

# Asia Pacific Journal of Health Management

Volume 12 Issue 1 – 2017

*The Journal of the Australasian College of Health Service Management*



## In this issue:

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- Patient safety & quality
- Dental service planning
- Allied health leadership
- Redesigning primary care
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*COVER: The cover provides a timely reminder that the ACHSM Congress 2017 will be held in Sydney. More details at [https://www.achsm.org.au/Public/Events/Congress/Public/Events/Congress/2017/2017\\_Congress.aspx?hkey=4fbe2e18-405e-45c8-8bd2-cb47dd04d583](https://www.achsm.org.au/Public/Events/Congress/Public/Events/Congress/2017/2017_Congress.aspx?hkey=4fbe2e18-405e-45c8-8bd2-cb47dd04d583)*

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The mission of the Asia Pacific Journal of Health Management is to advance understanding of the management of health and aged care service organisations within the Asia Pacific region through the publication of empirical research, theoretical and conceptual developments and analysis and discussion of current management practices.

The objective of the Asia Pacific Journal of Health Management is to promote the discipline of health management throughout the region by:

- stimulating discussion and debate among practising managers, researchers and educators;
- facilitating transfer of knowledge among readers by widening the evidence base for management practice;
- contributing to the professional development of health and aged care managers; and
- promoting ACHSM and the discipline to the wider community.

## MANAGEMENT PRACTICE ARTICLES

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## RESEARCH NOTES

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## REVIEWS

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

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In this Issue, we present to you eight articles in total. Six articles are from colleagues in Western Australia, Queensland, New South Wales, Victoria and South Australia that address issues either of common interest across Australia, or that report on specific practices within a particular State that have a potentially wider application. In addition, we present an article from a colleague in India that describes an important issue for that country's health system around health insurance coverage. We conclude our Issue with a descriptive and qualitative study from Bangladesh that goes to governance and decentralisation of health services in that country.

The editorial goes to the increasing instance of published reports pointing to unsatisfactory performance and outcomes at the system level and suggesting that a change of focus from valuing healthcare to valuing a culture of health is required. The editorial reports on a similar approach from the United States that might be worthy of replication in both Australia and other health systems.

A book review is then provided on a publication from a number of editors and authors from diverse nation states but who are all interested in heightening our awareness and interest in the global issue of patient safety and quality. The uniqueness of this monograph of contributions on this important topic is that it brings to the fore the sociological theory and perspectives as opposed to the more traditional and perhaps more mechanistic approaches. This is significant in an industry that is essentially about important interactions between people.

Dudko and colleagues present a research article that identifies and ranks areas of relative need for new public dental clinics using a state of the art dental simulation approach. Given the variable socio-economic determinants of health within some geographic locations in Australia, this must be viewed as a positive approach. The data is aligned with public hospital locations to give some prospect of collocating dental facilities.

The next two articles focus on allied health workforce. The first by Bradd and colleagues provides a review article that examines the literature around allied health and leadership, with the aim of increasing knowledge within this context.

The results produced two outcomes around leadership styles and leadership development programs. The conclusion also suggests a paucity of robust published reports in this area of research interest.

The second article with an allied health focus is provided by May and colleagues who have used an analysis of management practice at a major metropolitan health service in Victoria to explore some aspects of human resource practice that might increase the flexibility, capability and adaptability of the allied health workforce and its dynamic nature. They used a root cause analysis approach, together with a literature review and an environmental scan to examine current ad hoc approaches to flexible work practice. They suggest that a consistent evidence-based framework should underpin practice.

Rule and colleagues present us with a research article about remaking practices in the redesign of a primary healthcare program located within a HealthOne program in the western suburbs of Sydney. How we address chronic disease management in primary care settings is an important issue for many health services, particularly those located in communities with ageing populations. The research attempted to uncover instances of professional learning that led to changes in professional practice.

The next article also has a primary care focus as Mervin and colleagues in a research note examine trends in length of stay before and after the implementation of a community rehabilitation service in Townsville in northern Queensland. The study used administrative data to compare variability in length of stay pre- and postimplementation of the community rehabilitation service. They describe a major reduction in length of stay.

In a review article, Sassoli and Day describe the results of a systematic literature review to better understand clinical communication between pharmacists and other health professionals around medication errors. The results highlight the importance of structured communication, which the authors recommend, to prevent medication errors and reduce patient harm.

Trivedi and Raman present a research article that describes the process of mainstreaming human immunodeficiency

virus insurance in India. The article describes both the opportunities and challenges. This has been a difficult area with little coverage available, however recent experiments of coverage inclusion in existing and new schemes have occurred. This article explores coverage, and managerial and financial systems and examines sustainability and replicability of the various approaches.

In our final article, Mohammad Islam presents a research article on the influence of politics on the accountability of health professionals in Bangladesh. Issues of governance at the delivery level in large developing health systems are important. Case studies in both urban and rural districts in Bangladesh are used to describe current practice and challenges in those contexts. The article presents issues around unwillingness to decentralise from the central bureaucracies.

## Building a Culture of Health

Commentary and published research on the value of healthcare has become more evident in recent times. There has been a noticeable shift from the focus on efficiency of health systems and practice to a greater focus on what effectively works, or more so, what doesn't work. Health delivery systems struggle with increased demand on existing services and other health priorities remain underserved. What do we need to do to better examine and understand what delivers value to people, communities, the health system and at the same time improves health outcomes?

Most recently Hillis and colleagues addressed the 'increasing concern about the sustainability of healthcare in the Organisation for Economic Co-operation and Development (OECD) countries' with their focus on the variation in the cost of surgery. [1, p. 153] They accurately described expenditure per capita, the rise in out of pocket (OOP) expenses with most of the funding being public expenditure and the challenges of private health insurance, with significant rises in OOP and insurance premium costs.

These authors use a definition of value 'as the health outcomes achieved per dollar', describing the importance of measurement to that definition and go on to provide examples of costs, using hip replacement surgery as an example. [1, p.153] They describe variation in costs within the public sector and between it and the private sector in their example. They conclude that the variability provides opportunity to further reduce length of stay without reducing quality and potentially save money and hence, increase value. Importantly they call for greater transparency and accountability through reinforcing an earlier call to make reports more publicly available. [1]

Balaji Bikshandi, [2] a specialist intensive care physician, draws on Tantalus from Greek mythology to provide a wider perspective to the debate about value in our health system. Leaving Tantalus's difficulty of attaining low hanging fruit and water aside he suggests that 'modern scientific medicine is confronting a litany of similar phenomena', to that faced by Tantalus. He evidences 'antibiotics to address infections presenting us with antibiotic resistant bacteria,

prosthetic devices presenting an array of new problems, pharmaceuticals with adverse reactions and interactions, even automated alarms leading to alarm fatigue and being recognized in some specialties as a significant safety issue'.

Adam Elshaug, a Professor of Health Policy and a 2010-11 Commonwealth Fund Harkness Fellow in Health Care Policy and Practice, recently responded to questions about 'combatting overuse and underuse in healthcare' [3] based on his and others contributions to a special issue of *The Lancet* on this topic. [4] He suggests that the problem of use and underuse of healthcare may be worse than that currently envisaged and he suggests that 'we might be going in the wrong direction'. [3] He then emphasises the fact that worthy inexpensive interventions go unused or underused while some 'high cost services of little or no value are commonplace'. Elshaug then goes in the direction of Bikshandi and his reference to Tantalus [2] about the difficulty of addressing continuing use of unnecessary 'tests, treatments and procedures'. [3] Elshaug addresses the disconnect of research evidence and the public health agenda. Public education and empowerment are proffered as useful directions, the variability in quality of guideline production is a challenge, the potential of technology as part of a solution is before us and reform to payment systems is also in the future. Importantly, he is optimistic about the future because the problem is now well known and cannot be avoided by adherence to the status quo. [3]

These challenges described above are not new but perhaps better understood. We could discuss pharmaceutical use, for example, both costs and utilisation and find fertile ground there about not just cost but over utilisation. [4] There is a lack of equity of access to more appropriate care and prescribing becomes the treatment of choice. If you want to delve further into the world where we could do better, delve into the analysis from an OECD study that explores healthcare variation in Australia. [5] Variation matters and some of it is readily explained. Unwarranted variations raise questions about quality, equity and efficiency in healthcare. [5]



It is not just about the way clinicians work but is more systemic than that. Look at population health planning in the primary health networks and the link between socioeconomic determinants of health and the analysis by local government area is compelling in identifying geographic locations of poor health outcomes of discrete communities, within a national health system that is generally, highly regarded. [6] All of us who work in a health professional context need to be active about how we might shift the focus from addressing process performance in a healthcare focus to address wider perceptions about system wide health outcomes. [6,7] Importantly, addressing the issues discussed may well require us to determine how we value health ahead of a more current focus on valuing healthcare. [9,10]

Fortunately, the Robert Wood Johnson Foundation (RWJF) has been exploring the potential in this change of focus from valuing healthcare to valuing health since its adoption of 'developing a culture of health.' [10] This culture is built on 10 underlying principles, describes action areas and associated drivers, together with data measures and has recently been further described in an issue of Health Affairs. [10,11] Chandra and colleagues suggest that this approach requires 'shared values around health and social and emotional wellbeing', a focus on health not healthcare, the alignment of 'core values for cultural change'. [12, p. 1959]

The RWJF approach is compelling and requires cross sector collaboration. The approach highlights the need for managers and leaders to be prepared to be boundary riders and that in the United States, at least cross sector networks 'are a common way to tackle complex issues, including population health...' [12, p.1960] Hogg and Varda [13] suggest that there is increased interest in integrating social and medical care and Glen and colleagues [14] described value being achieved in multisector networks with a reduction in health disparities. Weil emphasises:

That if there is one notion that captures what is needed to create a culture of health, it is that existing boundary lines must be crossed. Whether it is the public and private sectors, the health and social sectors, or the silos that exist within the health care system, a new culture requires combined efforts that remove the barriers that each has placed around its work. [11,p.1947]

This is the fundamental challenge for Australia and many other countries that are still focused on just addressing the 'self-inflicted Tantalus' outcomes of a healthcare system focus that continues to present us with the problems that

this internalised focus has delivered! The challenge for Australia is how to cross sectors within the health sector let alone lifting our vision and culture to multisector approaches focused on health.

Government policy aligning PHN and LHD boundaries could be taken as permission to act. Perhaps we should adapt a RWJF framework to say to the health, education, social care and local government sectors that they should move to cross sector collaboration?

Government could require these sectors to demonstrate in their funding allocations and published performance reports that their respective sector and organisational entities have a vision and strategy that articulates collaboration in advancing health and wellbeing as part of an ongoing and systematic process. [14] Health outcomes could include measure around how many collaborations are active, including their breadth, quality and the extent of resource commitment made by all partners and how communities are included in those collaborations.

The current complexity of Commonwealth-State relations in healthcare should not be allowed to continue to be used as an excuse for inaction. Perhaps we should start with understanding the difference between valuing health ahead of the current focus on valuing healthcare might be a start. Reading about the culture of health at <http://www.rwjf.org/en/how-we-work/building-a-culture-of-health.html> is a good starting point, further informed by the references in this editorial.

Secondly, it is already within the realm of Primary Health Networks (PHNs) in Australia to make contracted funding arrangements that require partnerships and collaboration with other providers and communities. Perhaps Local Health Districts (LHD) could follow that approach by subcontracting out those services they deliver that might be better delivered in primary health and community contexts to providers who are also prepared to collaborate and partner. Perhaps PHNs and LHDs could achieve this change in culture together. Perhaps State and Territory and Commonwealth Agencies could adopt a policy position that values health.

The author would be interested in your thoughts on a change of direction and culture.

**Dr DS Briggs**

*Editor*

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## The Sociology of Healthcare Safety and Quality

D Allen, J Braithwaite, J Sandall and J Waring

This Monograph attracts the reviewer in a number of ways.

The immediate attraction is because it is about an important global issue, that of healthcare safety and quality. The topic is important for all health professionals but is doubly so for those of us who manage or lead health services. Greater accountability for safety and quality is being required of Australian health managers in 2017 as new provisions of the Australian Healthcare Agreements' between the Commonwealth and States and Territories are being enacted. This public policy initiative also means that those of us who teach and research and are involved in the education of health professionals, particularly health managers, need to make increased effort in this area. The Monograph goes some way to being useful to assist us in these endeavours.

Consistent with the Monograph's focus on a global challenge is that the contributors drawn together in this publication come from at least four nation states, providing us with perspectives reflecting their cultural and national perspectives and providing us with points of differences that allow us to more effectively compare and contrast what might be.

