered more highly against being 'able to look at a situation in a number of ways'. Further investigation of these dynamics may shed light on the impact of education on resilience.

CONCLUSION

This paper has confirmed the importance of resilience development within the health and human services workforce, particularly following a period of organisational change. Rather than a 'one size fits all' approach, results indicated that age, occupational group, highest level of education and departmental role may be used to target this intervention.

This paper provides an example of what a relatively modest outlay in this area can achieve, in terms of providing direction for focused interventions, and providing a return on investment.

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REVIEW ARTICLE

IMPLICATIONS OF NEW ZEALAND'S PRIMARY HEALTH CARE POLICIES FOR MANAGEMENT AND LEADERSHIP

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ABSTRACT

INTRODUCTION:

Reforms have been introduced since 2000 to make New Zealand's health system primary care-led. A competent health management workforce is necessary to provide leadership for the goals of the reforms to be realised.

AIM AND OBJECTIVE:

To review New Zealand's key primary health care policies from 2000 to 2016 and consider their implications for management and leadership.

METHODS:

A document analysis was undertaken using qualitative content analysis. Eligible documents were identified through the websites of relevant government and non-government agencies, World Health Organisation, and through Google Scholar.

FINDINGS:

Two key policy trends relating to primary health care were identified. Firstly, a population health orientation to improve access to health care through community participation, and secondly, an integrated approach to promote collaboration within the health system, and between the health system and other sectors. The inferred management and leadership skillsets required to realise these policies included relationship management and collaboration, change management, and leadership.

CONCLUSION:

New Zealand's primary health care sector underwent substantial reform between 2000 and 2016. Management and leadership capabilities need to be strengthened and developed for the benefits of the reforms to be realised.

KEYWORDS

primary health care, management, leadership, policy, competency.

BACKGROUND

The New Zealand Health Strategy was released in 2000. [1] The key goals included meeting the local needs of the population, promoting access to health care, and eliminating inequalities in health. To achieve these goals, the New Zealand's Primary Health Care (PHC) Strategy was released in 2001 [2] to set the direction for PHC. The intent of the 2001 Strategy was to re-focus the health system away from the hospital to PHC and community, and promote the involvement of local people in the planning and delivery of PHC services at the community level, reflecting the Principles of Primary Health Care set out in the 1978 Alma Ata Declaration. [3]

After a change of government in 2008, further reforms in the health system were aimed at delivering 'better, sooner and more convenient' service, through enhanced coordination and integration of services, and enhanced capability of the PHC sector to undertake ambulatory services generally provided by hospitals. [4] An integrated care approach was expected to result in greater networking, collaboration, and coordination across services. There are

different types of integration: integration within the PHC sector ('horizontal' integration); integration between primary and secondary health care sectors ('vertical' integration); and integration between the health system and other sectors such as welfare, housing, and employment services ('inter-sectoral' integration). [5] The goal of integrated care is to ensure seamless and continuous care for service users as they move through the health system. The emphasis in New Zealand has been on greater use of primary and community health care services with the aim of shifting care closer to people's homes. [6,7]

These reforms of New Zealand's health system have significantly changed the landscape of its PHC sector, in terms of organisation, ownership, and funding, with far-reaching implications for the competencies of those in management and leadership roles. New Zealand's PHC sector is a multi-level and devolved system which at service delivery level comprises general practices with care delivered by general practitioners, nurse practitioners and practice nurses. General practices are members of Primary Health Organisations (PHOs), the next level; PHOs are non-government organisations and provide funding for their member general practices to deliver PHC services (some PHOs provide PHC services directly to their enrolled population). The activities of the PHOs are publicly funded through District Health Boards (DHBs), which are responsible for the health needs of the people in their geographical locations, with funding based on the enrolled population i.e. capitation funding. [2]. Finally, there is the Ministry of Health, which exercises monitoring and regulatory power over the DHBs. The PHOs are thus pivotal to the provision of PHC services in New Zealand, especially primary medical care services. Though funding of PHOs is based on the enrolled population, enrolment by patients in a PHO is voluntary, with most New Zealanders enrolled through their general practices. In effect, the New Zealand PHC sector is a hybrid system where private and public institutions collaborate to deliver PHC services.

Strong management and leadership workforces have been recognised as crucial for driving changes and implementing reforms in the healthcare sector. [8.9] However, the competencies required in effectively managing and leading health services is a neglected area in New Zealand. [10] To date, there is a lack of consensus on competency frameworks against which to assess the competence of the New Zealand health management and leadership workforce, particularly in primary health care. In contrast, the Health Practitioners Competence Assurance (HPCA) Act [11] requires that the competence of regulated health professions is specified, and practitioners must demonstrate their competence against standards. However, the HPCA Act does not cover non-clinical health managers, for whom there are no equivalent high-level competence standards to provide guidance to service providers. Thus, little is known about the New Zealand health management and leadership workforce, in terms of its managerial effectiveness, specific competencies, and training requirements. Given the absence of such information, a starting point to an understanding of what these competencies might be is to analyse documents setting out policy and strategic direction for the PHC sector. Such an understanding will facilitate the identification of requisite competencies to inform appropriate training and professional development, and to subsequently improve competence and performance in roles.

AIM

The study aimed to identify and review key national-level strategies and policies on New Zealand's PHC and consider their implications for management and leadership competencies

METHODS

This is a document analysis which involved qualitative content analysis. Documents eligible for analysis were those announcing or outlining key government policies or intended policies on New Zealand's PHC. Also eligible for analysis were evaluation reports or commentary on specific policy that had implications for management and leadership competencies. Excluded were documents that analysed, evaluated, or reviewed policies or strategies that had no implications for management and leadership competencies at the national level. Both published and unpublished documents available from 2000 to 2016, that is, documents available since the release of the New Zealand Health Strategy in 2000 and the updated version of the Strategy in 2016, were included. This timeframe coincides with a period when New Zealand's health system underwent significant re-orientation towards a PHC-led system.

SEARCH METHODS FOR DOCUMENTS

A comprehensive search was undertaken to identify relevant documents. The websites of the following New Zealand agencies and organisations were searched to 30 September 2017: Ministry of Health, District Health Boards,

Primary Health Organisations, College of General Practitioners, New Zealand Parliament, National and Labour political parties and newspaper archives. We also searched the website of the World Health Organisation, and Google Scholar electronic database using the subject heading 'New Zealand primary health care' as the search strategy. Other resources included hand searching of reference lists of included and excluded documents.

SELECTION AND EVALUATION OF DOCUMENTS

All potentially eligible documents were retrieved in full text and checked for compliance with the inclusion criteria. The selected documents were assessed for authenticity, credibility, representativeness and meaning. [12,13] The above process was facilitated by two authors (ROA and NN) with any disagreement resolved through discussions.

ANALYSIS

Documents were analysed using qualitative content analysis involving inductive thematic analysis. [12.14] The selected documents were read to identify sentences, terms, and quotes pertinent to the study aim and objectives. Where the competencies required to deliver the strategies were not explicit in the documents, we continued the analysis with an interpretative lens to identify implications of policies and strategies for competencies relevant at the national level.

Coding was performed by identifying words, terms, or phrases in the selected data relevant to policy directions and/or implications for management and leadership competencies, with codes summarised on a spreadsheet. Using a constant comparative process, new codes identified in a new data set were then applied to the already coded data sets to ensure the new codes were not omitted. Similar codes were organised into substantive categories and compared across documents and data sets to identify similarities, differences, and emerging patterns. Categories that were similar in meaning were organised into themes or sub-themes which were examined to see how they related to policy trends or the implications of those policies for management and leadership competencies.

RESULTS

RESULTS OF THE SEARCH

A total of 56 documents were identified after removal of duplicates. Of these, 23 documents, either proposing, setting out or critiquing policy, met the eligibility criteria for inclusion. Table 1 below summarises the characteristics of documents included in analysis.

ASSESSMENT OF THE QUALITY OF DOCUMENTS

Documents were evaluated for authenticity, credibility, representativeness and meaning. Included documents were assessed as: genuine and reliable; having been authored by organisations or individuals of unquestioned credentials; containing information emanating either from authors' first-hand experience or from verifiable sources; and as representative of policy documents on New Zealand's PHC. None of the documents were considered comprehensive in terms of providing broad and wide coverage of the key policy directions, as they individually addressed a specific policy direction at a point in time. Importantly for this analysis, the included documents did not explicitly address the competencies required by the management workforce to implement the strategies.

IDENTIFIED POLICY TRENDS

Two key policy trends were identified, reflecting the periods in which the two major political parties were in government and the policies they introduced.

1. Documents published from 2000 to 2007 (Labour-led government)
2. Documents published after 2007 to 2016 (conservative National-led government)

POPULATION ORIENTED PRIMARY HEALTH CARE: 2000 - 2007

The evolution of population oriented PHC was the substantive policy direction identified from the analysis of documents released between 2000 and 2007. [1,2,15-20] Three main subthemes emerged from the coding process:

1. Improving the health of the population through the establishment of community-based Primary Health Organisations to coordinate primary health care services
2. Improving access to PHC
3. Improving the coordination of car

TABLE 1 CHARACTERISTICS OF DOCUMENTS INCLUDED IN ANALYSIS

Document Reference	Source/Publisher	Purpose
[1]	Ministry of Health	Announced the New Zealand Health Strategy
[15]	Ministry of Health	Elaborated on the intended reforms in the New Zealand PHC sector
[2]	Ministry of Health	Announced the New Zealand Primary Health Care Strategy
[16[	Ministry of Health	Set the requirements for the establishment of PHOs
[17]	Ministry of Health	Set out guidelines for establishing PHOs from 2002
[18]	Ministry of Health	Provided an overview of a new funding initiative, known as Care Plus, in the PHC sector
[19]	Ministry of Health	Provided an insight into the implementation of the Care Plus
[20]	Ministry of Health	Set the directions for information systems to support the implementation of the PHCS
[21]	New Zealand National Party	Announced the 'Better, Sooner, More Convenient primary health care as intended health policy; formed the basis of reforms in PHC sector from 2009 to date
[4]	New Zealand National Party	Set out the funding intentions and the framework to be introduced by the National Party to improve performance in the public health system
[22]	Ministry of Health	Critical analysis of the PHCS; identified key strategy directions, achievements and areas needing further improvement; discussed implications of the policy for management and leadership workforce
[23]	District Health Board New Zealand & Ministry of Health	A synthesis of reports commissioned by the Ministry of Health & DHBNZ; reviewed the implementation of the PHCS in relation to the workings of the PHOs and focuses on the future directions of the PHOs within the context of the implementation of the next stage of the PHCS; discussed management and leadership development as areas that required attention.
[7]	Ministry of Health	A report of the committee set up to review health & disability services; its recommendations form the bedrock of reforms in the PHC sector from 2009
[24]	Ministry of Health	Announced the request for expression of interest for the delivery of Better, Sooner, More Convenient primary health care
[6]	Minister of Health	Minister of Health's press release **announcing** the expression of interest for the implementation of the Better, Sooner, More convenient PHC policy
[25]	Minister of Health	Minister of Health's press announcing the names of PHOs shortlisted for the implementation of integrated health care
[26]	Minister of Health	Minister of Health's speech to World Health Care Networks Conference highlighting some of the reforms in the New Zealand PHC sector
[27]	New Zealand National Party	Highlighted the gains of previous reforms of the last 3 years in the health system; set out areas for future reforms
[28]	Ministry of Health	Highlighted some of the initiatives undertaken by health care professionals to provide better, integrated health care
[29]	New Zealand National Party	Minister of Health's statement announcing the next policy direction of the National Party on health
[30]	Ministry of Health	Update of the Health Strategy with elaboration on areas of reforms in the health system (draft)
[31]	Ministry of Health	Update of the New Zealand Health Strategy specifying the future direction of the health system
[32]	Ministry of Health	Update of the New Zealand Health Strategy roadmap of actions to achieve the goals of the reforms in health system

POLICY IMPLICATIONS FOR HEALTH MANAGEMENT AND LEADERSHIP COMPETENCIES

The implications for management and leadership competencies were not explicit in the documents included in the analysis. However, those competencies were alluded to, identified through a semiotic analysis of some of the documents. Three themes emerged on the implications of the two policy trends for management and leadership competencies:

1. Relationship management and collaboration skills
2. Change management skills
3. Leadership skills

Codes reflecting these competencies are summarised in Table 2 below.

TABLE 2 IDENTIFIED CODES FOR MANAGEMENT AND LEADERSHIP COMPETENCIES

THEMES	KEY CODES
1. Relationship management and collaboration	*relationship management, *management of relationships, *develop services in a collaborative manner, *focus on collaborative planning, *enable a more extensive and better co-ordinated range of services
2. Change management	*management approach that might enable the achievement of these ambitious objectives, *encourages reflection on current working practices, *allows the development of a set of shared desired outcomes for local service change, *implementation of change to patient services within primary care, *reshape service provision, *enable a more extensive and better co-ordinated range of services, *quality improvement, *management of change
3. Leadership	*stronger cross-sector engagement and leadership, *stronger collective leadership from these clinicians in partnership with managers, *collective leadership from both clinicians and managers, *greater clinical leadership, *medical leadership, *combined clinical and managerial leadership across the sector

DISCUSSION

Major structural changes to the organisation, funding, and delivery of PHC services have arisen from the reforms in New Zealand's PHC sector between 2000 and 2016.. The population oriented PHC policy, which was the main focus of the reforms undertaken between 2000 and 2007, makes the health and wellbeing of the people the core of services within the PHC sector. Services hitherto provided by individual general practices were brought under the coordination of a new set of organisations, i.e. the PHOs. This policy encourages active participation of communities in the governance of PHOs and delivery of PHC services through their involvement in identifying health needs, design, and implementation of appropriate approaches to solving identified health issues. The policy also emphasises the need for multi-disciplinary approaches to decision making among health care professionals. The main objective of this policy is to reduce health inequalities and improve access to PHC services by reducing major barriers to access. Changes were made to government subsidies and funding systems, with the fees-for-service model of payment complemented with capitation funding, based on population needs and enrolled population to reduce patient co-payment.

The main thrust of the reforms undertaken from 2007 to 2016 was geared towards integration of care within and between primary and secondary care on one hand, and between the health system and other sectors on the other. These reforms were informed by the perceived shortcomings inherent in the implementation of the PHC Strategy. These shortcomings included rising spending on

health services, concern for patient safety and quality of services and inequalities in service improvement such as long waiting times and access to certain specialist services. [7] As a way forward, the New Zealand National Party, then in opposition, in 2007 proposed a major policy direction through the 'Better, Sooner, and More Convenient' document. [21] This document forms the basis of the government policy on PHC from 2007 to 2016. The integrated healthcare policy aimed to promote safe, effective and efficient health services within the shortest possible time and with less discomfort to patients. [4,6] Of interest was the recognition of the need for clinicians to be more actively involved in the planning of health services through the concept of clinical leadership. [7] This, in effect, was expected to set the pace for stronger collaboration between clinicians as clinical leaders, and other professionals in management or leadership roles. Thus, the hitherto 'managerialism' structure, dominated by generalist trained managers, was expected to give way to a unified collective leadership structure. Such a unified leadership structure requires health care organisations to develop individuals and teams to work collaboratively for the greater good of the populations. [33]

The changes anticipated by the reforms in New Zealand's PHC sector are complex and far-reaching; the process of managing these changes and dealing with the attendant consequences (both intended and unintended), require a high level of management and leadership competence. [22] For example, integrated care requires management and leadership structures with the capacity to stimulate stakeholders to work in a more collaborative manner across all levels of the PHC system, where relationships have been described as 'massively entangled', [34] and between the PHC and other sectors of the health system. This point was also emphasised in the report of the Health Workforce Advisory Committee in making the case for strong leadership at different levels of the PHC sector for successful implementation of the PHC Strategy. [35] In his exploratory study, Love also noted that:

> *Issues of leadership and management tend to be more important to the success of a practice …In many cases changes in service delivery had been the result of strong leadership from individuals in practice. [36, p. 1]*

Other authors have also stressed the importance of management and leadership in driving innovations in the PHC sector. [37-40] The hybrid nature of New Zealand's PHC system will no doubt pose a daunting challenge for the implementation of high-level strategies such as those related to the development of management and leadership capabilities. This is particularly so given the limited direct influence policy makers have on private organisations. Nonetheless, such complexity should not obviate the need for clear strategy directions to guide implementation of initiatives to strengthen the capabilities of management and leadership personnel. While individual organisations (such as PHOs and DHBs) may have embarked on initiatives to strengthen the capabilities of their management and leadership personnel, the effectiveness of such measures remains unclear, particularly when little is currently known about the specific competencies required by the New Zealand health management and leadership workforces. The development of a competency framework for the PHC management and leadership workforces will assist in strengthening their capabilities. Such a framework is used to assess performance, identify gaps in proficiency and target appropriate training and professional development. [41]

Only three skill sets related to the implementation of some of the reforms were inferred from (but not explicit in) the policy and strategy documents. These were: 1) relationship building and collaboration skills; 2) change management skills; and 3) leadership skills. The absence in policy documents of the implications of reforms for management and leadership competencies underlines the scant attention paid to the capabilities of health managers and leaders in New Zealand's PHC sector at the national level. Indeed, it reflects a taken-for-granted view, without the evidence to support it, that such capabilities exist.