The reviewer further appreciates the Monograph because the editors and authors make a distinction about their approach to this topic from the range of other approaches in contemporary vogue. These are described as discipline-based in medical and safety science, social psychology and human factors. They emphasise that healthcare safety and quality 'cuts across many sociological concerns' that they believe have been neglected by mainstream policy and research, until recent times. The reviewer agrees with that view. There is much less sociology taught these days in health management programs than in previous times and we are the poorer for it.

There is a lack of understanding by some, that we are in the people business, 'people interacting with other people'. There is increasing evidence that a lot of what we do is based on mechanistic organisational approaches and clinical reform actually adds to the degree of complication and possibly does more harm than good. There is evidence to support these assertions in the current editorial of the Journal in which this review takes place. So we agree with the editors and authors that our approach needs to be 'shaped by wider socio-cultural and political structures'.

So the editors emphasise that if healthcare safety and quality are to be understood and more effectively addressed we need to bring to the fore the importance of sociological perspectives presented in this Monograph. The Editors set out to achieve this endeavor by asking us some important questions about how to better reflect on the 'contribution of sociology and sociological engagement' so that we can better address perspectives of patient safety and quality.

These questions are:

1. How can we understand and explain the social, cultural and lived experiences of quality and safety?
2. What theories, models and concepts are useful in progressing the quality and safety agenda?
3. What is an appropriate balance between sociology 'of' and sociology 'for' quality and safety?
4. What distinctively sociological research approaches might be applied to the study of quality and safety?
5. What analytical perspectives might offer novel insights?

The editors then continue to put some structure around the following chapters. They do so using headings such as 'parallel paths, organizing, technologies and practice, concretization, culture, politics, theory and practice'. Then the editors allow the contributors to tell their stories and they all do so with a magnificent effort of weaving contemporary sociological theories and practice together with contemporary research about real healthcare issues and organizational practice. As the readership of this Journal is predominantly managers I can assure them that the language of management is used and addressed throughout.

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*Edited by:*

**Davina Allen, Jeffrey Braithwaite, Jane Sandall and Justin Waring**

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Policy and practice, accountability, corporate governance, sensemaking, knowledge sharing to name a few words are all there and addressed within the chapters. If you have a more clinical bent then your interests are also addressed: patient safety, acute illness, patient categorisation, primary medical care, general practice, infections and clinician accounts are all part of the language used and the topics addressed.

On reflection, this Monograph would sit well in a health manager's set of reference books. It is a Monograph that you can read in its entirety but I suspect that most might read their preferred chapters and then come back to them and other chapters over time. It is the sort of Monograph that you will access to seek inspiration or examples of approaches to reform that you can then assess the suitability of in addressing your more immediate challenges. I suspect that managers and practitioners who are really interested in better organisational and management practice or who might just want to make sense of what is happening around them will find this Monograph helpful.

At the health management education and teaching level, I suspect academics will soon discover the contents of the Monograph to be helpful for teaching across health management subjects while at the same time increasing the understanding of students in sociological theory and perspectives. The reviewer also suggests that the content provides the opportunity to develop case studies from the contents to enhance teaching practice.

Congratulations to the editors and contributing authors for this contribution of knowledge and learning relevant to the needs of those of us engaged in health systems as managers, educators, researchers and reformists.

**Dr DS Briggs**

*Reviewer*

## Identifying and Ranking Areas of Relative Need for New Public Dental Clinics Using a State-of-the-Art Data Simulation Approach

Y Dudko, D Robey, E Kruger and M Tennant

### Abstract

**Background:** Lower socioeconomic groups and country residents are more likely to experience dental disease. Previous research has found that it is generally more cost effective to provide subsidised dental care through publically employed dentists when compared to subcontracting the work out to the private sector.

**Objective:** The primary objective of this study was to identify and rank areas of relative need for new public dental care facilities across Australia. The secondary objective was to gauge how many of these areas are located in the vicinity of an existing public hospital (medical) with a view to utilise existing infrastructure for future service rollout.

**Methods:** Usual resident population, employment status and socioeconomic distribution data was downloaded from the Australian Bureau of Statistics website at Statistical Area 1 level. A mathematical weighing formula was applied to those variables, which subsequently allowed for ranking of the results based on magnitude of the product values.

The findings were considered in terms of proximity to existing public health infrastructure.

**Results:** A total of 49 SA1 areas were identified and preselected as potential sites for new public dental clinics across Australia. Eighty per cent of the identified areas of relative need were located outside metropolitan areas. Fifty per cent of those were found to be in close proximity to an existing public hospital (medical).

**Conclusion:** Offering subsidised dental care through existing public hospitals may be an option. Such an approach has a potential to improve access to subsidised dental care in regional centres while minimising capital expenditure on infrastructure.

**Abbreviations:** ABS – Australian Bureau of Statistics; ASGS – Australian Statistical Geography Standard; SEIFA – Socio-Economic Indexes for Areas.

**Key words:** dental public health; access to oral care; oral health policy; rural health infrastructure.

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### Introduction

The majority of Australians have access to high quality dental care services, and generally have good oral health largely due to the availability of fluoridated water and our much improved understanding of dental disease. Although the overall incidence of dental disease has reduced significantly by the end of the twentieth century, the improvements in oral health have not been equally shared across all socioeconomic groups. [1] It has been acknowledged by Australia's National Oral Health Plan that people representing low socioeconomic groups continue to experience greater levels of dental disease by comparison to their more affluent counterparts. [2]

A report titled 'Oral health and access to dental care – rural and remote dwellers' published by the Australian Institute of Health and Welfare noted that country residents are more



likely to display symptomatic patterns of dental attendance when compared to metropolitan residents. Country residents are also more likely to experience complete tooth loss, and to not have seen a dentist in a couple of years for routine dental care. In short, statistically, country residents experience higher rates of dental disease and are less likely to receive preventive care. [3]

The demand for subsidised dental care across the country has remained consistently high over the years and often exceeds the capacity of State public dental services to provide treatment, resulting in waiting lists, with historical wait times of two years reported. [4]

Prolonged waiting time for an appointment has been identified as one of the main factors resulting in patient dissatisfaction [5] and has frequently been the source of news stories in the national media. [6]

Over the years a number of State and federal initiatives were undertaken in an effort to meet the demand for subsidised dental care. Most recently the Commonwealth Government committed A\$1.3 billion over several years to State and Territory governments to support additional dental services for adults under the National Partnership Agreement.

The measure is aimed at reducing long wait times to see a public dentist by providing eligible public dental patients with an authority to seek limited treatment from a private dentist. [7]

Previous studies have found that it is generally more cost effective to provide subsidised dental care through public dental clinics when compared to contracting the work out to private sector. [7] Thus further investment in public dental health infrastructure may need to be considered in order for us to continue cost effectively meet the demand of our growing eligible population.

The objective of this study was to identify and rank areas of relative need for new public dental clinics, and to gauge what percentage of the areas identified were located in the vicinity of an existing public hospital network (with a view to strategically place dental chairs in some of the existing public hospitals rather than build new dedicated public dental clinics).

## Methods

Only open access, non-identifying data was used in this research. Thus ethics approval was not required.

### Australian Statistical Geography Standard

Australian Statistical Geography Standard (ASGS) was used throughout this study. This nationally agreed approach

to geographic analysis of population divides the country into four levels of clustering based around size. These are described as SA1 to SA4. SA1 being the smallest with about 400 people per area, SA2 closely reflects suburbs with about 10,000 people per area, SA3 areas have about 80,000 people each while SA4 are statebased. [8]

### Socio-Economic Indexes for Areas data

The data outlining the socioeconomic index for areas (SEIFA) distribution across Australia was obtained from the Australian Bureau of Statistics (ABS) website at SA1 level. [9] SEIFA has been designed by the ABS to arrange SA1s across Australia by their relative socioeconomic advantage and disadvantage. [9] The SEIFA data at SA1 level is used to calculate the SEIFA index at SA2, SA3 and SA4 levels.

### Resident population data

The population data spanning all of Australia was collected from the ABS website at SA1 level. There are approximately 55,000 SA1s in Australia, together covering the whole country without gaps or overlays. [8] SA1s are commonly acknowledged to be the fundamental building blocks of the ASGS. When used in aggregate, SA1s contribute to statistics at SA2, SA3 and SA4 levels.

### Eligible population data

Distribution data for the 'unemployed' and 'not in the labour force' was obtained from the ABS website at SA1 level and subsequently used to represent the distribution of the population eligible for subsidised dental care. Previous research identified a close correlation between the distribution of the 'unemployed' and 'not in the labour force' Census 2011 data and the actual distribution of the population eligible for subsidised dental care across Australia. [10]

### Public Hospital location data

Geographic location data for existing public hospital network was obtained from the [www.myhospitals.gov.au](http://www.myhospitals.gov.au) website. Only publically owned hospitals with emergency departments were selected.

### Public dental clinic location data

Previously published research provided the physical address (and geographic coordinates) for each public dental clinic in Australia (collated from a number of open sources) as at August 2012. [11]

### Geographic analysis

Quantum Geographic Information System (version 2.8.1) software was used to map statistical data and quasi-index of relative need.

### Processing of SEIFA, resident population and eligible population data

A previously developed mathematical approach to determination of areas of healthcare need, based on various smoothing functions of population disparities, was applied to the baseline data in this study. [12] In summary the method takes the SEIFA index for each SA1 and divides it by the usual resident and eligible population data to produce a weighted number. The process is repeated at SA2, SA3 and SA4 levels. The SA1 results were added to the SA2, SA3 and SA4 area results to which each SA1 in question belonged. Thus an aggregate value for each SA1 is produced. This fundamental mathematical approach provides a smoothing of the 'wrinkles' in the SEIFA index between nearby SA1s and thus brings to the foreground areas that are substantive in size and population. These smoothed aggregate values for each SA1 level were arranged in an ascending order,

forming a quasi-index of relative need. The most 'in need' 10% per cent of the aggregate values (ie SA1s) were selected for further analysis in this study.

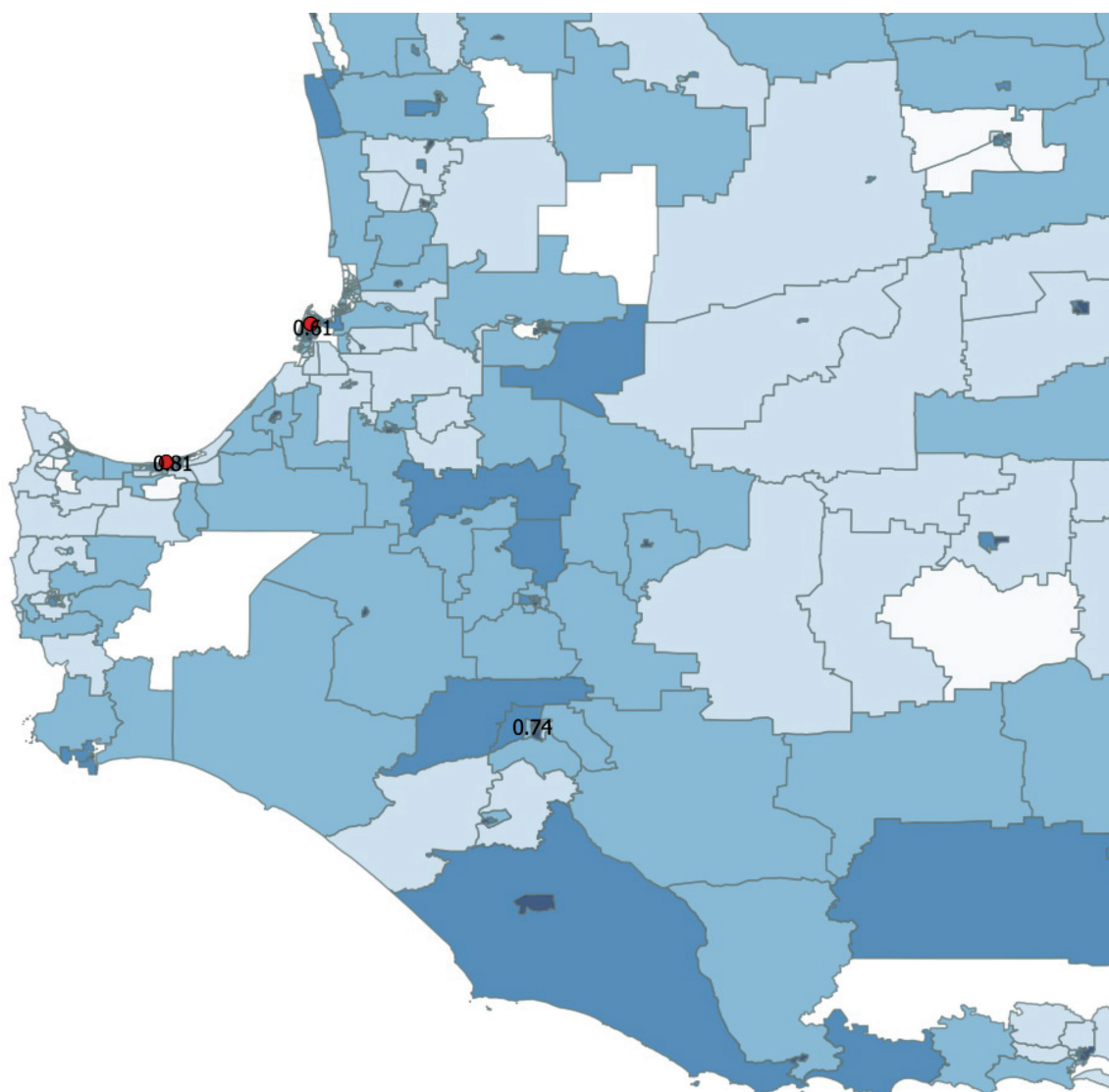
### Geographic disqualification

Geographic filtering was applied disqualifying SA1s that were located in the vicinity (within 10km radius for metropolitan and 20km radius for country areas) of an existing public dental clinic.