In view of inadequate information and lack of clarity on what competencies are required by the management and leadership of PHC in New Zealand in documents analysed, research conducted elsewhere was considered to identify competencies potentially applicable to New Zealand's PHC sector. One such study is the Managerial Competency Assessment (MCAP) study conducted by Liang and colleagues [42] among community health services managers in Victoria, Australia. The Liang et al study was selected because of some similarities in context between the Australian and New Zealand health systems, community health services in Australia being equivalent of PHOs in New Zealand. The study identified seven competencies considered essential for senior and middle level managers in community health services. These were: evidence-informed decision-making; interpersonal,

communication qualities and relationship management; knowledge of the health care environment and the organisation; operations, administration, and resource management; leading and managing change; leadership; and professionalism. [42] Three of these competencies (interpersonal, communication qualities and relationship management; leading and managing change; and leadership) are identical to the competencies inferred from our analysis of documents as essential for management and leadership of the reforms in New Zealand's PHC sector (i.e. relationship management and collaboration, change management, and leadership skills). While it is possible that the remaining competencies identified by Liang and colleagues are applicable to the New Zealand PHC context, reflecting the notion of core competencies, [43] their applicability is worth testing in the New Zealand health system given its particular characteristics.

CONCLUSIONS

In the past two decades there has been substantial reform of the New Zealand health sector, resulting in a PHC-led health system. A critical review of the policy documents on New Zealand's PHC revealed limited recognition of the management and leadership competencies needed to implement major reforms, and a subsequent lack of guidance at the national level on how to develop the capabilities of the management and leadership workforce. If the goals of the policies are to be realised, management and leadership capabilities across all levels of New Zealand's PHC sector and its interface with other health and social sectors will need to be developed and strengthened. While individual organisations in the PHC sector may be investing in initiatives to strengthen the capabilities of their management and leadership personnel, the effectiveness of those measures remains unclear in the absence of clear strategy directions to guide implementation of management development. The absence of formal competency frameworks against which to assess competencies and identify gaps in proficiencies may further limit the effectiveness of any efforts to strengthen management and leadership capabilities in New Zealand's PHC sector. A starting point will be the identification of competencies required by the management and leadership workforces in New Zealand's PHC sector to inform the development of appropriate training and professional development interventions.

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RESEARCH ARTICLE

THE HEALTH LITERACY ENVIRONMENT OF A REGIONAL AUSTRALIAN ELECTIVE SURGERY ACCESS UNIT: CONSUMER PERSPECTIVES FROM PRE-ADMISSION TO POST-DISCHARGE

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ABSTRACT

BACKGROUND

Healthcare services should conscientiously ensure their health literacy environment (HLE) supports wayfinding and provides comprehensible health information. Despite the increasing focus on the importance of evaluating and enhancing the HLE, consumer perspectives about HLE barriers and enablers have received limited attention in the published literature.

OBJECTIVE

This study aimed to identify barriers and enablers in the HLE of the Elective Surgery Access Unit (ESAU) at Albury Wodonga Health in regional south-east Australia.

METHODS

Three consumers participated in the study. Two of these participants completed a wayfinding interview, verbalizing the barriers and enablers encountered during wayfinding from the nearest carpark to the ESAU. All participants reviewed samples of written materials for ESAU consumers. Two participants, who had been discharged, commented on whether any important information was overlooked, from a post-discharge perspective. The data was categorized into inter-related themes within broader overarching domains.

RESULTS

The helpfulness of the physical environment was one domain, involving three themes: signage, parking, and visual cues. The helpfulness of written information was another domain, involving three themes: comprehensiveness, readability and relevance. A third overlapping domain was: the importance of verbal information-giving. This domain also involved three themes: the importance of a phone number to seek assistance, a clearly identifiable reception area, and in-person communication.

CONCLUSIONS

The insights of these three service users can inform health services trying to enhance access for everyone needing healthcare. If more Australian health services reviewed their HLE, the findings could inform organizational improvements towards safer, more efficient, and higher quality healthcare.

KEYWORDS

Health Literacy, Environment, Wayfinding, Health Information, Evaluation

INTRODUCTION

Health literacy is an umbrella term which includes individual health literacy and the health literacy environment. [1] Individual health literacy involves all the skills and attributes of a person which enable them to manage their own health. [1] As our understanding of health literacy issues has evolved, it has become apparent that the nature of the healthcare system supports or impedes consumers in managing their health. [1] Acknowledging this relationship

between the person and their healthcare environment, the health literacy environment (HLE) is now considered an important component of health literacy. [1] The HLE includes health information, healthcare workers, the physical environment and the political context of healthcare. [1] Recognition that health literacy demands contribute to barriers, inequalities and fragmentation of healthcare has led to an increased focus on the HLE. This study focused on two aspects of the HLE: written information and wayfinding.

Few existing studies have evaluated wayfinding and written information in healthcare settings. Groene and Rudd [2] evaluated wayfinding and written information at 10 hospitals in Spain, identifying barriers including inconsistent or incorrect signage. An American study by Pati and colleagues [3] identified elements of the physical environment which influenced wayfinding, including maps, signs and clustering of destinations.

In Australia, Johnson [4] used the Health Literacy Environment Activity Packet [5] to evaluate the HLE of one Australian health service. Two consumers and one hospital employee found that wayfinding barriers contributed to the need for verbal directions. Two other Australian studies explored the health literacy of written consumer information. Byles, Chiarelli, and Hacker [6] recommended ensuring clarity, brevity and accuracy of written information. Similarly, a study by Dickinson and colleagues [7] highlighted the importance of verbal information from service providers in addition to written materials.

Much of the existing research lacks consumer voice, particularly consumers with low health literacy. The scarcity of HLE research in general limits the confidence with which existing findings can be transferred to other population groups and healthcare settings.

This study aimed to identify barriers and enablers in the HLE of an Elective Surgery Access Unit (ESAU) based at one hospital in regional south-east Australia. The ESAU receives referrals, books elective surgical procedures, and provides pre-clinical information to consumers. The information gathered was intended for use by ESAU managers and clinicians to improve universal access to the service by improving the HLE. The findings were also intended to prompt possible HLE improvements in other similar services.

METHOD

DESIGN

Responding to the above-noted lack of consumer input in existing HLE research, and in line with national safety and quality health service standards [8], feedback was sought from three ESAU consumers. A wayfinding interview identified navigational barriers and enablers. A written-information interview involved the participant reviewing documents provided by the ESAU and included post-discharge questions which explored the participant's overall view of information they were provided about their procedure.

Ethics approval for this study was obtained from two local Human Research Ethics Committees (HREC).

SAMPLING

Participants were invited from one surgical group in the region at the time of their referral to the ESAU. Participants were invited to take part in this study only if they: were unfamiliar with the ESAU and unable to find their way to the service by memory; had adequate written and verbal English skills to understand the requirements of the study and give their informed consent; could mobilize independently, without the help of a carer; and were aged 18 years or over. Three participants responded and this was believed to be adequate to uncover some key barriers and enablers experienced by ESAU clients, without overburdening ESAU clients.

PARTICIPANTS

Three participants were recruited. Two participants were male, and one was female. All participants were aged over 65 years. However, only P1 accepted the invitation to participate through the recruitment method described above. P1 was also unable to share their post-discharge perspective as they remained on the waitlist for surgery when the data collection period concluded. Therefore, other participants were recruited via alternative means. P2 was referred to the study by the specialist group but they had undergone their elective surgery six months prior. P2 completed the written information interview, including the post-discharge questions, but not the wayfinding interview as they were already familiar with the ESAU's location. P3 was known to the primary researcher and self-referred to the study four months after having surgery at the service. P3

participated in both interviews, including the post-discharge questions. They had not previously attended the ESAU as their elective procedure was booked during an inpatient stay.

DATA COLLECTION

Two interviews were held with each participant, unless described otherwise above. All interviews were voice-recorded and transcribed. In the wayfinding interview, the participant verbally described their experience while navigating their way to ESAU alongside the researcher. This uncovered real-time data about what assisted them to find their way and what caused difficulty. This is consistent with the strategy used in the study by Johnson. [4]

In the written information interview, participants reviewed and commented on the clarity and readability of four documents commonly provided to ESAU consumers. This interview aimed to identify barriers and enablers in the written information from a consumer perspective. The post-discharge questions included: "Should other information have been included in these documents which was not?" The purpose of these questions was to consider whether the information provided was comprehensive, in hindsight.

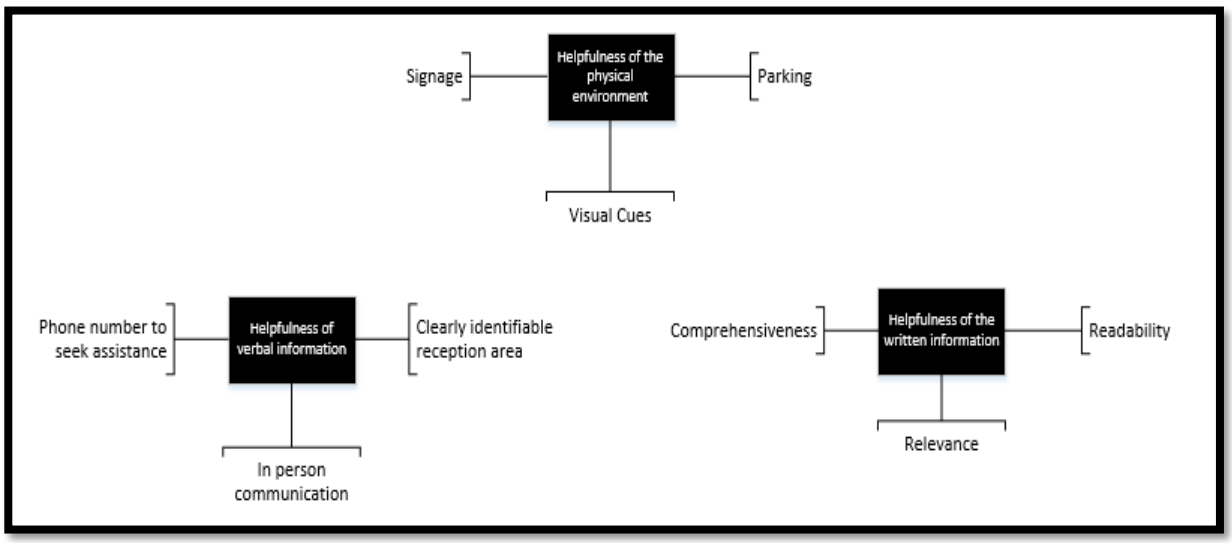
DATA ANALYSIS

Concepts in the participants' feedback were initially grouped into clusters of related points and labelled as themes, in a process of open coding. [9, 10] These themes were then grouped together based on their relevance to emergent, overarching domains; a process called axial coding. [10] Constant comparison was used in that new data was compared with existing themes and new themes were created as needed. [9] The ultimate intention was to parsimoniously subsume the final set of themes into the fewest, simplest and clearest domains possible, providing a useful framework for understanding consumer experiences of barriers and enablers when accessing the ESAU.

RESULTS

The data was analysed and collated into nine inter-related themes, which were subsequently categorized into three overall domains which were not mutually exclusive. These domains and themes are depicted in Figure 1.

FIGURE 1. DOMAINS AND THEMES ARISING FROM THE CONSUMER INTERVIEWS



HELPFULNESS OF THE PHYSICAL ENVIRONMENT

Parking. When asked about wayfinding to the main entrance, participants invariably commented on the limited parking and the difficulty this created in terms of accessing the ESAU.

"Parking's really bad most days." P1

Signage. Two consumers commented that the signage supported their wayfinding.

"It's good signage." P1

"you see the two signs for pre-admission or for the wards if you're visiting, excellent." P3

As a possible improvement, it was suggested that signs and directional prompts, such as arrows and doorways, to a particular destination should be colour coded.

"…you just keep following the red arrow, red sign, red arrows… if it's red, it stays red. Stay on the colour code it indicates." P3

The term 'Pre-admission' on signage was identified as unhelpful.

"It doesn't say 'referrals' to the lay person." P3

Visual cues. Visual cues are indicators in the built environment which influence navigation. The pebble-crete pathway from the carpark to main reception assisted wayfinding because it differed from nearby road surfaces.

"it's obvious this is the path you walk on. It's not confusable with other pathways." P3

Two participants commented that the main entrance, which features a large awning visible from the car park, was easy to find. The entrance has automatic glass doors, through which the reception area is visible.

"you don't need a sign that big because it's set up as a reception point and we're so used to what a reception point is to look at, you don't have to have a label on a dog to know it's a dog." P3

However, P1 commented that the main reception and Emergency Department entrances were close together, which created confusion about which to enter, but signage assisted with overcoming this confusion.

HELPFULNESS OF VERBAL INFORMATION

In-person communication. Verbal information received from service providers in addition to written information was highlighted as valuable.

"…they [ESAU staff] explained what was going on well." P1

Clearly identifiable reception area. Participants invariably commented on the importance of the reception desk for seeking verbal directions.

"There's no problem just asking at the front desk, which is right inside the front doors, you'd have to be blind Freddy to miss it." P3

Phone number to seek clarification. Two participants highlighted the importance of having a phone number in the written information to seek clarification if needed.

"If you come across something that you weren't sure of, there's provisions there for you to double check it if you needed to." P2

HELPFULNESS OF WRITTEN INFORMATION

Readability. P3 felt that all the written documents contained information which was unclear.

"…none of that would be easy for a stumbling reader, they'd have to get someone to help with all of that…" P3

Two participants reported that the directions to confirm the booking were unclear.

"So you have to ring to confirm your date then? Is that what it's saying here?" P1

P3 recommended that directions should clearly state what action is required first, followed by instructions, and then any reasons or consequences.

Two participants reported that jargon was unhelpful; for example, 'post-operatively'.

"Not much good 'em putting words in there that you can't spell… or that you can't pronounce." P2

P3 felt the phrase 'ready for care' was ambiguous and created anxiety about who decides 'readiness' and whether being 'unready' meant going to the bottom of the waiting list.

"Is the specialist making the decision 'you're not ready for care? … We're ready to go and you're not, well you go back down the list'." P3

P3 recommended reducing and simplifying images or characters on the page to reduce visual distraction.

"Anything…that robs you of your absolute attention to detail that's required is a bad thing." P3

Two participants identified that presenting lists of recommended and restricted foods in columns made the information easy to read and use.

"You can sort of run a pen through that and say well I'm not even looking at that, this is the only stuff I can eat." P2

Comprehensiveness. Several pieces of information in the written materials were felt by the participants to be key. First, it was important to know your level of priority and what that designation meant.

"lets you know if you're not, not bad you'll be put on the waiting list… if you're urgent you'll go straight in." P2

Second, practical information such as dates, place names and contact details were deemed important.

"The contact details are the (useful) ones I think." P2

Third, directions for actions the reader was required to complete were considered important.

…that tells me what I can eat." P1

No key information was viewed to be lacking by any participant.

Relevance. Two participants felt that excessive detail in the written information was unhelpful or confusing.

"It might sound more polite, the way it was written, but this is not a literature essay, this is a set of instructions for you to get knowledge from straight away." P3

P3 also noted that some explanations were rambling.