### Results

A total of 49 SA1 areas (0.1% of all SA1s) have been identified and preselected as potential public dental clinic sites across Australia. The preselection data was uploaded into QGIS software and formed a part of a layered map (Fig 1). The map allows for visual assessment of the spatial relationship between preselected sites, existing public dental clinics and the public hospital network.

Figure 1: Preselection data uploaded into QGIS software forming a layered map



The numeric values for the identified SA1s are projecting over the map and range from 0 to 1. Lower numbers identify areas of comparatively greater need, thus allowing us to rank and prioritise these areas for future service rollout.

An extract from the map of Australia (South West of WA) is an example of identified and ranked areas of relative need (Fig 1). Various shading indicates fluctuations in socioeconomic status of the population. Deeper shades indicate areas of low socioeconomic status, while lighter shades correspond to areas of higher socioeconomic status. While similarly shaded areas can be seen, only few display numeric values. Only areas with displayed values meet the weighting criteria of relatively higher population and eligibility levels.

Tables 1 and 2 (country and metropolitan areas, respectively) list identified areas or relative need for a public dental clinic. The majority (80%) of the identified areas of relative need are located outside metropolitan areas. Over a quarter (27%) of

all the identified areas were located in Victoria. Queensland accounted for 24% of all the areas of relative need across the country. Tasmania was found to have more areas of relative need (14%) than New South Wales (12%). Northern Territory and Western Australia contributed 8% each to the total count of identified locations. South Australia made up 6% of the total, while no areas of relative need were identified in the Australian Capital Territory.

Significantly, fifty per cent of the identified areas of relative need outside metropolitan areas are located in the vicinity of an existing public hospital.

## Discussion

Routine dental check-ups offer an opportunity for early detection and prevention of dental disease. For many of us the timeless proverb proclaiming that 'prevention is better than cure' rings especially true in personal health matters.

**Table 1. Country locations: Identified areas of relative need for public dental clinic**

STATE	SUBURB	NEAREST PUBLIC DENTAL CLINIC VICINITY	PUBLIC HOSPITAL IN THE IMMEDIATE	STATE	SUBURB	NEAREST PUBLIC DENTAL CLINIC VICINITY	PUBLIC HOSPITAL IN THE IMMEDIATE
NSW	Sussex Inlet	32km	No	TAS	Smithton	92km	Yes
NSW	Katoomba	26km	Yes	TAS	George Town	52km	Yes
NSW	Mudgee West	35km	Yes	TAS	Central Highlands	62km	No
NSW	Tuncurry	6km	No	TAS	Geeveston	55km	No
NSW	Nambucca Heads	46km	Yes	TAS	Forestier	56km	No
NSW	Evans Head	32km	No	VIC	Camperdown	50km	Yes
NT	Tanami	430km	No	VIC	Golden Plains South	30km	No
NT	Barkly	576km	No	VIC	Pakenham North	17km	No
NT	Thamarrurr	256km	No	VIC	Warragul	34km	Yes
QLD	Southern Downs	21km	No	VIC	Leongatha	42km	Yes
QLD	Crows Nest	35km	No	VIC	Upper Yarra Valley	70km	No
QLD	Kilcoy	36km	Yes	VIC	Yarram	40km	Yes
QLD	Tara	43km	Yes	VIC	Creswick	26km	No
QLD	South Mackay	96km	Yes	VIC	Loddon	55km	Yes
QLD	Palm Island	51km	Yes	VIC	Heathcote	51km	Yes
QLD	Herberton	40km	No	VIC	Rochester	26km	Yes
QLD	Aurukun	280km	No	VIC	Cobram	34km	Yes
QLD	Carpentaria	450km	No	WA	Mandurah	26km	Yes
SA	Ceduna	378km	Yes	WA	Manjimup	112km	Yes
SA	Goyder	35km	Yes	WA	Halls Creek	146km	No

**Table 2: Metro locations: Identified areas of relative need for a public dental clinic**

STATE	SUBURB	NEAREST PUBLIC DENTAL CLINIC VICINITY	PUBLIC HOSPITAL IN THE IMMEDIATE	STATE	SUBURB	NEAREST PUBLIC DENTAL CLINIC VICINITY	PUBLIC HOSPITAL IN THE IMMEDIATE
NT	Weddell	38km	No	TAS	Dodges Ferry	41km	No
QLD	Jimboomba	25km	No	TAS	Bridgewater	14km	No
QLD	Redland Islands	20km	No	VIC	Melton	18km	Yes
QLD	Beachmere	17km	No	WA	Forrestfield	13km	No
SA	Hackham West	14km	Yes				

In the context of subsidised dental care (from a tax payer perspective), prevention can also be cheaper than cure. Provision of subsidised dental care through public dental clinics has been found to be up to three times more cost effective when compared to contracting the work out to private sector. [13]

Eighty per cent of the identified areas of relative need are located outside metropolitan areas. The results were consistent with previous research findings indicating that metropolitan residents generally enjoy better access to public dental care facilities. [3]

Building a public dental clinic in a country setting may not be as cost effective as building a similar clinic in a metropolitan area, in part, due to differences in population densities. However, findings also indicate that around fifty per cent of the identified areas of relative need are located in the vicinity of a public hospital. Delivery of subsidised dental care through the existing public health infrastructure, where available, may offer an opportunity to improve access to dental care for those layers of our society that need it most, while minimising capital expenditure and the costs associated with more complex, late stage intervention.

Individual consideration may need to be given to each such case as existing public hospitals may lack the space required for a dental clinic. Co-location of dental facilities within public hospitals may be easier to enact as a part of new capital developments that meet the selection criteria. Although the cost of outfitting a dental clinic is likely to remain relatively static, shared site, development, utilities and building costs may result in significant savings when compared to building an independent public dental clinic. The co-location strategy may also help to improve patient outcomes (both medical and dental) by emphasising the link between dental health and the overall health of an individual and promoting preventive behaviour. Closer

integration of medical and dental services can offer a more coordinated, efficient, patients-centred approach that meets both the medical and oral health needs of patients in a single setting. [14]

Poor oral health has been linked to chronic conditions such as heart disease and diabetes. [14] Co-location of medical and dental services has been found to simplify access to dental care and improve health outcomes by allowing for timely delivery of diagnostic and therapeutic care. [14] There are a number of examples where co-location of hospital and public dental clinics has been successfully implemented eg, Geraldton Hospital, Western Australia and Tully Hospital, Queensland. The demand for subsidised dental care remains consistently high, often exceeding the capacity of the public system to provide the service, resulting in long waiting lists. [4] Thus a strong argument could be made that our policy should be to widen and strengthen the government provided dental network to build the superstructure of a great compassionate system to leave no Australian behind. This research is based on quantitative data from the ABS.

Thus, application of the method produces consistent, precise and reliable results. The identification and ranking process described, however, may not address qualitative issues unique to each site. Additional qualitative considerations should be given to each proposed location as these will often complement and allow for refinement of the quantitative data.

## Conclusion

The areas of relative need identified in this study represent the most disadvantaged (0.1%) of the Australian population. Country residents are more likely to experience dental disease when compared to metropolitan counterparts. Regular dental check-ups can aid prevention and early identification of dental disease. Access to subsidised dental care can potentially be improved in half (50%) of the

identified areas by offering subsidised dental care to the eligible population through the existing publicly owned hospital network.

Offering subsidised dental care through the existing public hospital network, where available, in turn, may help to control the cost of service delivery by minimising capital expenditure.

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Nil.

## Competing Interests

The authors declare that they have no competing interests.

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## Leadership in Allied Health: A Review of the Literature

P Bradd, J Travaglia and A Hayen

### Abstract

**Background:** It is well established that effective clinical leadership improves the quality of healthcare service provision and promotes leadership outcomes. [1,2] Leadership capacity and capability of allied health professionals is needed for successful clinical service provision, [3] but less is known about allied health leadership than about other clinical groups.

**Aims:** The literature review aimed to identify research about leadership and leadership development of allied health practitioners in healthcare settings.

**Methods:** A database review was undertaken using SCOPUS, CINAHL, Medline and Business Elite databases from December 2014-September 2015. Three leadership journals were also hand searched. A total of 1665 articles were identified. These were scanned and 129 articles were retrieved with 70 articles shortlisted for in-depth review.

**Results:** After application of inclusion and exclusion criteria, seven journal articles were included in the literature review. Review of the studies identified two areas of primary focus: leadership styles and outcomes and leadership development programs.

**Conclusions:** Findings showed that there are currently a limited number of robust published reports in relation to leadership and allied health practitioners.

**Implications for Practice:** Well-designed research studies to further evaluate leadership skills of allied health practitioners as well as to determine the effectiveness of leadership programs in developing transformational leaders are required.

**Abbreviations:** CASP – Clinical Appraisal Skills Program; NHMRC – National Health and Medical Research Council.

**Key words:** leadership; allied health; framework.

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### Introduction

Allied health practitioners are tertiary educated health professionals who work as core members of the healthcare team to optimise clinical outcomes for patients. [4] In the New South Wales Australian Public Health Sector, allied health professions typically include the disciplines of: Audiology, Art Therapy, Counselling, Dietetics and Nutrition, Diversional Therapy, Exercise Physiology, Genetic Counselling, Music Therapy, Medical Radiation Sciences, Occupational Therapy, Orthoptics, Pharmacy, Physiotherapy, Play/Child Life Therapy, Podiatry, Psychology, Sexual Assault, Social Work, Speech Pathology and Welfare. [5,6]

Leadership has been defined as being able to cultivate an environment where all employees can contribute to their maximum potential in support of the mission of the organisation. [7] Effective clinical leadership at all levels of care is essential to improve the delivery and quality of health care services, [1,8,9] to foster staff engagement [10] and to produce effective leadership outcomes. [1,3,11]

Healthcare services are complex and require ongoing, adaptive change. [12,13] In the health setting, transformational leadership has been associated with facilitating high-quality, person-centred healthcare. [14,15] Transformational leaders are said to display a range of characteristics and behaviours including bringing vision, inspiration and empowerment leading to greater influence, motivation and intellectual stimulation of followers. [11,14,16]

In comparison, transactional leadership is reported to include active and passive management by exception (where there are criteria for compliance and deviations which are monitored) and contingent reward (where a leader provides a reward when an agreed task is completed). [3,17,18] Health leadership competencies include technical and industry capabilities along with interpersonal, analytical and communication skills, emotional intelligence and adaptability. [8]

The requirement for more effective employee performance and productivity within the healthcare setting along with the need to build adaptability to change has led to extensive research on leadership styles and the outcome of leadership within healthcare organisations. [1,9,19-23] Despite this, there are reportedly limited published studies evaluating leadership development programs for clinical leaders, including allied health, nursing and medical professions. [3,8,10,24-26]

Leadership capacity and capability of allied health professionals is considered a crucial component of the successful redesign of healthcare services. [3] As a result, some countries have invested in allied health leadership

development. One example is the *Scottish Education and Development Framework for Senior AHPs*, [27] a national initiative that has been implemented within a leadership policy framework. [28] The aim of this paper is to describe the results of a review of the published literature in relation to allied health leadership and allied health leadership development in the healthcare context.

## Methods

### Data sources and search strategy

A range of electronic databases was accessed across December 2014 to September 2015. The search utilised the SCOPUS, CINAHL (Cumulative Index to Nursing and Allied Health Literature), Medline and Business Elite databases. Manual searches were also undertaken with allied health and health leadership journals, specifically the *Journal of Allied Health*, *Journal of Healthcare Leadership*, *Leadership in Health Services and Leadership and Organisational Development*. Keywords and alternatives were leadership and 'allied health'/'Health prof\*'.

All initial database searches were conducted by Article Title, Abstract, Keywords with combinations of the keywords using the 'AND' Boolean. Searches were limited to English-only citations published after 1980. EndnoteX7, a reference management software package, was used to manage references. This was to enable later analysis and identification of duplicated articles.

### Search process

The references identified using search terms described are presented in Tables 1 and 2. Some articles were listed by multiple databases, thus these figures include some duplicate articles.

**Table 1: Database search by term**

SEARCH TERM	SCOPUS	CINAHL	MEDLINE	BUSINESS ELITE	TOTAL
Leadership AND Health prof* OR 'allied health'	788	46	460	12	1306

**Table 2: Journal search by term**

SEARCH TERM	JOURNAL OF ALLIED HEALTH	JOURNAL OF HEALTHCARE LEADERSHIP	LEADERSHIP IN HEALTH SERVICES	LEADERSHIP AND ORGANISATIONAL DEVELOPMENT	TOTAL
Leadership	192				192
'Allied health'		83	70	14	167
Leadership AND 'allied health'		[45]			

### Inclusion and exclusion criteria

Papers were included in the review if research was published in a peer-reviewed journal; allied health practitioners (as defined in New South Wales) were core study participants; the studies researched methods, processes or theories associated with leadership or leadership development using qualitative, quantitative or mixed approaches; and related to healthcare or clinical service delivery. Publications also were required to be in English and freely retrievable.

Papers that related to allied health professions but which did not involve original research were excluded from the review. This included published commentaries, opinion pieces and some profession-based leadership articles. Several articles researched an allied health profession that was not included in the Australian definition of allied health, for example athletic trainers. These papers were also excluded.

All studies were screened using a quality assessment tool. The Australian National Health and Medical Research Council (NHMRC) Evidence Hierarchy [29] was utilised for quantitative studies and the Clinical Appraisal Skills Programme (CASP) for quantitative studies. [30]

### Results

Online database searches by title/abstract/keyword yielded 1665 abstracts/titles relevant to allied health and leadership. All papers were initially screened by title. Where further clarity or information was required, the abstract of the article was reviewed. The abstracts of all articles with 'allied health' in the title were appraised. Of these, 129 articles were screened against the inclusion criteria and 70 studies were retrieved for in-depth review. Of these, 13 duplicates were identified and removed. After applying the inclusion and

exclusion criteria, seven studies were retained, including three qualitative and four quantitative studies. Table 3 outlines the totals selected.

### Characteristics of included studies

Research was undertaken in a range of contexts and settings. Three of the studies were undertaken in the United States. Of the remainder, two investigations were conducted in the United Kingdom (Scotland and England) and two single studies were from Canada and Australia. Of the papers reviewed, five were published after 2007.

Three of the studies pertained to discrete professional groups within the United States (dietetics, social work and occupational therapy) and three related to multidisciplinary teams. One study pertained to allied health across a national health system.

The characteristics of the included studies are described in Table 4. The quantitative and qualitative studies are described separately.

### Summary of quality review

All of the quantitative studies were rated as strong in quality against the NHMRC Evidence Hierarchy. [29] The qualitative studies were rated low in quality when assessed against CASP criteria [30] as they generally did not adequately describe reflexivity and lack detailed information about participants, data collection processes and evaluation tools.

### Theoretical frameworks

There was explicit reference to theoretical frameworks in six of the studies. The qualitative studies were predominantly based on local strategic documents rather than empirical theoretical approaches. The Full-Range Leadership Theory and Transformational Leadership Theory were cited in

**Table 3: Totals selected for full article review**

DATABASE/JOURNAL	TOTAL SELECTED FOR FULL ARTICLE REVIEW [SOME DUPLICATES]	NUMBER SELECTED
SCOPUS	21	1
CINAHL	15	2
MEDLINE	6 (4 duplicates)	0
Business Elite	4	0
Journal Searches:		
• Journal of Allied Health	12 (9 duplicates)	2
• Journal of Healthcare Leadership	9	0
• Leadership in Health Services	3	2
• Leadership in Organisational Development	3	2

**Table 4: Characteristics of included studies***Characteristics of included studies – Quantitative*

AUTHORS; YEARS; JOURNAL; COUNTRY	THEORETICAL FRAMEWORK	SAMPLE/ SUBJECTS	LEVEL OF EVIDENCE [NHMRC]	VALIDITY	ANALYSIS	VALUE	THEME	CONTEXT	NO. SITES
Wylie and Gallagher (2009) <i>Journal of Allied Health Scotland.</i>	Scottish Leadership Development Framework.	1700 postal questionnaires and MFQ-5 for six allied health disciplines (20.8% proportional representation).	Level III-3.	Validity and reliability of MLQ described.	Descriptive statistics; Kruskal-Wallis and Mann- Whitney U tests. Spearman's analysis.	Allied health professional (AHP) scored higher if in a senior role or had leadership training. Differences found amongst AH disciplines.	Leadership styles.	NHS Scotland.	Multiple.
Arensberg et al (1996) <i>Journal of the American Dietetic Association USA.</i>	Transform- ational Leadership Theory. Conceptual framework provided.	1599 members of Clinical Management dietetics practice group. Of the 59.8% respondents (951) sample received Leadership Behaviour Questionnaire (LBQ0 (n=150), 116 used in analysis.	Level III-3.	Validity and reliability of MLQ described.	Descriptive statistics. Data analysis using Statistical Analysis System.	Clinical dietetics managers showed transformational leadership qualities (lowest - communication; highest - respectful leadership). Self- rating higher than subordinate ratings. Visionary culture building sub score had the strongest predictive effect with demographic variable.	Leadership styles / outcomes.	Dietetics.	Multiple
Snodgrass et al (2008) <i>Journal of Allied Health USA.</i>	Full-Range Leadership Theory.	Demographic questionnaire and MLQ-5. 500 randomly selected occupational therapy (OT) practitioners with 73 responses.	Level III-3.	Validity and reliability of MLQ described.	Descriptive statistics. Data analysis using SPSS, Pearson correlations.	In a rehabilitation setting, OT's perceive trans- formational leadership is associated with positive leadership outcomes. A blend of transform- ational and aspects of transactional leadership lead to positive leadership outcomes.	Leadership styles / outcomes.	Rehabilit- ation.	Multiple.
Gellis (2001) <i>Social Work Research USA.</i>	Transform- ational leadership theory.	Demographic questionnaire and MLQ-5. 234 social workers (SW); 187 responses (80%).	Level III-3.	Validity and reliability of MLQ described.	Descriptive statistics. Mean/SD of MLQ scores. Pearson correlations.	SW leadership outcomes are positively correlated with transformational leadership and transactional contingent reward.	Leadership styles / outcomes	Social work in health	Multiple.

**Table 4: Characteristics of included studies *continued****Characteristics of included studies – Qualitative*

AUTHORS; YEARS; JOURNAL; COUNTRY	THEORETICAL FRAMEWORK	SUBJECTS	DATA COLLECTION	RIGOUR (CASP)	ANALYSIS	VALUE	THEME	CONTEXT	NO. SITES
MacPhail, et al (2015) <i>Leadership in Health Services Australia.</i>	Not described.	17 participants in 2011 (5 AHP; 5 nursing; 3 medical). 22 participants in 2012 (9 AHP; 10 nursing; 3 medical).	Evaluation survey questionnaire developed by authors (2012 cohort); post program reflective session; 2011 cohort follow-up of leadership roles.	Low.	Descriptive statistics. Analysis of responses on Likert scale.	Work-based Clinical Leadership Programs can be feasible and cost effective.	Leadership develop- ment.	Australian health service.	Multiple.
Block and Manning (2007) <i>Leadership in Health Services Canada.</i>	The Leadership Life Cycle.	92 participants from acute/ community settings (56 nurses; 36 AHP and support service staff).	Evaluation survey questionnaire developed by authors. Applied project.	Low.	Participant evaluation. Focus groups with Managers. Limited descriptive statistics on self and manager ratings.	Manager and participant reported outcomes differed significantly. Systematic leadership development has potential.	Leadership develop- ment.	Canadian health service.	Multiple.
Leeson and Millar (2013) <i>Nursing Management UK.</i>	7 Habits for Healthcare (based on Covey).	200 participants (nurse and allied health professional leaders).	Evaluation survey developed by first authors to 40 participants. 66 Audit questionnaires with 17 returned.	Low.	Participant response to 9 questions.	Describes a Coveybased leadership program for UK AHPs and nurses to build individual leadership capacity.	Leadership develop- ment.	English commu- nity/hospital health service.	Multiple.

the four quantitative studies, three of which utilised the Multifactor Leadership Questionnaire Form 5 (MLQ-5).

### Measures

The studies used a range of tools to evaluate leadership. The MLQ-5 was utilised in three studies and the Leadership Behaviour Questionnaire in another. Other studies developed their own self-assessment, questionnaires and evaluation tools.

### Study results

The published literature pertaining to leadership and allied health practitioners focussed on two major areas. These were how leadership styles affect leadership outcomes (two studies) and the results of leadership development programs (three studies). Two papers reported information pertaining to both themes.

### Leadership styles and leadership outcomes

One study explored self-reported transformational leadership behaviours in six allied health professions across the National Health Service in Scotland using the MFQ-5 and demographic information. [3] Statistically significant differences in self-reported transformational leadership behaviours across allied health disciplines were found, with radiographers and podiatrists scoring consistently lower transformational scores than other allied health professions. Aggregated transformational leadership scores were higher for occupational therapy, speech and language pathology and physiotherapy than for dietetics, podiatry and radiography. Those in more senior graded positions had significantly higher transformational leadership scores. The researchers concluded that some allied health groups might require more leadership support. [3]



The transformational leadership competencies of hospital-based clinical nutrition managers were evaluated in a 1996 United States study that used the Leadership Behaviour Questionnaire to measure transformational leadership qualities in a study sample of 150 dietitians. [31] This study aimed to determine qualities of leadership in nutrition leaders and whether there were demographic variables associated with these qualities. Results found that transformational leadership qualities as assessed by the Leadership Behaviour Questionnaire were shown by nutrition leaders, however subordinates rated their leaders significantly lower than they rated themselves. Gender, educational status, situational variables and personality factors were identified as possible characteristics impacting transformational leadership status. The study concluded that there was a need for additional research pertaining to dietetic leadership outcomes as well as for leadership training and skill development. [31]

A study involving practising social workers from 26 hospitals assessing their immediate managers using the MLQ-5 was undertaken in 2001. [32] Results suggest that transformational leadership behaviours and the transactional factor of contingent reward were significantly related to leadership outcomes of satisfaction, extra effort and leadership effectiveness with for hospital-based social workers. [32]

In the context of a rehabilitation setting, one study reported that occupational therapists perceive that a transformational leadership style is associated with positive leadership outcomes. The study also found that a blend of transformational and aspects of transactional leadership lead to positive leadership outcomes. [11]

These four studies demonstrate that there is a positive correlation between transformational leadership behaviours and strong leadership outcomes for some allied health disciplines. They also show that a combination of transformational and aspects of transactional leadership behaviour (specifically contingent reward) also leads to sound leadership outcomes.

#### **Leadership Development Programs involving allied health**

Three of the studies described the reported outcomes from locally developed and delivered leadership programs, which included allied health practitioners. One study involved 200 nurses and allied health professional leaders. [33] The second involved nurses (n=56), allied health clinicians and support service staff (n=36). [25] The third study involved

allied health (n=9), nursing (n=10) and medical (n=3) clinicians. [24] One study described leadership outcomes relating to leadership training. [3]

A locally developed 7 Habits for Healthcare Leadership program was implemented in the United Kingdom with allied health and nursing seniors to build individual leadership capacity. [33] The numbers of allied health clinicians in this program was not specified. This two-day program was reportedly well received by participants; however there was minimal formal evaluation of the program, limiting its applicability.

A Canadian study investigated the impact of a systematic approach to leadership development of 92 frontline leaders, including 36 allied health professionals. [25]

An eight-day program was developed and implemented where participants were required to complete an applied project. Evaluation included focus group feedback and program evaluation. Manager and participant reported leadership outcomes differed significantly. While the authors state that systematic leadership development has potential, [25] applicability of findings was limited due to a lack of robust evidence to support the effectiveness of the program and/or the approach.