"… 'as you may be aware…each patient will be assigned an urgency category'… who cares if you're aware. You may not be but if you say 'I wasn't' ... it doesn't matter." P3

However, P2 did not feel that unnecessary information clouded the key points.

"…the basics are there without any humble jumble." P2

DISCUSSION

The aim of this study was to identify health literacy barriers and enablers from an Elective Surgery Access Unit (ESAU) consumer perspective. Interviews uncovered elements of the physical environment which impacted on navigation and important considerations for enhancing the helpfulness of written information. An emergent, interwoven theme was the importance of verbal information-giving.

WAYFINDING

The importance of adequate parking to support wayfinding was clear as it was invariably the first thing participants mentioned. The use of different path surfaces, such as concrete or pebble-crete, clearly distinguished the path to the hospital's main reception. This finding supports current guidelines about delineating pathways to support wayfinding. [11]

Current guidelines recommend that entrances should have unique features to assist navigation to the desired point of entry. [12] The findings of this study, however, raise the question of whether typical visual cues around entry points might be culturally sensitive. P1 identified as culturally and linguistically diverse (CALD) and reported difficulty distinguishing the main entrance from the emergency department entrance nearby. In contrast, P3 was born in Australia and reported no difficulty identifying the main entrance. 33.3% of Australian residents were born overseas [13], therefore care must be taken to avoid making assumptions about cultural knowledge.

Hospital departments rarely differ from one another in appearance, so signage and landmarks are necessary to support navigation. [11] Participants reported that signage generally enabled wayfinding; however, inconsistent place names were a barrier. Participants were sent to the "ESAU" but signage to that service read "Pre-Admission". A wayfinding review of ten hospitals in Spain also found that inconsistent terminology on signage impeded wayfinding. [2] It is important to ensure consistency of place names across referrals, signage and verbal directions. [12] One participant in the current study recommended colour-

coding signage. For example, providing all signage to the ESAU in purple, a purple line on the floor and purple arrows leading to the purple doors of the ESAU. The consumer simply follows the purple cues. The idea has practical merit; indeed this type of wayfinding system is used in other public spaces, including Melbourne's 282 acre Fawkner Memorial Park. [14]

Participants in this study mentioned the importance of seeking verbal directions at reception. In a similar study by Johnson, participants sought directions but reported an unwillingness to bother staff. [4] In the present study, participants unreservedly sought directions at reception, suggesting that a clearly identifiable reception is a socially acceptable point for obtaining verbal directions.

VERBAL INFORMATION-GIVING

The Australian Charter of Healthcare Rights states consumers have a right to be informed about their care. [15] When asked in the post-discharge questions whether they felt adequately informed about their procedure, participants spoke about verbal information received from service providers. Participants also made reference to the value of having a phone number to seek verbal clarification, which is consistent with recommendations that consumers should have multiple opportunities to receive information. [1] Verbal information, in addition to written materials, was considered essential for feeling informed, which is consistent with the findings of Dickinson and colleagues. [7]

WRITTEN INFORMATION-GIVING

Participants in the present study emphasised the importance of writing in plain English. Other research similarly points to difficulties associated with comprehending medical or scientific terminology, even for highly literate readers. [16] In the present study, ambiguous terminology was an identified barrier, creating confusion and anxiety. Participants in a larger Australian study also recommended rephrasing ambiguous statements. [6] Unclear instructions noted by participants in the present study are concerning because misunderstood instructions can lead to inadvertent non-adherence to recommendations. [17] One participant recommended three-step instructions: a clear direction to the reader that the action must be completed; instructions for completing the action; and any relevant reasons or consequences. Participants also reported that advice in simple, tabulated form enabled them to better understand and act on recommendations. In general, participants reported that excessive detail and repetition were barriers. Other studies have recommended concise wording [6, 7], with consumers describing too much text as demotivating, intimidating or even frightening. [16]

One participant reported that images unrelated to text were highly distracting. A past study which compared the views of low and high literacy readers found that participants with low literacy tended to be receptive to images on the page, while high literacy participants were generally critical. [16] The present study did not assess literacy levels, so it is uncertain why images were a particular distraction for one participant. In view of similar recommendations to reduce crowded 'busy' formatting [6], it seems reasonable to assume that unless the images reinforce or replace text, minimising graphic distraction in written information is wise.

LIMITATIONS

Four limitations apply to this study. First, two participants were recruited post-discharge potentially skewing the findings towards a post-discharge perspective. Secondly, the small sample size precludes confident generalization of the findings to other ESAU consumers. Thirdly, self-selection in this study probably resulted in an over-representation of people with higher health literacy and/or general self-confidence levels. Finally, data saturation was not reached in this study, which compromises the comprehensiveness of the findings.

CONCLUSION

This study uncovered barriers to wayfinding including limited parking, jargon on signage and unclear visual cues. Identified wayfinding enablers included distinctive pathways, an identifiable reception point, and access to verbal directions. Identified enablers for written consumer information included the use of plain English, succinct expression, and lists or tables. Barriers identified included distracting images, jargon, excessive text, and unclear instructions. Verbal information was found to support both wayfinding and comprehension of written materials.

It is not unreasonable to assume that the themes identified in this study are applicable to other healthcare services; particularly those supported by the findings of similar

studies. The findings of this study are significant because they suggest that other services should conduct their own consumer-centered HLE evaluations. Publication of the findings of such evaluations would increase awareness of the full range of factors that impact on the accessibility and quality of care consumers are receiving, which may in turn lead to important improvements.

Future HLE evaluations should focus on specific healthcare departments and investigate both wayfinding and information provision, like in this study; but aim to recruit larger consumer numbers, with as many interviews as are required to reach data saturation. Future research could also explore a range of issues in relation to maximizing HLEs. Is colour-coding signs and directional prompts a viable wayfinding strategy for healthcare services? What are consumer preferences around seeking verbal information, and are these influenced by demographic variables? Continued HLE research could lead to cost-effective improvements in the quality and effectiveness of Australian healthcare services.

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RESEARCH ARTICLE

A DESCRIPTIVE ANALYSIS OF A HEALTH MANAGEMENT WORK INTEGRATED LEARNING COURSE: MOVING FROM HEALTH SERVICES MANAGEMENT LEARNING TO EMPLOYMENT READINESS

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ABSTRACT

Health Management Work Integrated Learning is a 40-credit point penultimate course of experiential learning in the Master of Advanced Health Services Management M(Adv)HSM now offered by the School of Medicine Health at Griffith University.

WIL was initiated in 2009 within the School of Public Health (Lilley et al (2009) based on a Teaching and Learning Grant to meet an existing experiential learning need identified for students studying in the enabling professional area of health management. After 15 semesters of delivery of these courses (completed at December 2016), it is timely to report on the quantitative attributes on the course to inform the post-graduate literature on this type of education. An objective of this review is to influence both curricula and student decision making regarding the future conduct and enhancement of tertiary preparation for health services management HSM employment. WIL has experienced a large increase in student enrolments in recent years suggesting that there is both strong demand for this nature of learning and student satisfaction with the quality of the learning modality in preparing for a career in HSM.

KEYWORDS

WIL, health service management, work readiness, partnerships in education, health leadership, globalisation

INTRODUCTION

Health Management Work Integrated Learning is a 40-credit point penultimate course of experiential learning in the Master of Advanced Health Services Management M(Adv)HSM now offered by the School of Medicine Health at Griffith University. It utilises a blended learning methodology to optimise the attainment of its aim:

> The course provides a Work Integrated Learning (WIL) opportunity through a full-time workplace placement in a health care organisation. The course is available to students enrolled in the Master of Advanced Health Services Management) (5627) program. The aim of WIL is to provide students with the opportunity to translate the content of the postgraduate program to the context of the workplace.... This experience will allow the student to develop the necessary attributes, skills and competencies expected in a health service management postgraduate professional. [10]

WIL was initiated in 2009 within the School of Public Health [9] based on a Teaching and Learning Grant to meet an existing experiential learning need identified for students studying in the enabling professional area of health management. After 15 semesters of delivery of these courses (completed at December 2016), it is timely to report on the quantitative attributes on the course to inform the post-graduate literature on this type of education. An objective of this review is to influence both curricula and student decision making regarding the future conduct and

enhancement of tertiary preparation for health services management HSM employment. WIL has experienced a large increase in student enrolments in recent years suggesting that there is both strong demand for this nature of learning and student satisfaction with the quality of the learning modality in preparing for a career in HSM.

This paper is based on an evaluation report prepared in 2013, with additional data added without modification to the original research design. These additional data from 2014 to 2016 shows the actual growth predicted in the 2013 evaluation report. Normal Ethics Committee protocols were applied for the human research data component. Griffith University Ethics Committee approval Reference Number PBH/19/13/HREC approved on 26 March 2013 was applied for before participant data gathering commenced. No other approvals were required.

AIM

The aim of this paper is to provide a descriptive analysis of students' performance results, their selected project topics and overall results of WIL within the wider context of its parent program.

DESCRIPTION

Course Structure. WIL is a 40-credit point course equivalent in terms of student workload to four standard university courses (representing 25% of the two-year degree program). It is undertaken in the final semester of an M(Adv)HSM candidate's study and is a compulsory part of this two-year degree program. WIL takes place primarily in a real-world workplace once students are connected to an industry host HSM organisation. Now coordinated by the School of Medicine, it is structured to closely mirror the academic and vocational aspects of modern professional HSM practice. WIL is not "work experience"[17, 9] it is a carefully constructed learning event based on current known best practice for this modality of advanced education.

WIL AS A LEARNING THEORY

WIL is a well-established learning modality. While these HSM WIL courses have been offered since 2009 [9] to take specific advantage of this modality, WIL has been employed for much longer across the tertiary sector, having its roots in the apprenticeship approach to some forms of learning. There is increasing emphasis on WIL within tertiary organisations to enhance graduates' employability by increasingly embedding workplace and applied learning opportunities within the curriculum [3, 14]. WIL has been used for some time by both the technical and tertiary sectors and has been reviewed holistically by Patrick et al [15] via a systematic (and first) large scale scoping study of WIL in Australia. The aim of that study was to identify issues and map the growing utilisation of WIL in this country and to identify ways of improving the student learning experience in relation to it. Their report stated:

> "The project was undertaken in response to high levels of interest in WIL, which is seen by universities both as a valid pedagogy and as a means to respond to demands by employers for work-ready graduates and demands by students for employable knowledge and skills." [15 p.4]

A consequence of that landmark study was the presentation of three recommendations:

1. University leaders, including WIL staff, consider implementing a systematic approach to resourcing the provision of a diverse WIL curriculum and, in collaboration with employers and the professions, identify and support successful strategies for future growth.

2. Stakeholders consider collaborative research into WIL curriculum and system that enable sophisticated and sustainable partnerships.

3. Stakeholders consider ensuring equitable participation and access by all students by collaboratively developing WIL funding structures, policies and strategic approaches [15].

These are powerful evidence-based findings, and it is useful to review this WIL course in their context, given that it is still in its relative infancy. As Lilley et al[9] point out:

> "While the role of research and evaluation to support and inform the quality, effectiveness and adaptability of new learning is supported, to date there has not been any extensive or rigorous investigation of the WIL international-student experience". [9 p.29]

This observation serves the dual purpose of indicating the relative lack of definitive examination of WIL as a learning

modality, and the phenomenon experienced in these HSM WIL courses of the very high level of international student participation. Since that time there has been an increasing amount of informed publications on WIL, as exemplified by Coll and Zegwaard's [4] compilation of ***an International Handbook on WIL***. However, the content of that compilation and a wider literature review is beyond the scope of this report, which focuses on these HSM WIL courses. It represents a fresh approach to the preparation of HSM professionals at this advanced level. There are no other readily identified learning opportunities at Masters level where students can achieve truly practical applied learning of HSM as a capstone to periods of theoretical learning.

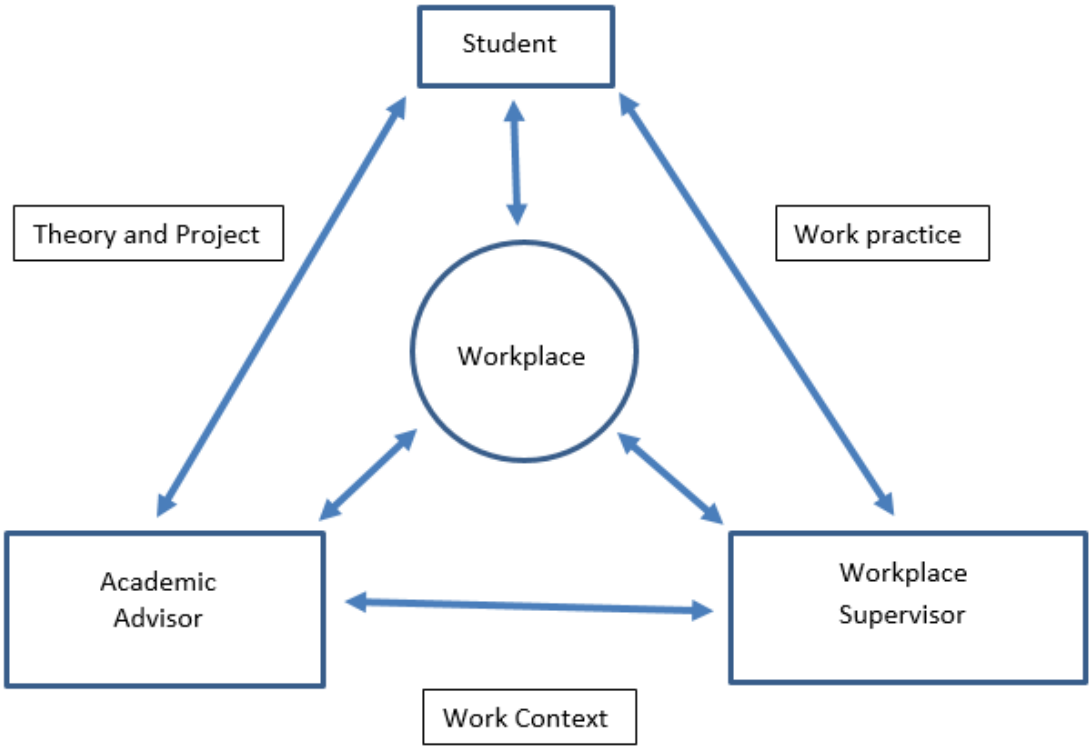
Operational Opportunities in the Literature. The learning and development opportunities from WIL have been identified as the articulation of theoretical concepts into work life; transition from the learning environment into professional practice; and supports the important objectives of work ready graduates from tertiary education[1].

The literature available on the Griffith University website largely addresses WIL as it applies administratively across all programs [7] and these outlines are replicated on a number of university information sites within Australia and internationally. Some of these guidelines are supported by the logic and reasoning behind the general requirements for different WIL programs [5]. Guidance specific to the HSM WIL courses is contained in the on-line course materials [6]. In the case of HSM WIL courses, there are some specific issues which fall into the categories of pre-course administration and academic preparation, and specific industry placement requirements.

A working manual continues to evolve for the WIL courses; there are known to be enhanced models elsewhere at Griffith University. These manuals are essentially procedural, with care needed to guard against redundancy given the frequent change of both overarching WIL policy and procedures on the Griffith University website, and through constantly evolving course management practices subject to continuous quality improvement.

Relationships. The WIL course is strongly student-centred, with the direct support of an Academic Advisor and a Workplace Supervisor, completing a triangular relationship shown at Figure 1.

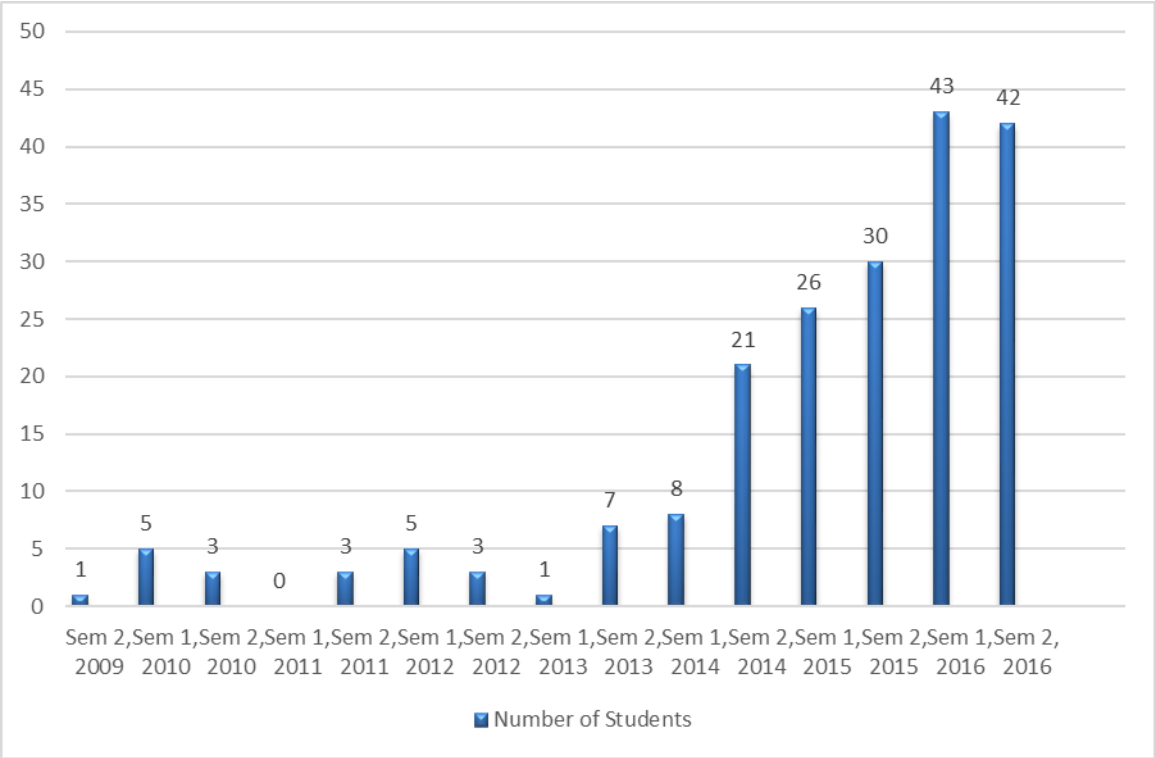
FIGURE 1: WIL FRAMEWORK



Students identify a major body of work, typically a project, to deliver a tangible and usable result for themselves and their host organisation. In the process, they experience and apply HSM competencies in the host workplace. The course is based on a learning model which requires students to attend 'work' in a host organisation four and a half days per week. The remainder of the fifth day is assigned to revision and update lectures, tutorials and, in the second half of the course, mentoring support for the completion of the work project. This process has the double effect of providing a high-fidelity student experience in a real-world setting, supported by the latest university learning support. In so doing, it enables the consolidation and testing of the theoretical aspects of HSM competencies acquired during the formative subjects in the Masters degree.

WIL has been offered since Semester 2, 2009 when an initial delivery pilot was conducted. Student numbers have varied each semester, with the numbers in part reflective of programming changes, cost, and program development to reflect HSM needs in the community. Figure 2 provides an indication of numbers to complete the course, and enrolments for the immediate future.

FIGURE 2: HEALTH SERVICES MANAGEMENT WORK INTEGRATED LEARNING COURSE STUDENT ENROLMENTS



Learning Approach. A high percentage of directed learning is accomplished via a blended learning approach. [4] Learning@Griffith, the University's online learning platform, is used to provide/support almost all administrative guidance, workbooks, marking guides, lectures and assignment management relating to the university campus-based learning activities of the course as well as the workplace-based assessments. Further, advanced technologies (communications and virtual classroom - Skype and Wimba) have been employed successfully with students who underwent their placements interstate. Almost all of student communication with and supervision by the Academic Supervisor occurred through the use of such techniques to supplement the campus-based course delivery model which consists of face to face teaching, tutoring and administration. Students placed in interstate workplaces achieved very high results as well, suggesting that "online" delivery does work within the constraints of technology, and time resources (a single student on Skype takes about 50% of the time a normal class does, and adds to the time needed for programmed conventional delivery).

Administration. Administrative components of the course are also highly web-based, although a large amount of effort is still expended guiding students through them on an individual basis, including approval check points in that process, a requirement that at present still precludes full student "self-service".

Placements. Placement identification and coordination, preparation and ongoing management and semester-

specific co-supervision with industry hosts (workplace supervisors) are crucial components of course management. This component of WIL takes a significant effort and the resource requirement was under-estimated in early resource attribution. Actual data collected in 2012 validated the necessary adjustment in administration and marking hours through assessment of the volume of in-field assessment work and the size and complexity of the health management experiential learning program as these are effectively proportionate to the student numbers, whereas lectures and tutoring are not (except when students are placed interstate). With the increase of student enrolment numbers and the introduction of an Advanced WIL course offering in 2015, the management of student placements has changed.

Placement identification and coordination for WIL from 2009 to Semester 1 2014 was handled on a case by case basis due to the lower numbers of students participating in the WIL course. By the middle of Semester 2 2013, it was identified that a new approach to placement identification, coordination and management was required. This new approach involved the establishment of group placements in various hospital and health services located close to the University. The trialling of individual student placements in rural health service locations has also led to the request from them to start Group Placements in those locations as well.

Individual versus group placements. The concept of placing large groups of students into the workplace is not new. Medical and nursing students are placed in large groups every semester. It has been an established course requirement for those students for many years. What made health management WIL so different from these other disciplines is that large non-clinical placements had never been done before in a health and aged care system setting. Because of this, the hardest part of securing these non-clinical group placements was changing the mindset of many HSM workplaces that the students were not there in a clinical placement sense, but rather there in a non-clinical HSM capacity. Overcoming this misconception on the part of host workplaces was key to ensuring that group placements could be established. From Semester 1 2015, more than 70 percent of all student placements have been covered by public hospital group hosts, 20 percent covered by private hospitals, with the remaining placements covered by private non-government organisations.

Supervision. Ongoing co-supervision of the student occurs once the student is placed, attracting a substantial workload for both supervisors. Engagement by Griffith University with host organisations now precedes student engagement by some months (finding hosts, negotiating placement topics and preparing for the semester). Once placement has been achieved through a matching process, mentoring of the student by both the Workplace and Academic Supervisors goes on throughout WIL, and generates a further substantial workload not envisaged when WIL was introduced. This is because student projects are all different in location, type and substance, so careful matching of host organisations' needs/offerings with student preferences is a key to success in WIL. Acquiring sufficient working knowledge of different areas addressed by such projects is very different from simply marking a number of students answering the same question, and this necessitates a close and effective working relationship between the two supervisors.

So too is the research, marketing, negotiation and business continuity needs of WIL in this "high end" cognitive HSM competencies area, something which differentiates it from the undergraduate placement needs of vocational programs; e.g. doctors, nurses and allied health professions. These phenomena align WIL management and supervision much more closely with that required of higher research degrees, also an experience not recognised early in the program. Each student's project is unique, and no two are marked alike other than through the application of generic marking guides; neither is the environment or opportunity for inter-semester replicability and the associated cost-effectiveness of "repeat business" placements such as those found with tertiary teaching hospitals for nursing or medicine students.

WIL STAKEHOLDERS

There is a range of stakeholders involved in providing or benefiting from WIL experiences. These include students, university staff – both academic and support – and workplace employers, government and professional associations. [3, 15] Martin et al [14] identify academia as a key stakeholder although this finding appears to reflect an educational sector perspective. Each stakeholder has their own array of perceived benefits and costs. Patrick et al [15] recorded:

> While recruitment needs and responding to the skills shortage were identified as key motivators for most employer involvement in WIL, it was also recognised that employers, universities and

> students derive other benefits through this engagement. For example, university staff consistently reported on the benefits of a stakeholder (or partnership) approach to improving student learning, engagement and retention, and described WIL as a link to the community that can also enhance opportunities for research partnerships. [5 p.v]

This paper focuses on three of these groups – the students, the university provider and the workplace supervisors. As virtually all commentators have pointed out, there is a need for collaboration and inclusive sector-wide engagement in WIL initiatives that can sustain the broad range of WIL initiatives. Notably, all survey respondent groups surveyed by the authors for this report supported this view; there is a triangular relationship and each depends on and derives benefit from the others.

In the case of these HSM WIL experiences, such collaboration and engagement is even more acute. For example, Griffith University has an on-campus WIL project and network [7] and several staff devoted to research and coordination of WIL practice, with external links to similar entities. This is an example of the second Patrick et al[15] recommendation above. This WIL community collaborative is a structure into which the University's HSM WIL course convenor has integrated in order to derive state of the art process and knowledge benefit for the ongoing continuous improvement of the course from other WIL practitioners.

TRANSFORMATION

WIL is about helping ensure the consolidation of a student's theory and its mastery in a real workplace. Making that transformation is by no means assured, and so WIL deliberately sets out to maximise the probability of success on the part of the student to do so in a "safe" and controlled, well-supervised environment. In that sense, it is a transformational course for the students immediately, and helps confirm their readiness to join the HSM workforce where they are likely to be part of the current national health reform agendas sweeping the world. Accordingly, it is also proper to evaluate WIL in a similar manner as proffered by Best et al [2]:

> "… transformative processes that are not easily measured (or cannot be measured at all) may be at the heart of what is observed. Evaluation demands a careful blending of quantitative measures and accountability with qualitative methods such as interviews, ethnographic observation, and storytelling to make sense of the transformation effort." [2 p.437]

In the case of the great majority of international students who enrol in the HSM WIL courses they see "employability" as an outcome in their education. As Lilley et al [9] observed when citing related research, Australia's culturally diverse student body has a low sense of belonging and fitting in, so they often see WIL as a means to address that need for employability, both in Australia and abroad. There are few other learning environments where the theory of HSM may be applied to the workplace in real time and work of actual benefit to all three key stakeholder groups be generated.

WIL PARAMETERS

Martin et al [14] and Martin and Hughes [13] further state that there is a variety of WIL practice generally, with passionate staff leading WIL programs across a range of disciplines with structured guidelines providing clear outcomes for students, academic and workplace supervisors. Preparation is important and applied learning should be integrated as part of the whole program of learning, with the following representing a number of considerations important for resourcing WIL effectively – scalability, assessment, workload industry connections and availability of support. [14]

In WIL, students are provided a range of pedagogies with current content knowledge and theory which is applied through practical work during a placement, normally through creation and management of a project, or the major component of one, at least to initiation stage. This process normally fosters both professional HSM skills development and behavioural, or generic, soft skills development that are considered vital to the ultimate delivery of observed competence in the real workplace.

Martin and Hughes [13] suggest that good practice is achieved through a focus on the following OCSSPA model components to guide practice and support students to develop professionally during their WIL experience:

- Organisation set up
- Competencies
- Supervision
- Student preparation
- Pedagogies
- Assessment

The application of this OCSSPA model played a key role within both the development of the WIL experience for students and the selection of industry partners used throughout WIL. Being able to map students to specific WIL experiences further assisted in the implementation of this model and ensured both students and industry partners achieved a return on their investment with WIL.

CONTRIBUTING TO THE GREATER GOOD

Universities Australia's [19] report indicates there are four pervasive trends driving change in Australia, and especially so in Australian higher education: the emergence of the digital economy and new technology, globalisation and the Asian century, economic and industrial restructuring, and the need to improve productivity. It is contended that the WIL course directly addresses and contributes to all four of these trends. That paper advises government to make major investment in and support programs like WIL given that Australia is facing increasing competition, including from Asian universities, ironically in nations from which most of the WIL students presently enrol. That report states:

> Maintaining and enhancing Australia's global position as a provider of higher education to both Australian and international students, and as a leading research provider in an increasingly competitive environment, must be the foundation objective of all future governments if the potential of the Australian university sector's contribution to national wellbeing is to be fully realised." [18 p.9]

This peak body's position is clearly well served by courses such as WIL. The participant data below clearly indicate that at present, the MHSM and the option for students to include the HSM WIL courses to achieve the more senior extended academic award of M(Adv)HSM is high. So high, that the WIL option is sufficiently attractive at Griffith University for them to actually incur the expense of relocating here for the additional semester as well as paying the WIL fees. Students clearly see the nested MHSM degrees as providing an advantage over similar courses available in their home country [10]. WIL needs to be maintained and offered as an additional attractant to international students in particular. Such a direction clearly is in line with the intent and advice of Universities Australia. To that end, WIL could well be regarded as disproportionately valuable in the business of continuing to attract international students, and more of them. However, offsetting that is the question why domestic students are under-represented in HSM WIL courses.

QUANTITATIVE DATA, ANALYSIS OF RESEARCH PARTICIPANT RESULTS AND OTHER METRICS

ENROLMENT DATA

These show the following WIL statistics to date:

Student numbers and results. The distribution of these data is shown in Figure 3 below. Mean and median results are expressed out of 100 (100%).

Six different Course Convenors have supported a total of 196 students through WIL to end 2016, with a further 37 enrolled in Semester 1 2017. In the earlier years of the HSM WIL course when student enrolment numbers were small, course convenorship was managed by sessional academic staff or by convenors of other courses in the HSM department. Figure 3 illustrates this growth from the anticipated number in 2014, right the way through to the end of 2016.

All semesters completed from 2009 to 2013 reflect an average course size of 3.6 with a range from 1 to 7. However, with the increase in student numbers that occurred from 2014-2016, the average course size increased to 28, with a range from 8 to 41. Course Convenors who to date have had multiple students agree that the maximum tutor/supervising/marking ratio should be one per six students. If the numbers continue to rise, additional tutors/supervisors will be needed.

GPA RESULTS TO DATE

Student WIL Grade Point Average (GPA) results (maximum possible 7.0) and their total degree comparisons are shown in Figure 4 below. Student identity is blinded; data are presented by semester.

The WIL course median of 5.11 exceeds the final M(Adv)HSM GPA of 4.64 in Figure 4, which for 63% of the students completing the M(Adv)HSM, improved their overall result as well.

While the WIL result is also embedded in the GPA, the enhanced average result for WIL suggests both a consolidation of enabling learning achieved in the previous theory subjects, and a strong "value add" to the overall program and, arguably, an overall improvement in the practical competence of the graduates.

The WIL Course results reflect a maturation of competence by those who went on to complete WIL. For those who completed HSM WIL and attained the M(Adv)HSM, there is clear evidence of improved outcomes. However, before a definitive outcome or results can be confirmed, further research will now take place, to obtain comparative results in this area.

FIGURE 3: STUDENT NUMBERS AND RESULTS BY SEMESTER

OFFERING	NO. OF STUDENTS	MEAN	MEDIAN	SD
Semester 2, 2009 to Semester 2 2013 *	28	71.26	69.6	8.32
Semester 1, 2014	8	87.28	89.05	6.38
Semester 2, 2014	19	83.42	86.10	8.14
Semester 1, 2015	26	73.14	75.06	12.82
Semester 2, 2015	30	69.99	72.15	9.97
Semester 1, 2016	41	76.37	79.10	10.41
Semester 2, 2016	40	76.31	77.98	11.70

*In order to de-identify individual or small numbers of student results, aggregation has occurred from Semester 2, 2009 to Semester 2, 2013

FIGURE 4: STUDENT WIL AND GPA COMPARISONS

SEMESTER	STUDENTS	WIL MEDIAN RESULT, BY SEMESTER	GPA MHSM- (ADV) MEDIAN RESULT, BY SEMESTER
2/2009 to 2/2013*	28	5.23	4.96
1/2014	8	6.63	5.07
2/2014	19	6.35	5.11
1/2015	26	5.56	5.05
2/2015	30	4.95	5.01
1/2016	41	5.66	5.06
2/2016	40	5.73	5.09
	Total Course Median*	5.11	4.64

*In order to de-identify individual or small numbers of student results, aggregation has occurred from Semester 2, 2009 to Semester 2, 2013. Total Course Median results were calculated from individual semester results, prior to the aggregation results of 2/2009 to 2/2013.