A third paper described an interdisciplinary workplace-based Clinical Leadership Program conducted over eight months, which reported an increased willingness of participants to take on leadership roles within a regional centre in Australia. [24]

The authors concluded that Clinical Leadership Programs conducted internally can be feasible and cost-effective, [24] however weak study design and limited evaluation meant that further substantiating evidence was required.

A study conducted in Scotland found that allied health professionals scored significantly higher transformational leadership scores if they had undertaken leadership training. [3] The authors recommend that leadership training for allied health professionals be expanded, though caution that such training requires robust evaluation. Other studies similarly recommended leadership training for allied health practitioners. [31]

#### **Discussion**

The literature review of allied health and leadership yielded limited published information. Of the papers selected, four quantitative studies provided strong evidence in relation to the transformational leadership skills of some allied health professions. One of these studies also demonstrated that

allied health practitioners who had undertaken leadership training scored significantly higher transformational leadership scores than those who had not undertaken leadership training.

Other studies described multiprofessional leadership development programs that included allied health professionals as core study participants along with nurses and midwives (two studies) and the multidisciplinary clinical team (one study).

These locally developed programs produced less robust evidence in relation to the effectiveness of leadership development program involving allied health practitioners. The literature review identified two main research themes in relation to allied health clinicians. Unlike studies published by other clinical cohorts, such as nursing, there were no papers identified which addressed leadership elements such as expected leadership competencies for allied health, the impact of leadership skills on subordinates, or how allied health leaders were able to positively impact standards of clinical care. This highlights the opportunity for further research in relation to the many facets of leadership as they pertain to the allied health disciplines.

Several allied health professional associations have highlighted the importance of leadership and have developed leadership programs for members (for example, see 34 and 35). Other allied health professional associations and multidisciplinary allied health agencies could strengthen and build upon programs such as these.

Collectively, a strategic approach that seeks to build leadership capability for a stronger future is required across allied health professions.

### Limitations

There are several study limitations. The definition of allied health varies across countries and jurisdictions [4] thereby using the New South Wales definition of allied health influenced the numbers of studies included. The search of the literature also did not include grey literature, which may also have added valuable information.

When conducting literature reviews, it is recommended that two or more reviewers independently assess individual studies for quality and content. [36] The papers in this study were reviewed by one individual as part of her PhD candidacy.

In order to minimise any effects of this approach, studies where there was equivocality were discussed with supervisors in order to achieve consensus.

### Conclusion

Leadership is critical for fostering engaged staff and has been linked with improved clinical and organisational outcomes. [10] Allied health practitioners are essential members of the clinical team within the healthcare system [4] yet there has been limited research in the areas of allied health leaders and leadership development to date. This review of the literature has highlighted the need for well-designed research studies to further evaluate leadership skills of allied health practitioners as well as to determine the effectiveness of leadership programs in developing transformational allied health leaders.

### Competing Interests

The authors declare that they have no competing interests.

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## Flexible, Capable, Adaptable: A Dynamic Allied Health Workforce\*

K May, F McAlinde, M Splawa-Neyman, M O'Rourke and T Sturgess

### Abstract

**Objective:** The Allied Health Executive at a major Metropolitan Health Service was experiencing an increasing number of flexible work requests and was keen to ensure that local and legislative requirements were met, our highly skilled and specialist staff were supported to remain in the workforce as their life outside work changed and the operational demands of a bed-based service delivery model were not negatively impacted.

**Design:** A root cause analysis was completed identifying three main contributing factors for the current, ad-hoc approach to flexible work requests. Current and past flexible work participants were surveyed, along with their managers and the Nurse Unit Managers of the clinical work areas. A literature review and environmental scan regarding frameworks for decision making for and supporting flexible work requests was undertaken.

**Findings:** There was a lack of consistent information as to how to establish and manage a flexible work request.

There had been an historical view that flexible work requests were difficult to operationalise and there were missed experiences with flexible work arrangements for the people involved, their managers and their colleagues.

**Outcome measures:** The combined data was then utilised to develop a framework to support decision-making around whether a role could operate as a flexible work arrangement. A framework on how to best support the staff considering and entering into these arrangements to ensure all the benefits of a flexible work arrangement are realised and many of the challenges minimised was also developed.

**Conclusion:** Flexible work arrangements should be considered in appropriate circumstances, and will have the best opportunity for success when supported by a consistent, evidenced-based framework.

**Abbreviations:** EFT – Equivalent Full Time; RCA – Root Cause Analysis.

**Key words:** flexible work; allied health; framework.

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\*This work was undertaken as part of an internal leadership program at a major Metropolitan Health Service and is in the process of being trialled and evaluated.

## Introduction

### Defining flexible work arrangements

Flexible work arrangements are defined as a temporary or permanent reduction in work time fraction or Equivalent Full Time (EFT) allocation. [1]

Flexible work arrangements may result in a reduction in hours, or alternative leave arrangements such as 48/52 whereby a staff member 'purchases' an additional four weeks of annual leave. Most commonly flexible work arrangements equate to a job share/spilt/support request, as staff seek to reduce from a full time position to fewer hours, while retaining their position within a work area at their current classification. The differentiation between the various flexible work arrangements options of job split, job share or job support is provided in Figure 1.

**Figure 1: Flexible work arrangements options**

**Job spilt:** Where a position is spilt into relatively un-related part time roles. Generally the duties of the original role are divided.

**Job share:** Job responsibilities are shared between two or more people. Generally the duties of the overall position remain unchanged and are shared.

**Job support:** A staff member reduces their hours and a support person at a lower level is employed to undertake some of the task associated with the position.

Source: Federation University, Job spilt, job share, job support toolkit and case studies [1]

This article considers a variety of flexible work arrangement options, including job shares, job splits and job supports.

The benefits of a flexible work arrangement are articulated in Figure 2.

**Figure 2: Benefits of flexible work arrangements**

- Cost effective means of retaining skilled staff
- Recognised as employer of choice within industry
- Increased number of people returning to work after parental leave
- Improvement in staff morale
- Reduction in staff turnover (lower recruitment and training costs)
- Demonstrating that staff are valued by the organisation
- Reduced absenteeism
- Maintained and improved productivity through ensuring highly skilled employees are recruited and retained
- Improved organisational efficiency through benefits of long service (institutional memory, industry knowledge etc.)

Source: Australian Government, Best Practice Guide Work and Family [2]

### Legislative position

As required of all employers, the Allied Health Executive at a major Metropolitan Health Service considers the various legislative requirements relating to flexible work requests, maternity leave and return from maternity leave. As a major Metropolitan Health Service we have an organisation wide procedure for applying for parental leave, which is inclusive of requests for flexible return to work arrangements. This procedure is based on the *Equal Opportunity Act (2010)* [3] and the *Fair Work Act (2009)*. [4]

### Allied Health at a major Metropolitan Health Service

Allied Health bed-based services at a major Metropolitan Health Service are provided across five facilities, service a third of the population of south-eastern Melbourne across the life continuum and equate to approximately 400 EFT staff. Areas of service provision include acute bed-based, sub-acute bed-based, outpatient and emergency care across paediatric and adult populations. At the time of this piece of work, the Allied Health Executive consisted of a General Manager of Allied Health (professional responsibility across all Allied Health services including mental health and community, operational responsibility for bed-based allied health services) and two bed-based directors with operational and professional responsibility for the bed-based sites within their sector.

As part of routine practice, this major Metropolitan Health Service conducts exit surveys for all staff leaving the organisation. A review of staff feedback from 49 exit interviews in 2012 identified that although no Allied Health staff directly indicated that 'Flexible work options – work hours were unrealistic/lacked flexibility' as a reason for leaving the organisation, open text feedback within the survey suggests that Allied Health staff did in fact depart the organisation due to an inability to access flexible work arrangements, with individuals reporting that they had requests to reduce to part time hours rejected, and another advising that they were having a baby and did not want to work more than one to two days a week, implying that this was not an option in their work area.

The Allied Health workforce is experiencing an increasing number of requests from staff, including senior clinicians and managers, for flexible work arrangements. This is mainly in the setting of returning to work after having children, but may also occur when staff have work/life balance challenges for other reasons including, but not limited to; caring responsibilities, recreational interests (e.g. travel), study and private practice. The Allied Health Executive at this major Metropolitan Health Service was keen to explore models



and strategies to support the retention of experienced clinicians and managers.

### Literature review and environmental scan

A literature review was undertaken using online search resources, including ProQuest Health, Emerald, Books@Ovid, FullText Clinicians Health Channel, Journals@Ovid, Ovid Medline, Embase and Maternity and Infant Care. There were a very limited number of results and no papers related to flexible work in Allied Health, therefore an electronic environmental scan was also undertaken. The literature review and environmental scan identified resources and processes for consideration of flexible work arrangements do exist within at least some Victorian Universities but no other Australian health services. This was emphasised by the high level of interest in this work by health service Directors when it was presented at the 10th National Allied Health Conference in 2013.

Federation University has a toolkit to support flexible work arrangements, which includes consideration of the following factors; the nature of the job; allocation of hours or days; responsibilities and reporting; communication between staff members involved, managers and other staff; infrastructure; performance review; and reviewing the arrangements. [1]

The variables to be considered when reviewing the success of the flexible work arrangements reflected the same factors. [1]

As there was a large amount of work undertaken and published in the education sector, which is similar in workforce size and also accountable for government funding, it was decided that the work in this sector was best positioned to inform the framework development. In summary, the main areas to consider in regard to flexible work requests were:

- complementary relationships and skills are important; job share participants choose to make a success of their job share;
- the whole is greater than the sum of two parts, that is, the combined skill sets of two different staff provides better value than one person with an individual skill set;
- the need for rules or principles around who has access to flexible work arrangements to ensure equal opportunity;
- decision around job shares in clinical roles should not be only based on agreement between the employee and manager, but also consider public needs and expectations – discontinuity of care risks;

- job share registers enable potential job sharers to find a potential partner;
- spilt tasks to match skill set; focus on what is being achieved, not how it is being achieved;
- forward planning, and ongoing individual, as well as joint support important;
- importance of involving the broader team in decision making around job shares.

### Method

#### Root cause analysis

The project team undertook a Root Cause Analysis (RCA) to determine why Allied Health at a major Metropolitan Health Service had an historical ad hoc approach to job share requests, utilising the RCA framework presented at an internal leadership program by the Advisory Board. The full RCA can be viewed in Appendix 1.

#### Staff surveys

In order to determine the local lived experience of existing and recent flexible work arrangements in Allied Health and confirm the small amount of exit survey data, electronic surveys were distributed to Allied Health Clinicians, Allied Health Managers and Nurse Unit Managers in bed-based settings across the major Metropolitan Health Service to obtain qualitative data from this cross section of professional groups. This group was identified by the management team as people who had been part of or worked alongside a flexible work arrangement in the past 12 months. The survey was electronic, a mix of multiple choice and open-ended questions.

Survey responses were received from a total of 44 staff – 13 Allied Health Clinicians (30%), 23 Allied Health Managers (52%) and eight Nurse Unit Managers (18%). A total of 14 respondents identified as being part of a job share, although seven of the 14 identified their role is a job spilt rather than a job share.

### Results

#### Root cause analysis

The RCA process identified three main causes of the current approach to flexible work requests in this major Metropolitan Health Service Allied Health team. The first was the lack of consistent processes around managing a flexible work request and setting up a flexible work arrangement, with no formal tool or framework currently available to support a consistent process. There was also a historical view that flexible work requests were too difficult to operationalise at

the manager level, counterbalanced by positive individual experiences of job shares that worked well.

### Staff surveys

A thematic analysis of a staff survey was conducted and themes coded into two main categories: flexible work arrangement challenges and flexible work arrangement benefits.

The main themes identified regarding job share challenges included the time investment required to ensure good communication, often resulting in poor communication due to work pressures. There was slower decision-making by the people in flexible work arrangements due to the part time nature of their roles, and at times there was confusion around roles and responsibilities by those in the flexible work arrangement, as well as for those working with the people in the flexible work arrangement.

The main themes identified regarding job share benefits included retention of staff through support of optimal work-life balance; for some they felt there was good role clarity and delineation (very person dependent), and that the overlap in their roles helped them to do their work better. Working closely with another person also presented opportunities to increase knowledge and skills, as well as for better communication (again, very person dependent).

There is some overlap in the benefits and challenges themes. This supports the idea that these are key areas in regards to the success or failure of a job share, and have informed the development of the framework. Detailed results for the challenges and benefits are provided in Figures 3 and 4, respectively.