FIGURE 5: TYPES OF WIL PROJECTS COMPLETED 2009 - 2016

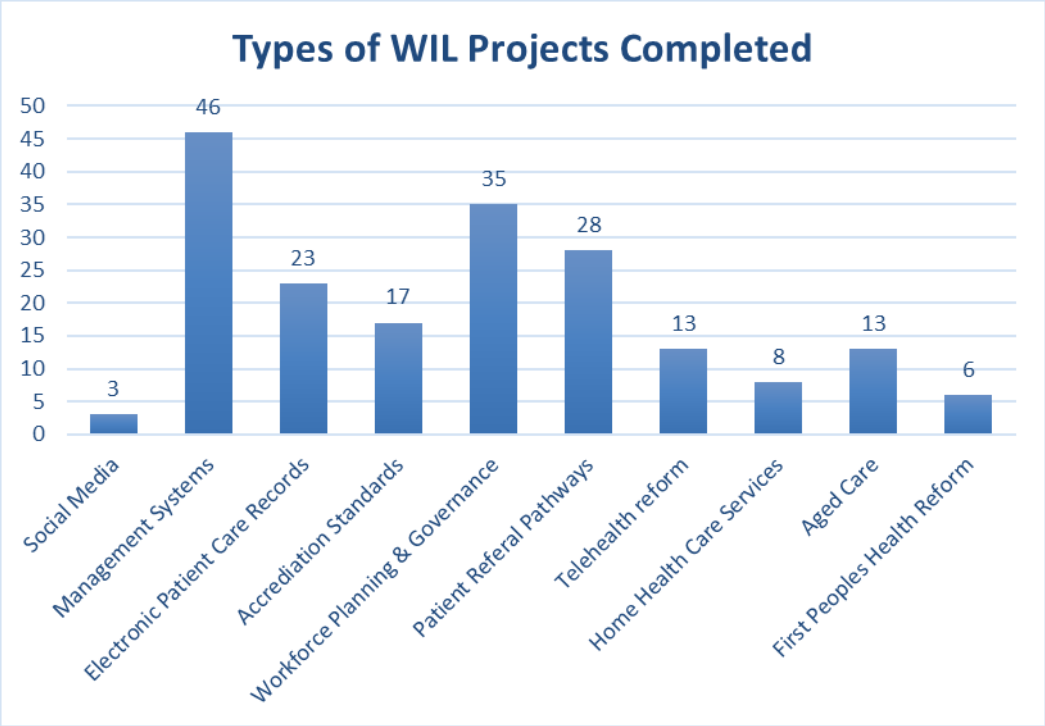
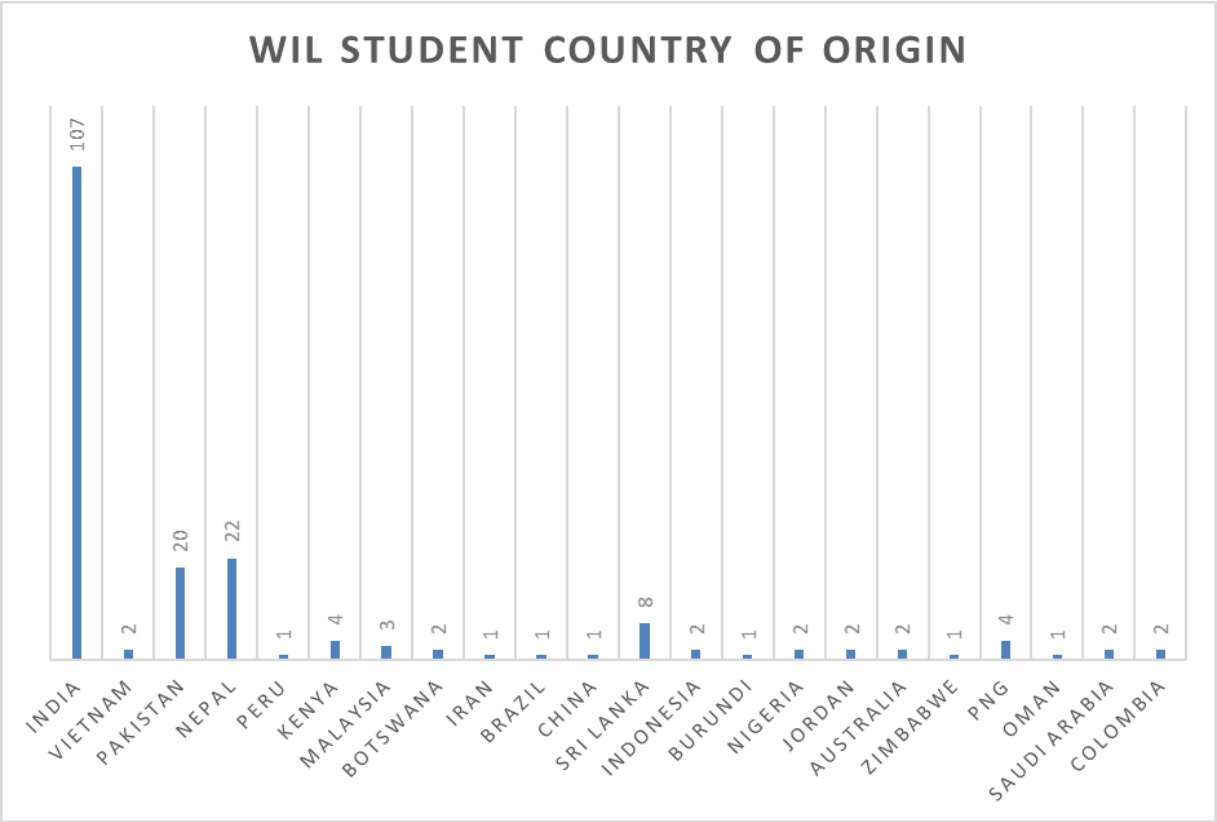


FIGURE 6. WIL STUDENT COUNTRY OF ORIGIN



WIL PROJECTS COMPLETED

During the past seven years of WIL, there has been a large range project topic completed. Figure 5 shows the spread of these projects from both government and non-government health service management organisations.

STUDENT ETHNICITY AND PROFESSIONAL BACKGROUNDS

Most students come from clinical undergraduate learning and backgrounds, with a few students also coming from a health services management background as well. Student backgrounds include:

- Medicine (including orthopaedic surgeon, plastic surgeon, public health physician)
- Dentistry
- Pharmacy
- Nursing
- Pathology Science
- Biochemistry/biotechnology
- Health Administration.

The ethnicity of students who have completed HSM WIL courses ranges across 21 different countries, as well as a small percentage of domestic students from Australia. Figure 7 shows you the spread of student ethnicity across the program, with the bulk of students who have completed the HSM WIL courses coming from India, Nepal and Pakistan. However, the widespread collection of the countries of origin, clearly shows the popularity of such a program and the benefits that students gain from applying learnt knowledge in an actual workplace (discussed previously and seen in Figure 5), prior to graduating.

Students from southern-central Asian countries report learning opportunities and the inquiry-based learning approaches in Australia generally as well as the opportunity for experiential learning in the health management discipline and the Australian healthcare system as key drivers for health management studies. Proximity to home and general economics for education appear as other drivers for studies in Australia compared to Europe and North America.

STUDENT EVALUATION OF THE COURSE (SEC) RESULTS

From student questionnaire data returned in 2012, 2013, 2014, 2015 and 2016, student satisfaction with both the course and the academic supervisors are characterised very good performance ratings and positive feedback and commentary. This data has been used to make ongoing process and content improvements, and suggest that qualitative feedback measures be continued to help ensure ongoing industry relevance and high teaching standards are maintained.

IS WIL UNDER THREAT – UNPAID LABOUR?

A recent enquiry into Unpaid Fair Work in Australia represented a potential issue for WIL. That report, authored by Stewart and Owens [17] stated:

> Given too that the Fair Work Act 2009 excludes those undertaking unpaid 'vocational placements' from being treated as employees, we have concentrated on extracurricular forms of unpaid work experience – that is, those undertaken other than for the purpose of a formal education or training course. [19 p.ix]

Further, Stewart and Owens [17] report specifically addresses the nature of unpaid work associated with tertiary institutions, including the use of a detailed survey conducted by the Australian Collaborative Education Network (ACEN) which includes WIL as it is conducted by Griffith University. HSM WIL courses meet all of the requirements of robust parameters addressed by Stewart and Owens17. It is clear from their discussion that this WIL course is not one in which the students are in any way exploited as "unpaid labour", and that WIL is fully consistent with the *Fair Work Act 2009*. In order words, there are no concerns in this context.

CONCLUSION

Numerous studies have identified that WIL is an effective way or preparing professionals for the workplace, and against such findings. Griffith University's HSM WIL courses have now prepared sufficient graduates to enable clear patterns and trends to be evaluated in order to inform ongoing course recruitment, management and student learning experiences.

Other conclusions include:

- WIL is an established source of student recruitment for Griffith University, with enrolments trending upwards.
- The enrolment data show that WIL is satisfying student needs, overwhelmingly that of an international student body.
- The workload is more intensive for course convenors than originally realised, but investment in on-line field support and workplace learning augmentation for the course has significantly reduced human-based administrative procedure.
- The health, aged care and disability care sectors are able to be engaged as a vital partner in the course and is satisfied that the course content and learning modality is suitable for early and mid-career health managers.

RECOMMENDATIONS FOR FURTHER RESEARCH

Recommendations are:

- Continued collation of graduate data to inform longitudinal analysis and course monitoring and management.
- Comparison of WIL placement organisation project work needs and selection by WIL students to optimise the probability of a good match and therefore better mutually beneficial outcomes.
- Comparison of the benefits of completing them in terms of even employability, student satisfaction and industry engagement perspectives because to date, only a few students have taken advantage of the extended/advanced HSM WIL courses.

Declaration: *Authors are employees of Griffith University with no financial affiliations with WIL student placement organisations. All are members of the Australasian College of Health Service Management.*

Declaration: Two of the authors of this report are also informants to the process being evaluated. As such, the inherent accuracy of the data and discussion presented and capacity for total objectivity must be considered by the reader. The potential for unintentional bias is in part offset by independent / third and fourth authors.

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REVIEW ARTICLE

JOB SATISFACTION AND RETENTION OF NURSING STAFF IN SAUDI HOSPITALS.

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ABSTRACT

The objective of this study is to investigate job satisfaction amongst nurses in Saudi Arabian hospitals. In recent years, there has been considerable growth in the healthcare system in Saudi Arabia, yet little attention has been paid to improving the performance of healthcare professionals, by improving job satisfaction and retention of nursing staff. This paper reviews the research conducted on job satisfaction, and retention of Saudi nursing staff. This is an integrative review of previous studies on job satisfaction and retention of Saudi nursing staff. The electronic databases Google Scholar, CINAHL, PubMed, and Global Health were used to identify peer-reviewed literature published between 2009 and 2018. The literature review showed that the majority of nurses were satisfied in their job. However, there was a shortage of research in retention of nurses. The evidence from this study suggests that the hospitals need to ensure high level of job satisfaction and decent wages of nurses for maximum retention of nurses.

KEYWORDS

job satisfaction, retention, nursing, hospital, Saudi Arabia.

BACKGROUND

Nursing performance affects the quality of healthcare significantly. Several factors affect nursing performance, including job satisfaction and retention. In Saudi Arabia, the relative importance of job satisfaction has been the subject of considerable debate. Al-Ahmadi (2009) [2] reported a strong positive relationship between performance and job satisfaction. Beecroft et al. (2006) [14] found that the environment influences job satisfaction and retention in nursing. Other factors, such as, pay, supervision and promotion, have also been identified. Alharbi, Wilson, Woods and Usher (2012) [4] found that overwork leads to job dissatisfaction. Yet it is difficult to measure job satisfaction as several factors are involved in it. However, this review could locate only one study (Abullrub & ALghamdi, 2012), [1] which showed high levels of satisfaction when their leaders used a transformational leadership style.

Nursing is a key component of the health care system. But shortage of nurses is rapidly becoming a global challenge. Shortage is due to nurses leaving the hospital for several reasons and shortage in the number of trained nursing professionals compared to the market demand. Nurses may leave if they are not satisfied with the job. Here, nursing job satisfaction is linked to retention of nurses.

Continued growth in the Saudi health system will require adequate number of skilled workforce in order to deliver high quality care. However, there is increasing concern over job satisfaction among nurses. Also, the Saudi government has vision 2030 has set high targets for healthcare. According to Bassi (2016-2017) [6], increased private participation, improved efficiency and effectiveness of the healthcare sector through the use of information technology and digital transformation, increasing local and international training and development of nurses, increasing the attractiveness of nursing and medical support staff as a preferred career, improving quality of care both inside and outside hospitals, improving public health services, improving infrastructure and facilities with high safety standards and reducing waiting times are among the Vision 2030 healthcare

targets. All these targets directly or indirectly affect nursing numbers, care quality, job satisfaction and working conditions. Certainly, these targets indicate rapidly increasing demand for nurses in hospitals. Adequate supply of nurses to meet this demand has to be ensured by increasing nurse retention and training much larger number of nurses than now. Both these are possible only if nursing profession is attractive enough with good working conditions, pay and perks and positive workplace environment leading to higher job satisfaction.

Thus, the two key issues of nursing profession in Saudi Arabia, both for the present and for the future are: job satisfaction and nurse retention. Therefore, this review focused on job satisfaction and retention among nurses in Saudi Arabian hospitals. The research questions were:

- What is known about job satisfaction among nurses in Saudi Arabian hospitals?
- What is known about retention of nurses in Saudi Arabian hospitals?

METHODS

DESIGN:

This is an integrative review of current literature and was conducted in five steps: select problem, literature search, data assessment, data analysis and presentation (O'Leary, 2014) [10]. Narrative review is a well-established approach to understanding specific problems or phenomena in the healthcare system (Broome, 1993) [7]. This method approaches due to here is limited studies of nursing in government hospitals. In this research, integrative approach was chosen for the design of the research methodology and narrative approach was used for derivation of findings and interpreting them towards conclusions.

SEARCH STRATEGY:

In the search for relevant literature, the following parameters were considered:

- The availability of literature online, either through Google Scholar or a health research database.
- Keywords (job satisfaction, retention, nursing, hospital and Saudi Arabia); and
- Currency (the search was limited to literature published between 2009 and 2018).

Once relevant articles were sourced using this strategy, they were filtered through the set of criteria that are outlined in Table 1. The process is shown in Figure1.

Papers were included if they measured job satisfaction and retention of nurses in Saudi Arabia. Papers were included if they focused on nurses working for the Saudi Ministry of Health. Papers were excluded if they focused on physicians or patients or other health professionals rather than specifically on nursing, if they were based on research conducted in Ministry of Health hospitals or were published before 2009.

PARTICIPANTS AND SETTING

In total, the four previous studies involved 2362 participants. In these studies, the sample sizes were (74 to 1,834), age (21-59), meal and female. Most of the reviewed studies indicated a job satisfaction, only one study indicated retention. The four studies which explored the relationship between leadership, environment, and job stratification. The studies were conducted in Riyadh, in Aseer, Hail, and in Makah, regions in Saudi Arabia.

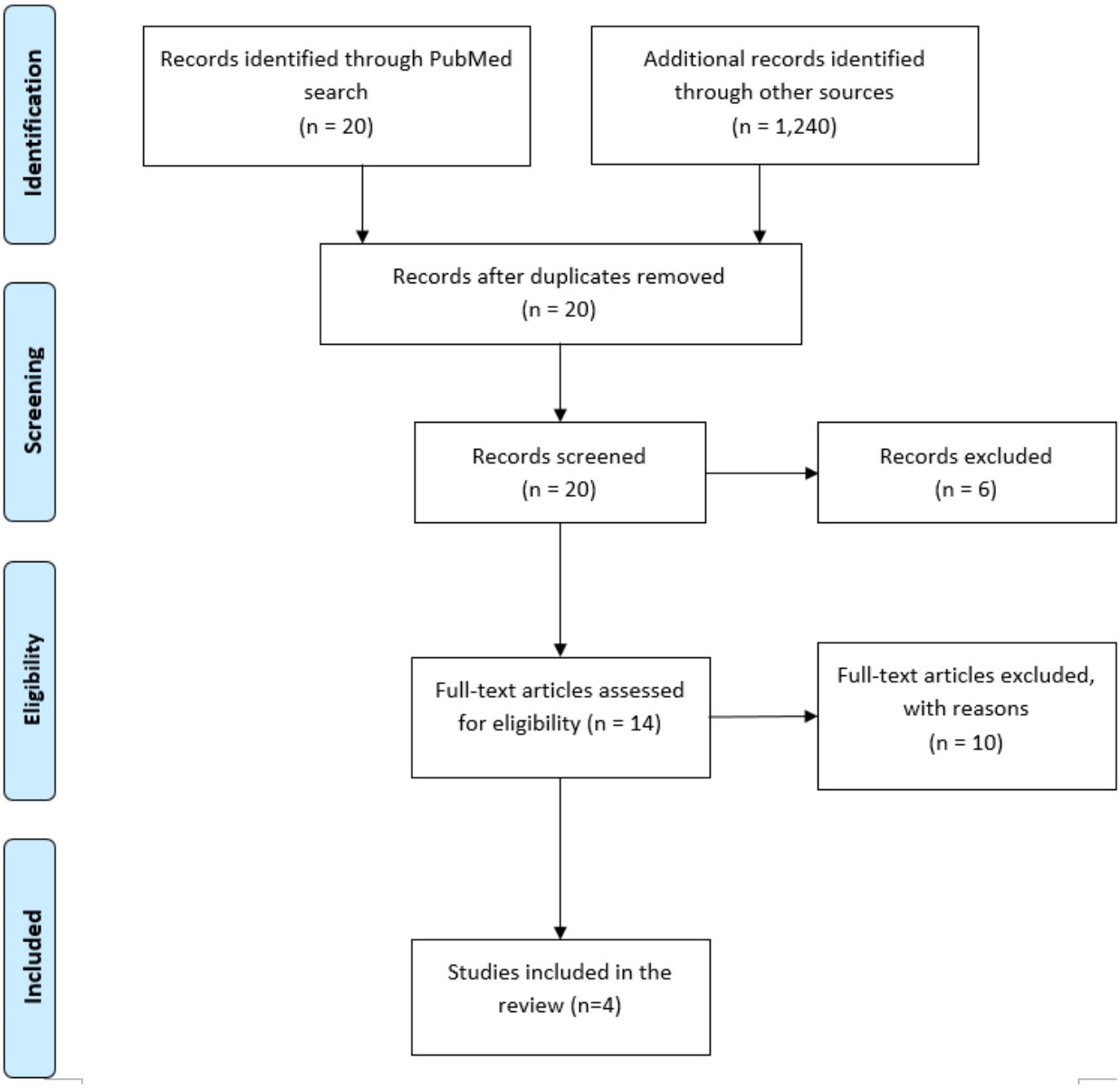
QUALITY APPRAISAL:

To assess the quality of appraisal by dividing into three sections high quality was more than 75%, medium quality 50%, low quality 25%. Overall, these four papers on got a high quality 75%.

TABLE 1: SEARCH CRITERIA

INCLUSION CRITERIA	EXCLUSION CRITERIA
Written in English only.	Studies focusing on physicians or patients or other health professionals.
Studies measuring job satisfaction, retention of nurses in Saudi Arabia.	Studies outside Saudi Arabia.
Publications between 2009 and 2018.	Any study outside the scope of the Ministry of Health in Saudi Arabia.

FIGURE 1: SEARCH RESULTS



RESULTS

As shown in Fig 1, out of an initially identified 1260 works, after various steps of filtering, only four were found to be eligible to be included in this review as per the inclusion-exclusion criteria. Out of this four, only one study addressed retention (Abualrub & Alghamdi, 2012).[4]

Table 2 provides an overview of these studies. The studies had sample sizes ranging from 74 to 923 nurses in Saudi hospitals. One was conducted in Riyadh, one in three regions of Saudi Arabia (Jeddah, Makah and Taif), one in Hail, and one in Aseer. The main objective of all studies was similar, that is, to explore job satisfaction among nurses in Saudi Arabia.

Alharbi, Wilson, Woods and Usher (2016) [4] examined the impact of burnout and job satisfaction on Saudi nurses. Two studies focused on the link between leadership style and job satisfaction (Alshahrani & Baig, 2016; Abualrub & Alghamdi, 2012). [5, 1] Al-Ahmadi (2009) [2] investigated the factors that affected nurses' performance and job satisfaction. All studies attempted to explain the relationship between job satisfaction and retention of nurses in Saudi hospitals.

TABLE 2: OVERVIEW OF PREVIOUS STUDIES

REFERENCE	AIM	LOCATION	SAMPLE	METHODS	FINDINGS
Alharbi, Wilson, Woods & Usher (2016)	To examine the prevalence of burnout and job satisfaction among Saudi national critical care nurses.	Hail	150 Saudi nurses	Survey	Participants reported feelings of ambivalence and dissatisfaction with their jobs but were satisfied with the nature of their work.
Al-Ahmadi (2009)	Identify the factors influencing performance of hospital nurses.	Riyadh	923 nurses	Statistical analysis	Job performance was positively correlated with organisational commitment, job satisfaction and personal and professional variables.
Alshahrani and Baig (2016)	To assess the effect of transformational and transactional leadership styles of head nurses on the job satisfaction of staff nurses.	Aseer	74 nurses	Cross-sectional survey	All nurse leaders demonstrated a combination of transactional (TA) and transformational (TF) styles of leadership. The nurses were moderately satisfied with their work.
Abualrub & Alghamdi (2012)	To examine the impact of leadership styles of nurse managers on Saudi nurses' job satisfaction and intention to stay at work.	Jeddah, Makah and Taif	308 nurses	Descriptive correlational design	Satisfied with their jobs and intended to stay at work.

JOB SATISFACTION:

Job satisfaction is necessary to improve the quality of care in the Saudi healthcare system. The studies used different measures of job satisfaction such as leadership, environment, and the impact of burnout. Three studies reported that Saudi nurses were satisfied. Two of these measured job satisfactions using the Job Satisfaction Survey (JSS) and one used the Minnesota Satisfaction Questionnaire.

However, one study (Alharbi et al., 2016) [16] observed that the level of job satisfaction was lower in the majority of nurses in three hospitals in Hail. Job satisfaction was measured using the JSS and levels of burnout were measured using the Maslach Burnout Inventory [MBI]. This study found that 88% of participants experienced high levels of depersonalisation and uncertainty about their prospects for promotion.

RETENTION:

Only one study (Abualrub & Alghamdi, 2012) [1] discussed retention. It found that the majority of nurses were satisfied and intended to stay if their hospitals adopted a transformational leadership style. This was measured using McCain's Intent to Stay Scale.

Overall, the results of four studies indicated that nurses were satisfied in their current jobs. One study reported that the nurses intended to stay in their current job. Surprisingly, no study explored retention directly.

DISSCUSSION

Out of several factors affecting nursing performance, the relative importance of job satisfaction has been subject to considerable debate in Saudi Arabia. Out of four studies identified in this review, three dealt with job satisfaction. Al-Ahmadi (2009) [2] reported that personal and professional variables affected nurses' job satisfaction. This study showed a strong positive relationship between performance and job satisfaction and reported high levels of work satisfaction among of nurses. Zaghloul et al. (2008) [13], however, found that Saudi nurses were least satisfied with their environment and salary and perceived a lack of fairness in the performance system. The difference between the two studies is due to the variables measured as factors affecting job satisfaction.

A previous study of job satisfaction among 360 nurses in Saudi Arabia found only moderate overall satisfaction (Ahmadi, 2002). [2] These findings are similar to those reported by Vroom (1964) [13]. Other works have shown significant effect of work environment on job satisfaction of nurses (Kaddourah et al., 2013). [9] In this study, 50% of participants were satisfied and 40% were dissatisfied with their job. Surprisingly, nurses with lower levels of education were more satisfied than nurses with a university degree.
This review identified only one study that examined retention of Saudi nurses, and no overall data on retention were available. This single report gives a positive verdict on satisfied nurses willing to stay on. It is not known whether any other work has reported a different finding.

Two other studies explored the impact of transformational leadership style on job satisfaction among nurses (Alshahrani & Baig, 2016; Abualrub & Alghamdi, 2012). [5,1] These studies reported that gender in leadership had a significant effect on job satisfaction, with higher levels of satisfaction reported if the leader was a male. Nurses were also more satisfied with their work if the leadership in their hospital adopted a transformational style. Other researchers found that the leader played an important role in job satisfaction of nurses. Omer (2005) [11] reported that nursing leaders focused on transformational factors rather than communication with their nurses. Alshahrani and Baig (2016) [5] noted the positive effect of management, motivation, and correction on job satisfaction.

Alharbi et al. (2012) [4] identified high levels of burnout which affected job satisfaction. 17% of participants in this study intended to leave their job, while the majority were uncertain. Some participants expressed ambivalence in relation to supervision, pay and fringe benefits. These findings further support the suggestion that rewards, contingent rewards, pay and fringe benefits have a significant effect on the level of job satisfaction of nurses (Spector, 1985). [12]

Retention of nurses is a major problem for hospital leaders in Saudi Arabia. One study found a relationship between job satisfaction, salary, leadership style and retention (Lu, While & Barriball, 2005) [10], that is, nurses were more likely to leave their job if they had low levels of satisfaction or motivations. These findings are consistent with those of previous studies that have examined the effect of leadership style. As noted by Abualrub and Alghamdi (2012) [1], high levels of satisfaction among nurses are associated with a transformational leadership style. However, the sample size was relatively small. The studies involved different instruments, measures and samples, making comparison difficult. There was limited information about government hospitals and lack of data on retention of nurses in Saudi hospitals. In addition, the majority of participants in all research were female and the studies did not measure all aspects of job satisfaction.

LIMITATIONS

The studies involved different instruments, measures and samples, making comparison difficult. There was limited information about government hospitals and lack of data on retention of nurses in Saudi hospitals. In addition, the majority of participants in all research were female. The final number of eligible papers was only four. This is highly inadequate to make any generalisation of conclusions.

CONCLUSION

The main goal of the current study was to assess the satisfaction of nursing staff in the Saudi healthcare system. This study attempted to review synthesizes that is currently available. However, only four reports were eligible to be included in this review. Even within the few studies, wide variations of sample size and types of measurement were noted. This makes comparisons difficult. The literature review showed that the majority of nurses were satisfied in their job. However, there was a shortage of research in retention of nurses. The evidence from this study suggests that the hospitals need to ensure high level of job

satisfaction and decent wages of nurses for maximum retention of nurses.

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REVIEW ARTICLE

DOES INTEGRATED HEALTHCARE SYSTEM REDUCE THE COST OF QUALITY OF CARE FOR OLDER PEOPLE? A SCOPING REVIEW

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ABSTRACT

This study provides a summary of published reviews of academic literature on the cost-effectiveness and quality outcomes of integrated healthcare approaches for the older people of in Australia. the available literature which was published in English between January 2001 and July 2017was were retrieved from the search results in eight highly resourceful journal databases using the specific terms. The majority of the studies reported limited information about the cost intervention and quality of outcomes. The benefits of integrated healthcare included patients' satisfaction, reduction of costs and increasing quality of care. However, the evidence of reduction of cost is varying with the different settings. The home and community-based healthcare for older people has attracted much attention in the past decades in Australia and many researches have been done on it. The majority of the studies focused on defined problems of healthcare service and outcomes but did not incorporate the priorities of cost-effectiveness or quality of care. Practitioners are interested in understanding how the integrated health care approach is achieved and to examine the reduction of cost and quality of outcomes.

KEYWORDS

aged care, cost-effectiveness, game-changer, integrated care, Australia.

INTRODUCTION

Australia, just like many western countries, has an ageing population and it is the key driver to change the Australian demographic features. In 2015, the Australia's population aged between 65-84 and 85 years and above was approximately 13% and 2% respectively. The 65–84 years' cohorts are projected to be approximately 18% (8.9 million) and the 85 years and over to be approximately 5% by 2054–55. [1] The old people group are the main client of health sector for having complex and chronic conditions. The sharp rise of old people is apparently the ''game-changer'' in the healthcare sector of Australia.

Around two-thirds of the people above 75 years have at least five chronic long-term health conditions [2] such as Dementia, Diabetes, Depression, Hypertension and Arthritis. Dementia— self-reported mobility problems increase with age affecting most women over 80. [3 4 5] The expenditure on aged services is likely to almost double for the government of Australia. [6] Therefore, exerts pressure on planning, policy and finances of aged care sector. [7] Approximately a quarter of the total spending is directed towards health, age-related pensions and aged care, and it is likely to be halved by 2049-50.[8] The health expenditure in Australia was estimated to be '$140' billion in the year 2011-2012, compared to $133 billion in the year 2010–11 and $83 billion in the 2001–02. The trends of health spending are relatively even more among hospitals (about $53.5

billion) and primary health care (about $50.6 billion). [9] Four key factors are contributing to fast-rising health care costs in Australia: population growth, ageing, new technologies and treatment, and experiment in health models. [10 11 12 13 14] Integrated healthcare system has consistently been reviewed or implemented in developed countries to address these challenges and reduce the gaps between costs and quality outcomes. [15, 16] This study highlights the benefits of the integrated healthcare which the Australian government may incorporate in the national policy to reduce costs of quality of care for older people.

METHODS

Synthesizing health policy and systems evidence has been recognized as a critical tool to support policy decisions and produce guidance for the health systems following by PRISMA Scoping Review (ScR) guidelines since 2012. A scoping review guided by the preferred reporting items for synthesizing research evidence [17, 18] was undertaken using eight major online databases: Our Scoping Review mainly focuses on the recent (2001-2017) peer-reviewed articles and reports that might produce empirical evidence on the integrated healthcare. Techniques of conducting Scoping Review are selecting sources and keywords, combining the most promising strings of keywords using logical operators, identifying search areas for articles and reports and executing the search process to identify relevant empirical studies through screening based on specific inclusion and exclusion criteria. [19 20 21][1] We used recently published ScR techniques [22 23] in our review that included three steps: (a) exploring for the initial list of studies, (b) topicality of evaluation, and (c) extraction and analysis of data. The search process was executed on 8 journals and reports website presented in Appendix- 1. Finally, we used framework to find the clusters according to the similarity of most used words and phrases. [24] There are numerous studies on non-reviewed publications on the subject, including white papers and reports from different organizations. Although these documents have not been independently evaluated through peer-review processes, we believe that these sources can provide valuable insights.

a) Exploring for the initial list of studies

We used the following keywords to query each database so that search result would issue articles and reports containing the words 'integrated healthcare' along with "costs" and "quality" and costs-effective and quality care, costs and quality outcomes, etc. Eight online databases were searched for articles and reports published from January 2001 to July 2017 to find the initial list of relevant articles and reports. The search query returned a total of 109910 articles and reports on integrated healthcare for older people and finally returned 3246.

b) Topicality of evaluation

In the second step, we select relevant articles and reports from the initial list and excluded the irrelevant articles and reports by reading the papers' titles, keywords, abstracts and full text. Reports and articles that were excluded from the lists to follows the exclusion criteria (figure 1).

c) Extraction and analysis of data

In the extraction stage reviewers considered key details to further identify articles and reports based on inclusion and exclusion strategy for identifying topical studies, [23 24] including deleting similar papers, publication year, geographical area, types of communication, outcome measures, and results. As a result, 25 articles and reports were selected for further analysis. Figure 1 below shows the results of search and selection of studies with exclusion steps.