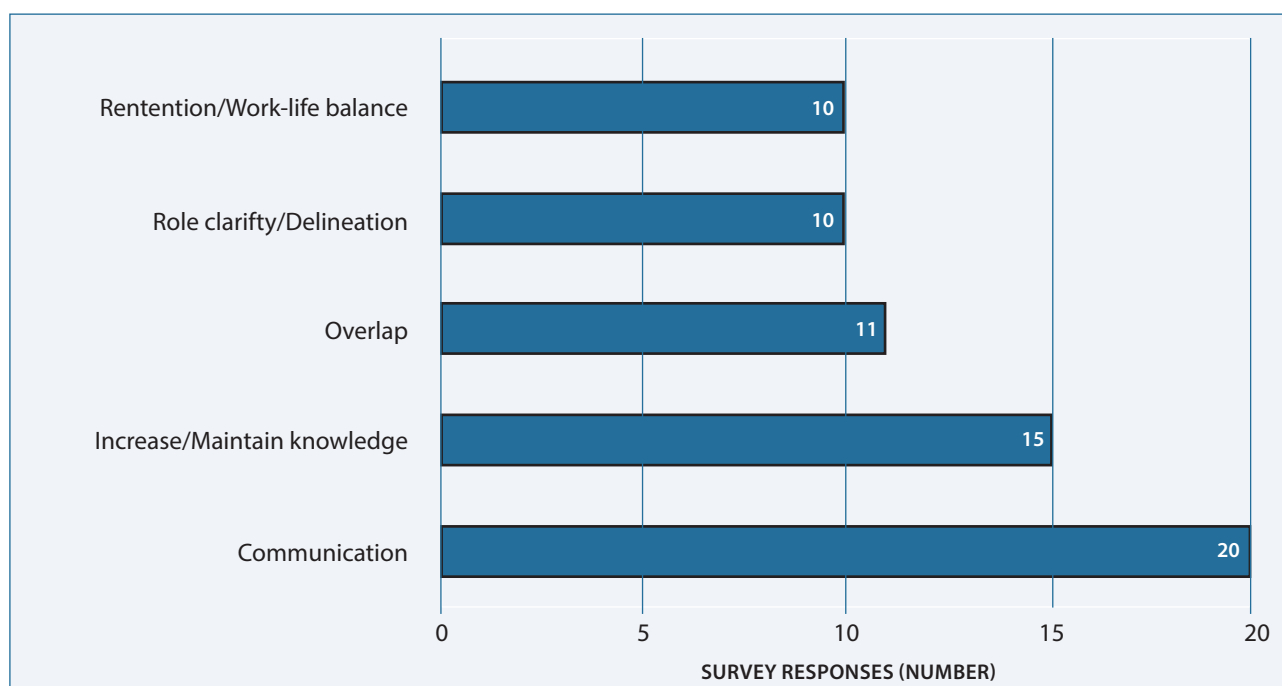
### Benefits

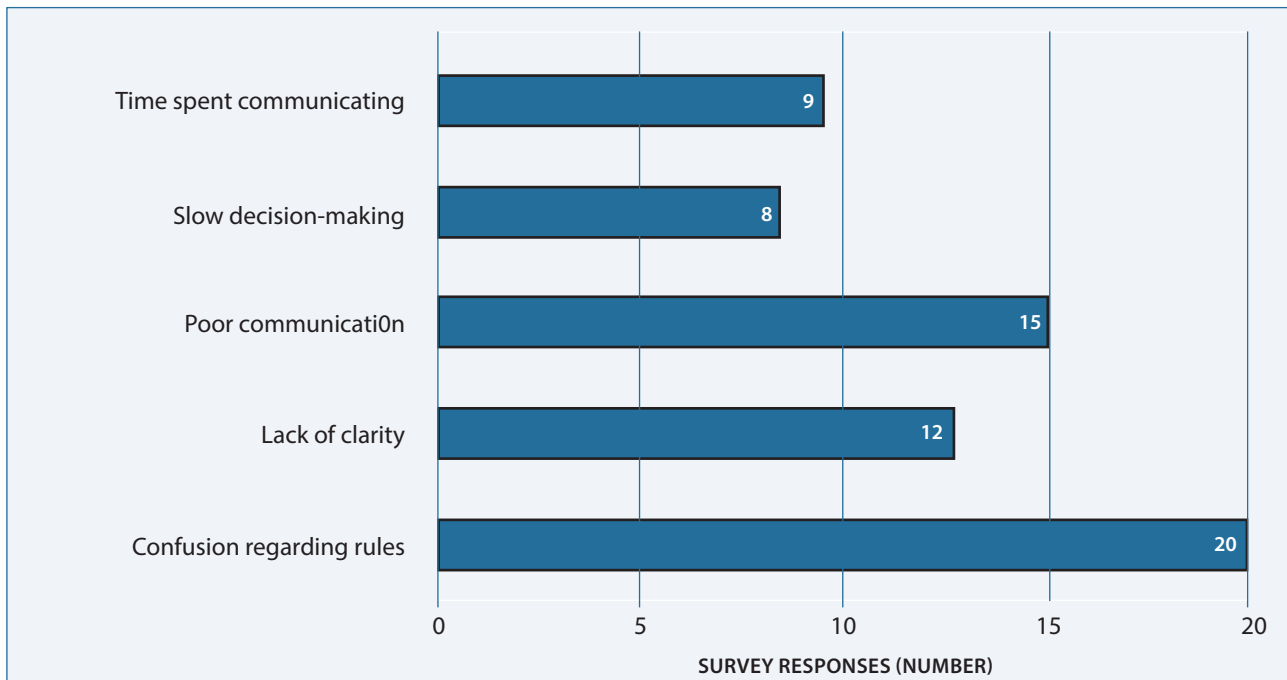
Flexible work arrangements enable staff to optimise their work-life balance. Survey results indicated this was a strong theme for staff returning to work post parental leave. Many experienced Allied Health staff were not able to return to work full-time after paternity leave. Providing staff the opportunity to return to work part-time was positively regarded and encouraged senior staff to return to work, therefore maintaining their knowledge and skill base.

Role clarity and delineation if done well was perceived as a benefit, however, if there was confusion regarding the distribution of work and decision-making between staff in a job share role this had a negative impact on team functioning and created confusion within the team.

If staff in a job share role had an overlap day, when they could meet face-to-face, this was perceived as a beneficial forum to share knowledge, handover cases, discuss team issues, and agree on a consistent course of action.

**Figure 3: Perceived benefits of a flexible work arrangement**



**Figure 4: Perceived challenges of flexible work arrangements**

Flexible work arrangements enable an organisation to retain experienced, knowledgeable staff that are able to provide significant leadership in clinical areas to expedite safe patient discharges. These leaders also have a vital role in succession planning and mentoring the more inexperienced members of the Allied Health workforce.

The time required to communicate and handover was seen as a challenge but if done effectively this was also seen as a positive process. Colleagues working in a job share role could continue to provide a patient-centred service if communication was free flowing, assessment information shared and clear information provided regarding discharge planning. Survey results also suggest that a trusting relationship between staff in a job share role is also important. If staff members trust each other and are committed to making the job share arrangement work there is an increased likelihood of success.

The data from Allied Health clinicians, managers and nurse unit managers supports the importance of encouraging respected, skilled and knowledgeable Allied Health practitioners to return to the healthcare workforce. These experienced clinicians are highly valued as leaders in healthcare and mentors of junior staff. These leadership skills align with increased communication and the professional development opportunities made available to staff. For example, with a senior clinician job share arrangement, junior staff benefit from the support of two experienced

practitioners, providing insights into different working styles and providing greater access to a broader knowledge base. To maximise the effectiveness of these flexible work arrangements, clear role clarity, role delineation and communication between the staff in the job share role is imperative.

### Challenges

Survey results indicated that a significant response theme with flexible work arrangements is that communication is both a benefit and a challenge.

Due to the nature of a job share arrangement, with two staff functioning in the one role, decision-making can be delayed. If a staff member on a team would like to reduce their hours, or if there is conflict between staff that needs to be managed, decision-making and management of issues may need to be shared and discussed with the two staff in the job share role. If there is not an overlap day, timely decision-making and consultation can be delayed. In some cases an immediate response may be required but this may not take place if team leaders in the job share role are not able to communicate with each other, or communication is delayed.

Initial findings suggest that regular and effective communication has a positive impact on the flexible work arrangement, and poor, ineffective and sporadic communication has a negative impact. Staff in flexible work arrangements who communicate regularly with each

other and have a clear delineation of tasks and clarity of understanding regarding the execution of work, report that flexible work arrangements can then be optimised and are more likely to operate successfully.

The challenge identified by participants related to the time commitment required to maintain a high level of quality communication and the impact that this therefore potentially has on the availability of clinical time. Team leaders did report time spent handing over either face-to-face, through email or over the phone was onerous and time consuming. When managing excessive caseloads it was not uncommon for staff in a job share role to provide a handover outside of business hours.

One significant issue identified from the research related to role confusion, which correlates strongly with well-defined role clarity being perceived as a benefit of a flexible work arrangement. Where one role was split between two clinicians it was identified as having the potential to create some confusion for staff regarding to whom they should report and how work and various tasks were distributed and allocated. For example, if a staff member's needs to take annual leave who do they communicate with? Would they need to get permission and communicate with both clinicians in the job share role or just the one? Tasks undertaken and role clarity need to be very clearly articulated to reduce the likelihood of confusion amongst staff. With flexible work arrangements decision-making can be slower and communication can be adversely affected. Clinical staff in a job share role must have excellent and well communicated systems and processes in place to ensure that timely decisions are made, staff are aware how tasks and roles are distributed and that clear, regular and consistent communication occurs.

In summary these results indicated that offering a consistent, transparent and equitable opportunity to request and consider a flexible work request is important to managers and employees. Key areas to consider when determining the viability of a flexible work request are the logistics of the job share, both from an operational and relationship perspective. When implementing a flexible work arrangement, communication strategies are the key point of determining success or failure, between the participants in the flexible work arrangement, their immediate and wider work groups.

## Discussion

There are a number of potential benefits to be realised with flexible work arrangements, for the employer and employee.

It is essential for health services like this major Metropolitan Health Service to provide the opportunity for employees to request flexible work arrangements in the interests of balancing work, personal needs and family commitments, and in the interest of retaining these employees and their knowledge in the workforce. Any request for flexible work arrangements needs to include consideration of business operations and how any challenges will be addressed. An important underlying principle is a shared understanding that a flexible work request may not be possible due to operational or other reasonable limitations.

### Opportunities of flexible work arrangements

Where managers have multiple requests for flexible work arrangements this is an opportunity to enable better capacity to meet flexible requests, e.g. two requests for flexible work arrangements may support a job share position. As part of a flexible work arrangements, staff may request alternative start and finish times or different work days that may support a broader provision of service that better meets the needs of patients and their families. There are opportunities for junior employees working alongside flexible work arrangements with more senior staff to learn about the roles of these senior staff as they deliver a successful flexible work arrangement. Flexible work arrangements may support team relationships to develop and evolve – negotiating work allocation and flexible hours within a team provides an opportunity for understanding each other's work better.

### Challenges of flexible work arrangements

As outlined above, a flexible work arrangement is not without challenges. These can include multiple employees may request the same days off, creating a gap in service, or all employees wishing to start later, creating a gap in service at the beginning of the day. Finally, often the elephant in the room for these discussions is that employees who request a flexible work arrangement may have roles that are not conducive to flexible work arrangements due to complexity, seniority or tasks required of the role.

### Framework 1: Considerations in determining what roles have the potential to be a successful flexible work arrangement

A framework depicting how the process may be undertaken when considering a flexible work arrangements request is provided in Figure 6. In assessing whether a request for flexible work arrangements can be met, factors that may be considered include:

- The effect on the business in approving the request, including but not limited to impact on our consumers efficiency, productivity and financial operations;

- The wider team the position operates in, including but not limited to:
  - Number of other flexible work arrangements within the team;
  - Number of part time roles within the team;
  - The requirement for clinical, professional or student supervision that forms part of the role;
  - The ability to organise the work of the team within the team;
- The practicality of the arrangements that would need to be put in place to accommodate the request;
- The nature of the work done by the role, and whether this can be done on a part time, job share or other type of flexible work arrangement;
- Allocation of hours, days of the week;
- Responsibilities and reporting;
- Infrastructure required;
- Engagement with and communication strategy for key stakeholders.

Any flexible work arrangement that is agreed to should be subject to a three-month trial period to ensure the arrangement meets the operational requirements of the business and the personal needs of the employees involved.

If the trial period is successful, the arrangement should continue to be reviewed quarterly to ensure all deliverables are being met, the quality, quantity and timeliness of the work is to the required standard and the impact on the other members of the team is not detrimental to the overall performance of the team. It is also important to continually assess whether operational requirements are being met, the employee is complying with the terms of the arrangements and that the arrangement is meeting the needs of the employer.