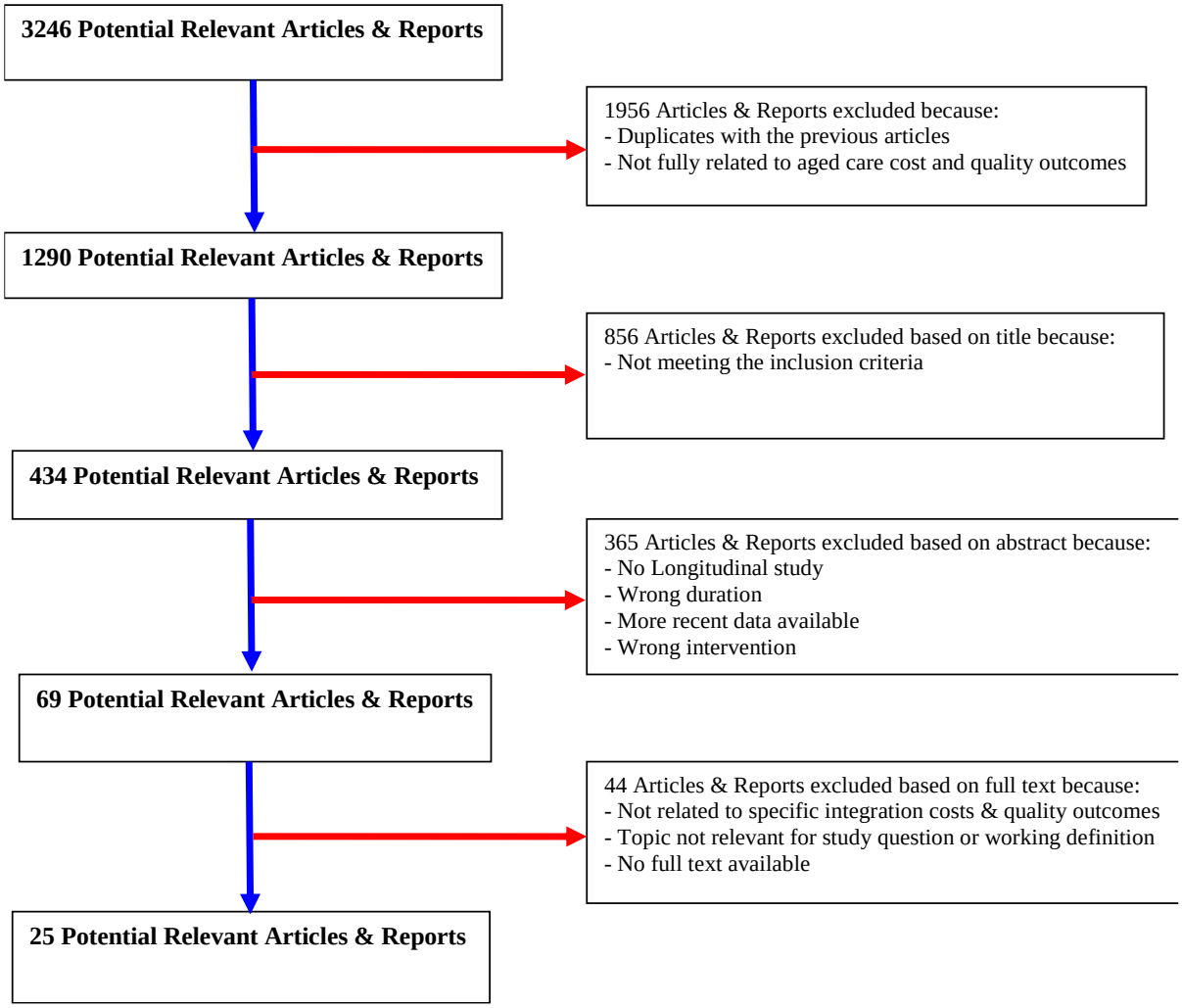
ETHICAL APPROVAL:

Ethical approval is required for conduct of research on human subjects and our research work is limited only on published materials in the public domain and for these reasons we have ignored the necessity of ethical approval.

RESULTS

We have searched a total of 3246 references across the eight databases, and after careful consideration of duplications, 21 articles and 4 reports were identified as eligible for inclusion. During the review of the full-text articles, we have selected twelve systematic reviews, [25-36] four systematic and meta-analyses [37-40] and a review of the literature resulted in 3 additional sources [41-43] for further assessment. One review presented an update about economic outcomes [44] and we have included the earlier review only.

FIGURE-1: RESULT OF SEARCH AND SELECTION OF STUDIES



DISCUSSION

In the current report we have explored into a very recent academic literature forcusing on integrated care for aged people and followed very specific key words on integrated healthcare and quality outcomes. The first limitation of our study is that it includes the reviews only and we assessed the cost-effectiveness, quality outcomes and service delivery on the basis of original studies in individual reviews. Although, the existing systematic reviews and meta-analysis imply that, most of our reviewed articles and reports were the original studies. We have discussed above how reviews tended to report qualitatively on selected measures such as cost-effectiveness, quality outcomes and service delivery. Final limitation is that the majority of the studies focused on the defined problems of healthcare service and outcomes but did not incorporate the priorities of cost-effectiveness or quality of care accurately. There are wide range of definitions and interpretations of the concept of integrated healthcare system and delivery services: wide range of very varied interventions and care approaches (for instance, case management). Integrated care is an interdisciplinary healthcare approach that addressed the needs of patients. The World Health Organization defines integrated healthcare as 'the organization and management of health services' in order that people get the care they have, once they would like it, when they need it, in ways that are user-friendly, attain the specified results and provide value for money. [44] Integration means improving the outcomes through coordination of services along with continuum of care. The healthcare services for older people of Australia is complex, it involves many funders and healthcare providers. Age-related chronic conditions have an impact on the

expenditure, healthcare services, and pharmaceuticals. The total health expenditure has increased to approximately 5.4% per year over the last decade, while GDP has been increasing at a slower rate of 3.1% per year. (Table 1 & 2).

From the table one we have observed that service delivery efficiency and effectiveness increases with coordinated primary care, especially for aged care at community setting. It also increases with the: advanced care planning, pain management and palliative care services. These combined increase client satisfactionand reduce emergency department visits and hospital stays. [44 45]

The summarized data indicate that waiting time and days of staying at hospital drastically declined in integrated care at both community and hospital settings. These findings suggested that integrated care delivery reduces the cost of care and increases the quality of outcomes. [26 27 31 46 47 48] For instance, table two data show that integrated care reduces the emergency department visits by 20.8%, hospital admissions by 27.9% and housing staying days by (home care services) 19.2%. However, these results depend on the level of integration and service delivery. [49 50] The level of integration can be influenced by personal-centered approach, understanding the need of the community, degree of integration, leadership and level of collaboration within the key stakeholders, and effective exchange and utilization of information. [47 48 49] Strongly coordinated care can save between 5-10% of the costs. The cost of benefits and quality of care depends on relationships between hospital management body and GPs. [48 49] In table two the cost effectiveness section shows that integrated primary care in the appropriate setting can meet up to 90-95% of the health needs, produce better health outcomes and improved cost-effectiveness following the triple aim: better health outcomes, better care, and lower costs. [49 50] Functional integration is more significant than merely structural or financial integration. The majority of studies related to integrated service showed that there were positive effects on quality of care, however, measuring the performance of the health system, cost and quality of outcomes of the system accurately is very difficult. [36] Various studies and evidences have shown that integrated health care contributes to a cost-efficient and quality health system through streamlined care for patients, efficient use of resources, a better cover of patients and improved patient safety.[50]

Evidence have shown that integration of service delivery and minimizing the gap of aged care are crucial in controlling the high expenditure of aged care services. Reviews reveal that fragmented healthcare is struggling with rising costs and poor-quality outcomes while integrated healthcare might be affordable and accessible for older people through reduction in costs of care. [25 33 34] Our review also shows that integrated healthcare is more cost-effective than the current fragmented system across different settings. Integrated patient-centered healthcare saves the state 'Medicare' costs, Pharmacy costs, and general costs. [16] Our reviews have found 4 out of 5 articles reported that integrated care is associated with low cost of care and quality outcomes at different settings. [46 47 48 49] Integration is challenging, but it extends benefits to patients, caregivers and healthcare providers. Most of the reviewed literature shows that the quality of care is increased with integration of care. The integrated consumer-directed coordinated healthcare and preventive services increase the quality of care at appropriate settings.

CONCLUSIONS

There may also be a need to rethink our understanding of what integrated care is and it is important to reach a consensus about cost-effectiveness and support financial sustainability for long-lasting change in the way the service delivery in the health and social-care sectors are conducted. The Review findings suggest that integrated healthcare for older people still requires much attention from top-levels to understand how the integrated healthcare approach is achieved and to examine the reduction of cost and quality of outcomes.

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APPENDIX

TABLE-1 KEY FEATURES OF INTEGRATED CARE APPROACHES (DEFINITION, SERVICE DELIVERY, COST AND QUALITY OUTCOME)

Author's	Title	Study design	Targeted populations	Definition of integrated care	Outcome measures	
					Functional status and outcomes	Efficacy and client satisfaction
David T (2017) [1]	Legislated review of aged care 2017	Data gathered from wide range of stakeholders, including consumers and providers.	Frequent service providers and consumers.	No explicit definition, interventions data were collected from primary source and workshop.	(i) Support the primary care system to increase the efficiency and effectiveness of medical services. (ii) to improve coordination of care. (iii) linkages between aged and hospital care.	Access to effective end-of-life care, including advanced care planning, pain management, palliative care and family support.
Esterman AJ, Ben-Tovim DI (2002) [44]	The Australian coordinated care trials: success or failure?	Data gathered from wide range of stakeholders and consumers	Service providers and consumers	(i) Whole population approach: delivery of primary health-care services following by coordination within the community; (ii) care coordination for people with chronic and complex needs; (iii) information management and technology; and (iv) the creation of robust mechanisms to resolve conflicts.	(i) Aged people felt supported and less anxious and GPs were very satisfied; (ii) Less number of clients' referrals to community health services.	Clients' satisfaction was high and as a result, fewer emergency department visits and shorter hospital stays.
Hébert R et,al. (2010) [45]	Impact of PRISMA, a coordination-type integrated service delivery system for frail older people in Quebec (Canada): A quasi-experimental study.	Data were gathered randomly using questionnaires	Service recipients (75 years or older)	(i) Coordination between decision-makers and managers; (ii) single entry point to care; (iii) focus on clients' functional autonomy.	|(i) Increased client satisfaction and empowerment; (ii) fewer unmet needs; (iii) better system performance at no additional cost.	health services utilization, a lower number of visits to emergency rooms and hospitalizations than expected was observed in the experimental cohort
Nick G et al. (2014) [46]	Providing integrated care for older people with complex needs Lessons from seven international case studies	Data were synthesises from seven case study programmes.	Seven countries– Australia, Canada, the Netherlands, New Zealand, Sweden, the United Kingdom and the United States.	(i) Integration means vertical integration (ii) people in the community with complex needs targeted; (iii) multidisciplinary teams comprising care coordinators.	(i) Expected Increasing of staff motivation and positive evaluations GPs (ii) Less waiting times before receiving long-term care support; (iii) better system performance at no additional cost.	(i) fewer emergency admissions; (ii) fewer bed days and shorter hospital stays; (iii) fewer residential home placements.
Althaus et al. (2011) [26]	Reducing Frequent Visits to the Emergency Department: A Systematic Review of Interventions	Systematic review (controlled trials, and without control)	Frequent hospital ED users	No specific definition. Most interventions reviewed included case management; focus on coordination of multi-disciplinary care by case manager.	Attenuate substance and drug use and significantly decreasing social problems	The impact of all three frequent-user interventions was modest. Case management had the most rigorous evidence based.
Ellen N & Emma P (2014) [47]	What is the evidence on the economic impacts of integrated care?	Review of published academic literature on the economic impacts of coordinated services approaches. .	Around 963 references, focus to three economic outcomes: service utilization, cost-effectiveness and quality outcomes.	The case management was most common concept. Coordination of primary care and community services enhance the social care services.	Economic outcomes focused on: (i) utilization of hospital services through (re)admission rates, (ii) length of stay and (iii) rate of visits of emergency department.	Very difficult to draw firm conclusions because results tended to be mixed.

Author's	Title	Study design	Targeted populations	Definition of integrated care	Outcome measures	
					Functional status and outccomes	Efficacy and client satisfaction
De Bruin et al. (2011) [31]	Impact of disease management programs on healthcare expenditures for patients with diabetes, depression, heart failure or chronic obstructive pulmonary disease: a systematic review of the literature.	Systematic Pubmed search	Impact of disease management focus on healthcare expenditures and chronic care model.	Interventions focus on self management support delivery system, decision support, clinical information system, health-care system, community resources and policies.	Disease management programs for patients with diabetes, depression,, heart failure, and COPD. Studies focus on cost-saving with quality outcomes.	Study shows that cost reduce with quality outcomes.
Ouwens et al. (2005) [48]	Integrated care program for chronically ill patients: a review of systematic reviews	Systematic literature review	Medline and Cochrane databases using medical subject headings and free text searches following very specific terms.	No explicit definitions: integrated care program for self management, clinical follow up and case management.	Integrated care delivery seemed to have definitive effects on the quality of services. .	Cost interventions shows positive trend and clients were satisfied with quality services.
Gilbody et al. (2006)[27]	Costs and consequences of enhanced primary care for depression: systematic review of randomized economic evaluations.	randomized controlled trials	11 full economic evaluations (4757 patients).	Enhanced primary care focus to organizational interventions. Majority of studies set in the US involved collaborative care models linking primary and specialist care..	Significant improvement in SCL scores although not always sustained.	In conclusive evidence on HRQoL

TABLE-2 PROVIDES AN OVERVIEW OF THE THEMES BASED KEY FEATURES AND EVIDENCE OF EFFECT OF INTEGRATED CARE FOR OLDER PEOPLE.

Integrated Services and aged care	(i)The integrated care has helped in the reduction of use of the use hospital services as follows: 20.8%, ED visits 27.9% and in hospital admissions and 19.2% in bed days. Various studies on integrated care have recommended the necessity to understand the integration process, user's individual needs, strengths, weakness and impact of integrated service benefits [49-50]. (ii) Effective integrated care has a positive effect on care delivery, especially on professional cognition and behaviour, which in turn affect the quality of care [50] (iii) Integrated healthcare for the aged people can improve health, satisfaction and service utilization outcomes [49]. (iv) The integrated care is used synonymously to refer to coordinated care and seamless care that have one-stop services, which is most likely to produce polymorphous nature of integrated care itself. The ultimate result is quality outcome if greater integration can be achieved [50]. (v) The integrated care service is highly beneficial to multi-morbid and severe chronic disease patients and the elderly. Integration is exposed to improving of coordination, quality, efficiency and controlling of cost [49-50]. (vi) There are three fundamental issues that have been considered for improving and integrating the care of older people of Australia: (a) adopt a strong person-centred approach (b) better understand the complexity of older people's health care needs and (c) improving integration within existing system59. (vii) Strong leadership, collaboration among key stakeholders; good infrastructure and effective exchange and utilization of information between sectors' collaborating groups, and care providers are important to serve elderly over time [47-49] (viii) Various studies and evidences have shown that integrated health care contributes to a cost-efficient and quality health system through streamlined care of patients, efficient use of resources, a better cover of patients and improved patient safety [50].
Costs-Effectiveness	(i) Timely service delivery, coordinated medical care, improved care coordination can save upto 5%-10% of costs in the integrated care system. However, the cost benefits and quality of care depend on physician and hospital management relationships and market dynamics [48]. (ii) There is no significant difference in utilization and costs of the emergency department visit in integrated care, but satisfaction and quality of care may improve with modest costs [49]. (iii) Integrated care management and coordinated service enhance the quality outcomes and reduce Medicaid clinical costs at a variety of settings [34]. (iv) Integrated primary care in the appropriate setting can meet upto 90-95% of the health needs, produce better health outcomes and improved cost-effectiveness [50]. (v) The integrated care has a triple aim:to better health outcomes, to better care, and to lower costs. Integrated patient-centered healthcare saved the state about $60 million in Medicaid costs in 2003 and the saving increased to $154 million in 2007 in The USA [49]. (vi). In integrating and coordinating services frequent hospital ED users are cost-effective and led to improved clinical and social outcomes [46-49]. (vii) Cost savings associated with structured home-based, nurse-led health promotion for older people at risk of hospital or care home admission [50]
Quality of care	(i) Enhancing care continuity and coordination are two important components of integrated healthcare and it seems to provide better quality of care [38], reduces lengths of stay and medication errors and number of office visits [49]. (ii) Functional integration is more significant than merely structural or financial integration as a determinant of quality outcomes of chronic integrated care systems [50] (iii) The vast majority of studies related to integrated service have shown that there were positive effects on quality of care; however, accurately measuring the performance of the health system, cost and quality of outcomes of the system are very difficult [36]. (iv) Integrated care highlights the integration of care across service providers, setting of services and degree of coordination, which depends on the growing burden of chronic disease in a defined health sector [49-50].

APPENDIX-1: TABLE-SEARCHING SUMMARY

Number of Total Articles & Reports Found[2001-2017]							
Searched Database			**Search terms**				
Eight data sources	**Field & Access**	**Document Type**	**Integrated healthcare for the older people**	**Cost**	**Quality care**	**Cost & Quality care**	**Cost, quality & outcomes**
Springer Link	*All*	*Journals*	*29103*	*3763*	*654*	*307*	*138*
Science Direct	*All*	*Journals*	*23225*	*2877*	*459*	*98*	*78*
Wiley Online Library	*All*	*Journals*	*28581*	*1857*	*1234*	*133*	*79*
Medline (PubMed)	*All*	*Journals*	*6385*	*476*	*112*	*73*	*66*
CINAHL	*All*	*Journals*	*231*	*72*	*23*	*21*	*13*
PsycInfo	*All*	*Journals*	*112*	*68*	*25*	*19*	*11*
Web of Science(SCI,SSCI, HCI)	*All*	*Journals*	*4273*	*243*	*75*	*21*	*15*
Google Scholar	*All*	*All*	*18000*	*7684*	*4320*	*3210*	*2846*
Total			**109910**	**17040**	**6902**	**3882**	**3246**

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RESEARCH ARTICLE

THE ACCREDITATION OF HUMAN RESOURCES AND PHYSICAL SPACE OF THE IRANIAN HEART CENTRE: COMPARISON TO THE NATIONAL AND INTERNATIONAL STANDARDS

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ABSTRACT

OBJECTIVE:

Standardization of hospital resources and physical space can be an important strategy to increase productivity and effectiveness of services. The study was conducted with the aim of comparative accreditation of human resources and physical space in Mazandaran heart centre compared with the standards.

METHOD:

This comparative descriptive study was carried out in Sari city (centre of Mazandaran province) during 2016-2017. The data collection tool consists of two checklists for investigating the physical space and human resources of the hospital. To evaluate the quality of the content, a checklist was distributed to 5 experts from Mazandaran University of Medical Sciences. After corrections the checklist was applied. Data were analyzed by SPSS software version 16 and descriptive statistics.

FINDINGS:

The total number of nurses in this hospital was 288 and the total number of beds was 171. The human resources in the nursing, nutrition, operating room, anaesthesia departments were not standard. The ratio of total human resource to the number of beds was also estimated as 4.04. Results showed that the physical conditions in the hospital were moderately standard. The physical conditions of the hospital in most dimensions based on checklist, except the physical location of hospital and the features of its doors, were in accordance with the standard requirements.

CONCLUSION:

Considering the inappropriate distribution of human resource in the hospital and the non-standard design of physical space for providing services with better quality and increasing patients' satisfaction, it is recommended that experts control more carefully standard requirements.

KEYWORDS

hospital, physical condition, human resources, standards, Iran

INTRODUCTION

In most countries, hospitals are the most important medical institutions [1], such that among different components of health system, hospital services are the main factors in the growth of costs. [2] Human resources, as an important strategic factor, have also played a significant role in the productivity of health care organizations. [3] Based on the results of a study in 2009, 48% of the total hospital budgets were accounted for staffing costs. [4] This refers to the undeniable importance of hospital human resource and its significant role in hospital costs. [2] On the other hand, human resources employed in organizations should be

regarded as a kind of capital, since the supply of human resources with specialized capabilities is not readily possible. [5] Therefore, shortcomings and surpluses of human resources have a significant effect on the quality of services to patients. [6, 7] The studies conducted by Shams [8] and Aazami [9] in Iran and Ritu [10] in India showed that there were insufficient human resources in related centres. However, the research of Davari [11] showed that the human resource of the anaesthesia department was desirable in Hazrat Rasool Hospital in Iran which had a different result with previous research. Bahrami Naraki [12] studied human resources of healthcare centres. They reported human resources more than standard requirements. Therefore, because of the importance of this matter and the different results had led us to examine the human resources available at the hospital.

The standard design and construction of physical space is another one of the important factor in improving the quality of care services. The standards vary in different societies based on socio-cultural, climatic, healthy conditions and social security. [13] When standards are well implemented in the design of health centres, good facilities will be provided for patients. [14, 15] Standards have a valuable role in demonstrating the least desirable and expected performance, targeting and determining the current state of the hospital, educational programs, evaluating, monitoring and directing the organization's activities. [16-18] The reports suggest that hospital standards of the ministry of health and treatment in Iran are not adequate and comprehensive due to inefficiency in presentation of weaknesses and shortcomings. [19, 20] Reviewing the researches that were done on the physical space of the hospitals [19, 13, 18] showed that these studies evaluated only certain parts of the hospitals. To provide high quality services and increase the satisfaction of patients, the first step is to identify the strengths and weaknesses. This is possible by evaluating and comparing existing standards. [21]

Reviewing available databases showed that there were few articles published on the evaluation and standardization of healthcare centres, especially in Iran. Therefore, the present study was conducted with the aim of comparative accreditation of human resources and physical space in the Mazandaran heart centre in comparison with the standards in 2016-2017.

METHODS

This comparative descriptive study evaluated the human resources and physical space of Fatemeh Zahra Hospital affiliated with Mazandaran University of Medical Sciences (Sari, Iran) and compared them with the standards in 2016-2017. Fatemeh Zahra Hospital (Mazandaran heart centre) is a 171-bed educational hospital including CCU, ICU, Heart Surgery, CICU, Dialysis, Emergency, Post CCU, Angiography and Operating Room. The students in general medicine, cardiology and surgery residencies, internship, clinical pharmacology, nursing and paramedical students are being trained in this educational hospital.

DATA COLLECTION TOOL

The data collection tool was comprised of two researcher-made checklists, a checklist for studying physical space of the hospital and a checklist for studying human resources of the hospital. Several sources [21-24] were used in the design of the checklist and the extraction of standards. The checklist was presented to 5 expert faculty members in Mazandaran University of Medical Sciences to evaluate the content validity. Checklist items in the dimension of human resources were assessment of nursing, physiotherapy (physiotherapist, physiotherapy technician and clerical staff), laboratory (laboratory specialist, laboratory expert, laboratory technician, and clerical staff); radiology (radiologist, radiology expert, radiology technician, clerical staff), technician of operating room, anaesthesia technician, nutritionist, finance, administrative affairs, services and pharmacy (pharmacist, pharmaceutical expert and technician of pharmaceutical affairs) relative to the number of beds in the hospital. Dimension of hospital physical space assessment also had 22 phrases: hospital location (5 phrases), land size (1 phrase), doors' status (3 phrases), corridors' status (4 phrases), staircases' status (2 phrases), elevators' status (2 phrases) and bed size (5 phrases). Each of the items is measured to check the physical condition as follows: 0 = non-standard (noncompliance with standards), 1 = relatively standard (relative compliance with standards), 2 = completely standard (complete compliance with standards). Total scores vary from 0 to 44. Scores are classified into 4 groups: (0-11), (12-22), (23-33), and (34-44). Therefore, the compliance of existing conditions with the standards is placed in poor, good, moderate and excellent levels based on obtained scores.

ETHICAL CONSIDERATIONS

About 31 ethical codes that approved by research and technology assistance of Mazandaran University of Medical Sciences have been observed in present study [ethic code: IR.MAZUMS.REC.94.2043]. The data was collected after providing the necessary explanations about the research objectives and taking permission from the authorities of the research & technology assistance of the university and the hospital. Also, the present study has attempted to avoid any prejudgment in the conclusions of the study by correct reflection of the information.

DATA ANALYSIS

Data was extracted from the checklist using SPSS software version 16 and descriptive statistics (frequency, mean, standard deviation, median, and mode).

RESULTS

Based on obtained results, the total number of nurses in this hospital was 288 and the total number of beds was 171. Table 1 lists the available number of nurses and beds and their standard numbers in each department (table 1).

TABLE 1. THE NUMBER OF AVAILABLE NURSES AND BEDS IN DEPARTMENTS OF HEART HOSPITAL

NAME OF WARD	NUMBER OF NURSES	NUMBER OF BEDS	THE STANDARD NUMBER OF NURSES RELATIVE TO BEDS
CCU1	12	10	16 people per 5 beds
CCU2	14	9	16 people per 5 beds
CCU3	14	9	16 people per 5 beds
CCU4	12	9	16 people per 5 beds
CCU5	12	6	16 people per 5 beds
CCU6	14	13	16 people per 5 beds
CCU7	12	9	16 people per 5 beds
CCU8	14	13	16 people per 5 beds
ICU1	25	8	16 people per 5 beds
ICU2	22	9	16 people per 5 beds
CICU	17	8	16 people per 5 beds
Post CCU	16	20	16 people per 24 beds
Heart A	13	19	16 people per 24 beds
Emergency	28	14	32 people per 10 beds
Operating room for open heart surgery	15	3	38 people per 12 beds
Dialysis	22	10	38 people per 12 beds
Angiographic operating room	26	2	38 people per 12 beds
Total	288	171	420

Also, based on results, the number of human resources employed in physiotherapy was 4, 12 in laboratory, 8 in radiology, 16 in technician of the operating room, 14 in anaesthesia technician, 1 in nutrition, 25 in financial affairs, 34 in administrative affairs, 95 in services and 8 in pharmacy. The statistics of the human resources employed at the hospital based on their employment type were as follows: formal staffs: 201, committed staffs: 97, conventional staffs: 155, staffs who have to work obligatorily for two years: 57, non-formal nurse (corporate): 53, service staffs (corporate): 90, assignment staffs (typing & printing, laundry, facilities, vehicles and kitchen): 38 and the total number of personnel is 691 people. The ratio of total human resource to the number of beds was also estimated as 4.04.

By comparing hospital location with existing standards, the hospital was not fully compliant with the standard requirements, but the hospital land size was completely compliant with standards. Details are given in Table 2.

The total score obtained in the physical assessment checklist showed that the physical conditions in the hospital were moderately compliant with standard. Based on the results, the physical condition of the hospital is relatively standard in most aspects except for the physical location and the characteristics of doors. Table 3 shows other details of physical condition of Fatemeh Zahra Hospital in Sari

TABLE 2: HOLISTIC EVALUATION OF PHYSICAL SPACE OF HEART CENTRE

THE STUDIED FEATURES	STATUS QUO	STANDARD
Hospital location	Relative compliance	Adequate space
	Relative compliance	Calm space
	Noncompliance	Surrounding areas
	Noncompliance	A location for helicopter
	Noncompliance	Separate streets that are available for doctors, patients and employees
Land area	Complete compliance (780 m^2)	42 m^2 per bed

DISCUSSION

The present study compared the human resources and physical space of the Mazandaran Heart Centre educational hospital with the standards. The present results on standard compliance showed that the number of nurses relative to the number of beds in CCU, ICU, emergency and dialysis units was lower than the standard requirements. [22] Also, the standard number of human resources is estimated in following departments: laboratories: 12 people, physiotherapy: 3 people, radiology: 8 people, nutrition: 2 people, surgical technicians per active operating room: 10 persons, the technicians and expert anaesthesia personnel per active operating room: 11 people, pharmacy: 6 people [23], financial affairs: 25 people, administrative affairs: 34 people, and services: 26 people. [24] Based on present results, the number of human resources in laboratory, radiology and administrative affairs in Fatemeh Zahra Hospital was compliant with standard. On the other hand, human resources in the financial affairs, pharmacy, physiotherapy and services were higher than the standards, whereas the human resources in the nutrition, the operating room and anesthesia departments were lower than the standard. The results of a study on hospitals affiliated with Tehran University of Medical Sciences (University Type 1 in ranking) showed that the distribution of human resources was inappropriate in nursing, support and paramedical units. [3] Neyasi et al also stated that most of the hospitals' departments lacked human resources in different wards, especially nursing staff and para-clinical wards. [23] Researchers in another research with result analysis found that the hospital's emergency department faced shortages of nurses, especially in night shifts. [25] Matsumoto et al. noticed the inappropriate distribution of human resources in the health care sectors in Japan, the United States and the United Kingdom. [26] Also, according to research results in China, it was found that there was an inappropriate distribution of human resources, especially

TABLE 3: DETAILS OF PHYSICAL CONDITION OF HEART CENTRE

VARIABLE	STUDIED FEATURES	EXISTING DATA	STANDARD (24)
Doors	Size of entrance doors of vehicles	3.5* 2.5 m	1.26-1.37* 2.13 m
	Size of corridor doors	2.40* 2.30 m	2.40* 2.40 m
	Health doors of hospitals	Noncompliance	Protected against fire and infection
Corridors	Usual corridors	2.25 m	1.5 m wide
	Corridors of hospitalized patients	2.10 m	1.26-2.13 m
	Main corridor	3.25 m	3 m
	Corridor of operating room	3.10 m	2.25
	Staircases	Relative compliance	Both sides should be railed
Stairs	Size of stairs	Complete compliance	Emergency stairs should not be spiral
		2 m	The emergency staircases should be 1.50- 2.50 m wide
		15 cm	The height of stairs should be 17 cm
Elevators	Size of elevator	Relative compliance	120 * 90 cm
	The number and features of elevators	Complete compliance	An elevator for beds, patients, visitors per 100 beds
		Relative compliance	Two small elevators for equipment and staff
		Relative compliance	The elevators of wastes should be separated
		Relative compliance	The elevator should be big enough for a bed and two companions
		Complete compliance	Flat surfaces should be washable
Bed size	Bed length	2m	2 m
	Bed width	95 cm	90 cm
	Bed height	60 cm	65 cm
	The head of bed against wall	0 cm	10 cm
	The distance between the end of two beds	60 cm	20 cm

nurses and doctors. [27] A study reported that the ratio of employed human resources to the active bed in all studied hospitals of Iran in 2015 was equal to 1.7, which corresponds to the health ministry's standard. [6] The total ratio of human resources to the number of beds in studied hospitals was higher than the standard requirements in the present study. But it seems that the distribution of human resources in some departments, especially nursing, has not been done fairly. The reasons for the different results of the studies are the different financial resources allocated for employing human resources, the amount of attention paid to human resources and the welfare and therapeutic conditions of patients in different regions.

The results of this study on compliance of physical status of Fatemeh Zahra hospital with standard requirements showed that the hospital had a relatively appropriate condition in terms of adequate and calm spaces and land area, whereas it did not comply the standards in terms of surrounding areas and lack of location for helicopter. In the design of the dimensions of the entrance doors of the vehicles and corridors, standard requirements were observed, but it should be noted that the hospital doors were not protected against fire and they did not have resistant surface coating against infection. The ordinary corridors, the main corridor, the corridor of the operating room, and the corridor of hospitalized patients were relatively standard. The staircases were also standard, although the height of stairs was lower than standard. The features and dimentions of elevators were nearly appropriate, so that the flat surfaces were washable, but their numbers were not proper. Results of the beds' size showed that the beds were relatively standard in terms of length, width, and height, whereas the position of the head of the bed against the wall as well as the distance between end of two beds were not standard. [28] Keyvanara et al studied the physical condition of hospitals and reported that Isfahan Hospital was in good condition in terms of the physical space of the paediatric ward. [13] Also, the results of a study showed that physical condition and the view and proportionality of public wards and emergency department were fairly acceptable in public and private hospitals. [14] Another study indicated that most of the emergency departments of the educational hospitals of Tehran University of Medical Sciences were in desirable condition in terms of space, activity and facilities. [1] In present study the emergency department of Fatemeh Zahra Hospital was also relatively standard in terms of space, facilities and physical conditions. Since climate conditions, location, constructional materials, and paying attention to health-treatment facilities play a significant role in the design of physical space and hospital structure, these factors may be possible reasons for different results of the studies.

LIMITATIONS

Ignoring the physical report of each of the hospital departments, due to the increase in the volume of the paper and the unavailability of an international standard instrument, are limitations of the present study that can be effective in generalizability of results. Another limitation of this research is the non-generalizability of the conclusion to all hospitals, in other words it can be used for comparison with the same type of hospitals with the hospital in our study. Therefore, further studies should be carried out on specialized hospitals in other regions of Iran, and the existing conditions of hospitals are compared with international standard instruments.

CONCLUSION

It seems that it is the first study published in the Middle East that examines the status of a heart centre hospital. According to results, the human resources in laboratory, radiology and administrative affairs were standard in heart centre hospital. Also, the number of human resources available in financial affairs, pharmacy, physiotherapy and services was higher than the standard; whereas human resources in nursing, nutrition, operating rooms, anaesthesia were lower than standard. Also, the results showed that the physical conditions in the hospital were moderately standard. Therefore, considering the importance of human resource management in hospitals and the physical conditions of health facilities for providing better quality services, it is recommended that the standards be monitored carefully by experts and the authorities. Also, the results of this study can be used for hospital and university officials to reach the standards level and increase the efficiency and quality of health care services.

COMPETING INTERESTS

The authors have no other relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

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