Each arrangement should stand for 12 months at a time, be evaluated and re-negotiated as required.

If the arrangement is a job share, it is important to note that the arrangement would be considered void if any one of the job share participants was unable to continue their portion of the job share, e.g. paternity leave, secondment or resignation.

Managers may have concerns that agreeing to one flexible work arrangement will result in a number of further requests. It is important that each request is evaluated on its own merit; however, part of that evaluation does include consideration and engagement with the broader team environment. It may not be possible to offer more than a

certain number of flexible work arrangements within a team or ward or at a certain clinical classification.

Figure 5 summarises the responsibilities required of both the manager and employee throughout the flexible work arrangements process from application to evaluation.

### **Framework 2: Supporting job shares to be a success**

Once it has been agreed that a flexible work arrangement is viable it is essential to undertake the necessary operational tasks around documentation, variation of contracts and recruitment as required. Once these tasks have been completed, the Manager should look towards developing a plan to support the introduction of the flexible work arrangement, a communication strategy and a plan to support employees in the flexible work arrangement to function as a high performing team.

The type of support required will differ depending on a number of factors, the most important being the type of flexible work arrangement. There would be different needs for each type of flexible arrangement (job share vs. job spilt), but also depending on the individuals in the flexible work arrangement. It is important to take the time to forward plan the finer details of how the flexible work arrangement will function. [5]

There are some interventions that may assist flexible work arrangements to work more efficiently, and many of the below suggestions should apply not only to flexible work arrangements, but also the broader team on a day-to-day basis. [6]

### **Buddy systems**

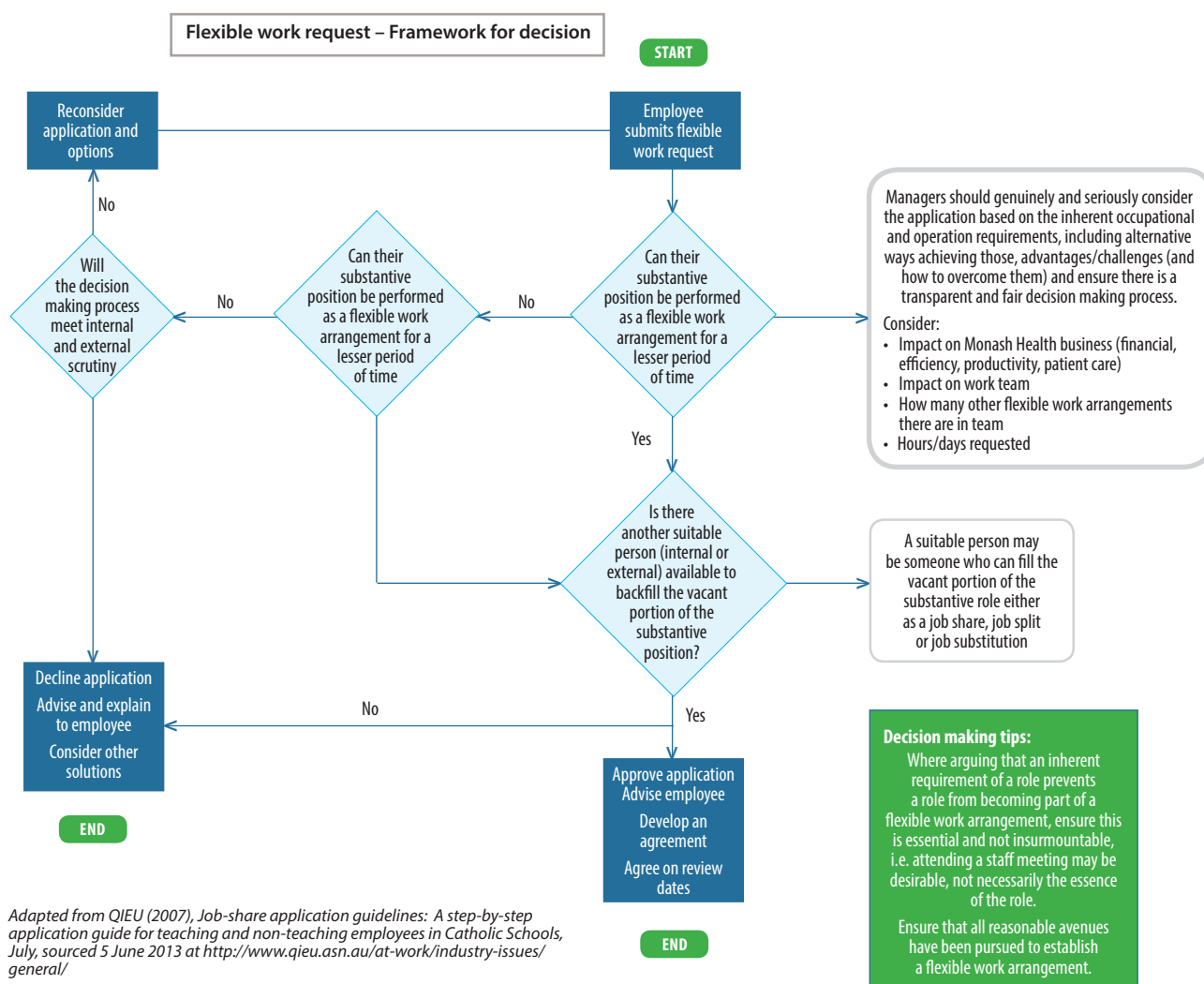
Every employee cannot be an expert on every aspect of each other's role, but it is important for at least one other person to have a good understanding of particular projects or pieces of work being undertaken by someone on a flexible work arrangement – either the other person in the flexible work arrangement or someone in the broader team. A task list held centrally may be a good way to document this.

### **Aim for all employees to attend team meetings**

If this is not possible then try to ensure all flexible work participants work at least some hours that overlap each week, and work to hold staff meetings at this time. Attending staff meetings may help employees to feel connected to the broader team and provides managers with a forum for communication. If employees miss meetings then ensure time is planned to update them on what they have missed. Consider alternative means of attendance at meetings – teleconference, use of mobile technology.

**Figure 5: Responsibilities of the Manager and Employee in considering a flexible work request**

MANAGER	EMPLOYEE
<p>Consider each application on its merits.</p> <p>Consult team or relevant work group regarding impact of application.</p> <p>Applying the relevant business procedures in relation to the application.</p> <p>Have an understanding of a range of flexible work arrangement options and how to manage them.</p> <p>Support the career progression of staff working flexibly.</p> <p>Evaluate the success of the arrangement.</p>	<p>Identify personal needs and possible solutions.</p> <p>Be realistic about what is possible.</p> <p>Take responsibility for delivering</p> <p>Be willing to review and modify flexible work arrangements as personal circumstances or operational requirements change.</p> <p>Consider the personal and financial impacts of a flexible work arrangement.</p> <p>Actively participate in the review of flexible work arrangements.</p>

**Figure 6: Decision making framework [7]**

Source: Independent Education Union of Australia – Queensland and Northern Territory Branch. Job-share application guidelines: A step-by-step application guide for teaching and non-teaching employees in Catholic Schools. [7]



**Transferring of phones**

Ensure that when away from the office phones are transferred to people in the office or a suitable message bank system is available (and utilised). This should be supported by a standard 'script' for people taking these calls on behalf of others to ensure a consistent message is provided.

**Shared calendars**

Provides transparency in work arrangements and allows professional handling of colleague or patient enquiries in the absence of a staff member.

**Create work schedules**

Employees start and finish time and general work arrangements (work from home etc.) should be agreed and clearly documented in a work schedule. This work schedule should be shared with the broader team. There should be a clear distinction between days not worked and telecommuting days.

**Handover and other communication strategies**

This should be considered in the context of the flexible work arrangement and the people involved. This may include written handover, emails at end of shifts, phone calls or designated jointly worked hours each week. It is important the purpose of these jointly worked hours is clearly articulated to the broader team so that they are not perceived as wasteful. [6]

**'Out of office' message**

Staff working part time or who will be out of the office for an extended period of time, should use this function to outline when they will be back and who can be contacted if a matter is urgent.

**Email signature detailing hours and days worked**

Employees should use their email signature to clearly communicate their availability as well as providing an alternative contact.

**Transparent filing systems**

Good filing (paper and electronic) systems ensure that all employees know where to find information. It will ensure continuity of work whether an employee is physically in the office or not.

**Communication to broader team**

It is important to inform the broader team and other work colleagues regarding the working hours of people in a flexible work arrangement, as well as any delineation in work area or responsibility. It should also be clear how and where any challenges are to be escalated. In healthcare, this

broader team may include medical staff, nursing staff or other allied health professionals. Environmental or security staff may need to be informed if a flexible work arrangement involves work hours outside the norm for a work area.

**Negotiate supervision, performance enhancement plans**

Time must be allocated to plan joint and individual supervision and support and to negotiate performance enhancement plans. Depending on the skill set and expertise of the staff in the flexible work arrangement, this process and its implementation may require the involvement of the organisational learning and development team.

**Crisis planning**

There should be an agreed and clearly documented plan around how unplanned leave will be managed within the flexible work arrangement, and this should be communicated to the broader work team.

**Planned trial period, review and evaluation**

This should be agreed and clearly documented, along with any performance measures, regardless of whether the arrangement is temporary or ongoing.

A flow chart outlining the process of supporting job shares within Allied Health at a major Metropolitan Health Service is provided in Figure 7.

**Conclusion**

The Allied Health Executive team is committed to supporting flexible work arrangements in Allied Health in order to retain expert clinicians and managers. The first framework provides an equitable and transparent methodology to support decision making around the feasibility of each flexible work request and the second framework guides managers in supporting staff to achieve a successful outcome for all flexible work requests, which is not only to the benefit of our staff but the patients and community they provide care to. The Allied Health Executive is in the process of implementing this framework across Allied Health and plan to evaluate the implementation of the flexible work arrangements frameworks for success factors and challenge points in the near future.

**Competing Interests**

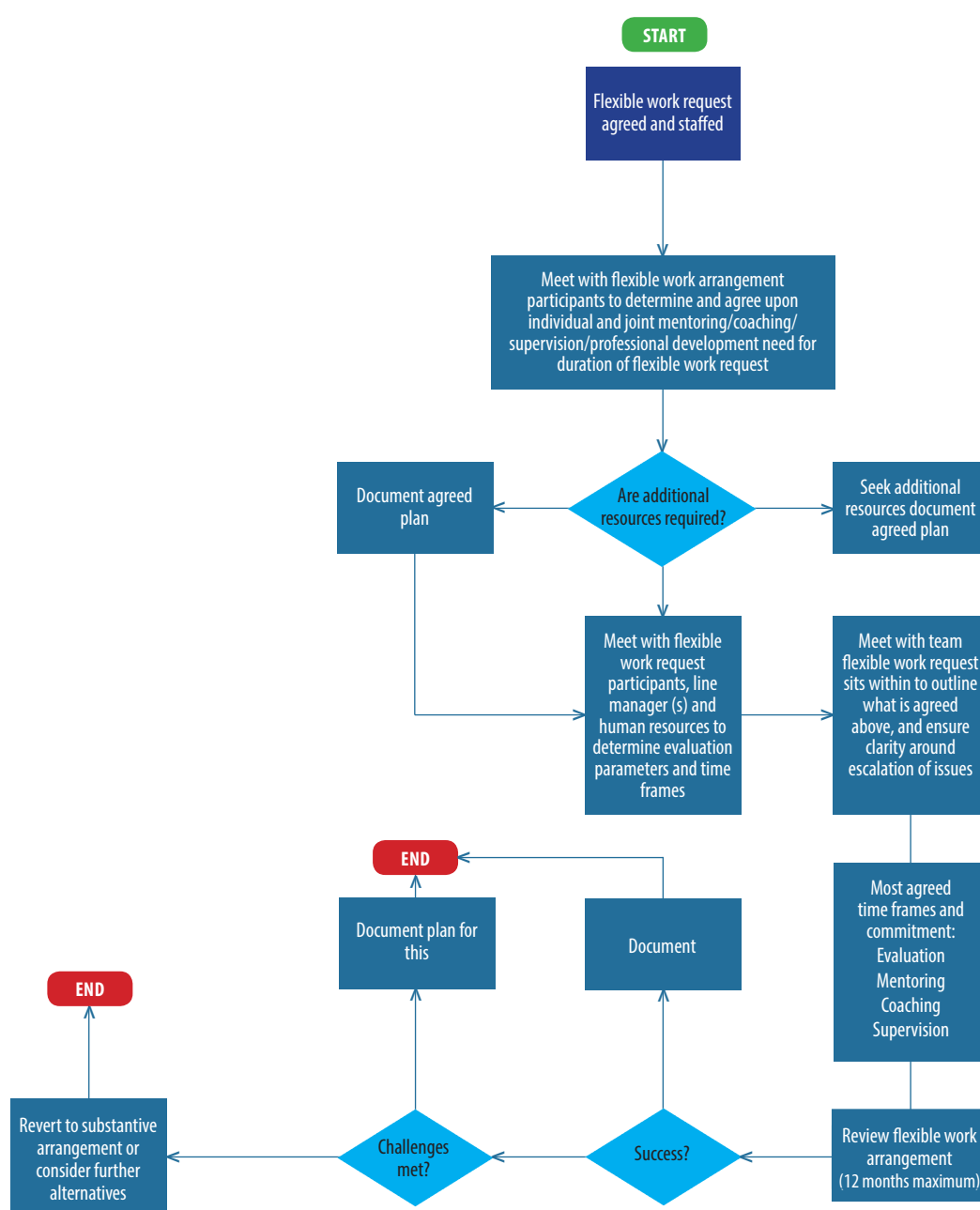
The authors declare that they have no competing interests.

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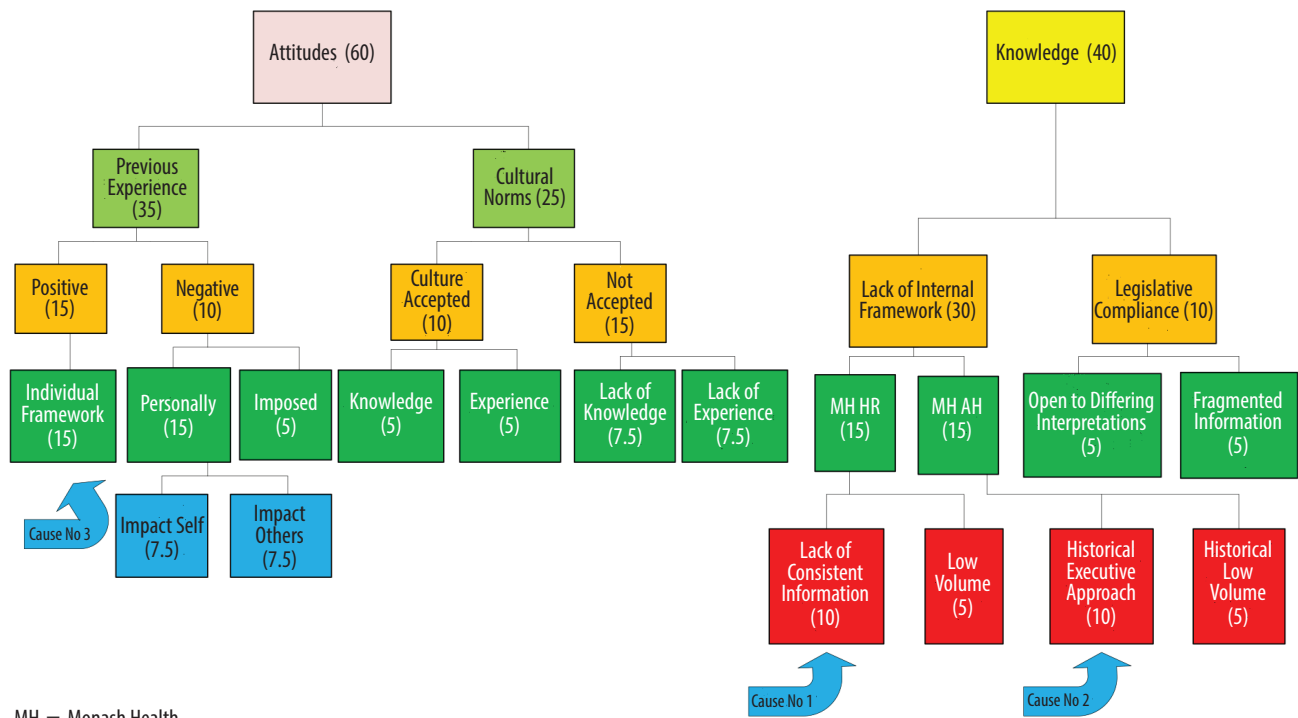
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**Figure 7: Support for flexible work request framework**



Source: Independent Education Union of Australia – Queensland and Northern Territory Branch. Job-share application guidelines: A step-by-step application guide for teaching and non-teaching employees in Catholic Schools. [7]

## Appendix 1: Root Cause Analysis



## Remaking Practices in the Redesign of a Primary Healthcare Program

J Rule, R Dunston and N Solomon

### Abstract

**Objective:** To develop a detailed account of changed practices in everyday work in the redesign of primary healthcare program.

**Design:** The research aimed to produce layered and rich descriptions of the complex and multi-dimensional remaking of health practices. Empirical data was gathered through ethnographic methods including; interviewing, self-reporting, observation and shadowing. The subjects of the research were involved as active participants in the research design, data gathering and analysis.

**Setting:** HealthOne was a New South Wales government attempt to provide a local and responsive model to improve chronic disease management in primary and community healthcare settings. We report specifically on the HealthOne program implemented in a suburb of Western Sydney.

**Main outcome measures:** The research did not aim to evaluate the program but to uncover instances of professional learning through identifying changes in

professional practice. These were noted and observed by the researchers and research participants or through reflexive conversations with the program planners, healthcare workers and the research team.

**Results:** Drawing on the work of a number of learning and practice-based theory writers, particularly those using a socio-material approach, we describe how practice change has occurred and how work practices have been remade at this site - especially in the role of the General Practice Liaison Nurse (GPLN).

**Conclusions:** The research demonstrated the potential for new categories and practices of health work to emerge; this was especially seen in the work of the GPLN but also extended to new ways of working through General Practitioners and community health networks.

**Abbreviations:** GP – General Practitioner;  
GPLN – General Practice Liaison Nurse.

**Key words:** primary healthcare; service redesign; qualitative research; practice change.

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### Introduction

In this paper we explore the complex and multi-dimensional remaking of primary healthcare practices. The specific setting for the research was a suburb in Western Sydney where a new program was to be implemented. Rapid change in community and primary healthcare funding and policy approaches at all levels of government was evident at the time the program was implemented. The research is reported from a study conducted by a multi-disciplinary team from the University of Technology Sydney (UTS) supported by an Australian Research Council Linkage grant (LP 100200435) with the industry partner organisation being the New South Wales Department of Health. This paper reports on one site in Western Sydney; the specific site is not named in this paper.

Fieldwork was conducted in 2011 and 2012 and the site was one of the first places in which the state-wide New South Wales HealthOne program was implemented. Since that time 25 operational HealthOne service sites have been developed throughout New South Wales. The research reported here should be of interest therefore to academics as well as health managers, field staff and other health professionals interested in primary and community healthcare.

The research did not aim to assess professional competence, leadership or management styles. Rather, the research approach was one that tried to stay alert to emergent and new practices that might be observed in a primary healthcare setting as program redesign was occurring.

## Background

Coordination and integration of care arrangements within community settings have been an area of policy focus by many levels of government and team-based models of primary care and have been receiving particular attention since 2000. [1,2,3,4] The development of successful integrated primary and community healthcare programs is of significant national and international policy interest and it has been argued that primary healthcare still has the potential to be responsive – through partnership approaches, through the development of new practice models and through innovative care coordination in GP and community health settings. [5]

The complexities of health practice change as framed by the policy expectations above cannot be underestimated. The research on HealthOne provides an opportunity to fill in some details of a noted gap in empirical research – on how change can be designed and implemented in primary healthcare settings. This paper provides some details of how practice change can be understood as an accomplishment of change in everyday situated action.

A concurrent study in another Western Sydney suburb provided evidence of the important role of the General Practice Liaison Nurse (GPLN) in improving coordination and integration of care for patients. [6] The findings were consistent with other studies that have investigated the value of nurse-led, non-General Practitioner (GP) staff involvement and team based approaches to the management of chronic illness. [7,8,9] These studies have noted that more nurse-led collaborative models to meet the needs of patients in general practice contexts have been called for but some real barriers have been identified. One barrier is that not everyone shares the same assumptions about potential success of team-based patient management and another

noted that changes at a practice level did not necessarily mean changes in quality of care would be experienced at a patient level. Changed practices take time to implement and observe – our research and this paper contributes to an emerging knowledge base of attempts at implementing change and integrating services in local primary and community healthcare settings.

## Method

This paper draws on data gathered using ethnographic methods including: interviewing; self-reporting; observation and shadowing. These were supported by participatory research methods, such as workshops, focus groups and participant selection of relevant data, as well as digital, written and document recording of practice events. Every attempt was made through this approach to understand the world as others see it, experience it and act in it. These methods were an attempt by the research team to 'get close to daily practice'. [10,11]

Human research ethics approval was obtained from the UTS and relevant NSW Local Health District authorities. Senior NSW Department of Health planners provided research data through interviews and facilitated meetings and negotiations on the conduct of the research between the research team and those working at this specific HealthOne site. There were more than fifteen site visits, several on-site team meetings with researchers and HealthOne staff; fifty interviews were conducted and over twenty researcher activities such as shadowing were recorded. Policy, organisational and clinical practice documents were also reviewed. Most data was gathered in 2011 and 2012, review of the research data by the research team, industry partners and the research participants continued during 2013 through to 2015.

In this paper we have used analytical and conceptual tools available from disciplinary areas studying inter-professional, organisational and workplace learning that describe practices as something that is possible to identify and analyse – practices may be emergent, complex and dynamic. [12,13] A socio-material approach to practice and research does not prescribe a clear cut procedure for analysing and presenting evidence [14] With that in mind the selection of quotes and data provided below from the research participants does not attempt to provide a representative account of what was said by all participants. Rather, as presented below the data identifies the traces of change that have been observed or noted by the research participants themselves.

Much of what constitutes 'practice,' in the sense we are using the word, is tacit or unconscious. Although new practices are sometimes displayed consciously they can best be understood retrospectively, and, emerging practices always remains contingent and subject to change at any time. [15,16] This supports the understanding that practices emerge as a result of contextual socio-material conditions in which actions are taking place: contrasting with conventional approaches that place the development of guidelines, written policies and standard operating procedures at the centre of trying to bring about changes in practice. [17]

## Findings

A point of view expressed by many working at the site was that GP services and community health services were under-resourced and under siege because of changing policy directions and that change for the better, or finding new ways of working was not possible in the current environment. Other research participants suggested that incremental change was still possible, providing the various players were prepared to act as joint partners in this change process. Some who were engaged in the development of the program – including the program planners and those working at the research site – used the imagery of a change journey to describe what was happening as HealthOne was implemented and indicated their willingness to engage in the journey of change.

In the following sections we describe the changed role of the GPLNs and identify that the program planners had to adopt a specific leadership style to implement the program. References are made to Table 1, containing selected extracts from interviews to support these findings.

The GPLN role was not entirely new - the role had existed as part of the concept of care navigation and continuing-care nurse consultants operating from hospital services and in some of the Local Area Health Services in Western Sydney area.

However the consolidation of the GPLN nurse in a clinical setting was new, and was a practice that we can describe as being 'remade' and consolidated at the research site. Some of the program planners noted that the process of developing HealthOne needed to be organic and come from people who were working at local sites. However this came up against a stark reality at the service delivery level that there was a high turnover of staff in the initial two years of the project and there was confusion over the grading of the GPLN positions.

Both of these practical impediments of staffing changes and uncertainty in grading of related positions undermined the team building processes that were to be central to the program. Additionally resources were not always available to advertise the potential activities of HealthOne or the GPLN role, so that the capacity within the community health sector to interact with the new service model or for outreach from the site was at times restricted by funding constraints.

As an addition to the coordination of care management for complex health issues the GPLNs in interviews and meetings used a particular type of language - replete with notions of extending, sharing, collaborating and 'being a conduit' – to describe their work within the program. They described their work with patients and clients but also clearly described the impact that they intended to have on the ways that GPs would function – by seeking to assist GPs in particular referral pathways and through better coordination and more efficient patient management. Clearly, in this way the GPLNs were intending to be recognised as part of a team for management of patients and clients with chronic illness and conditions. (See Table 1 – a, b, c and d.)

Meeting with GPs working in the community and trying to formalise that relationship and pathways with HealthOne was a major challenge. Another barrier, for engagement of GPs included the potential that HealthOne was seen as a 'competitor' in the service landscape. (See Table 1 below – d, e and f.) In effect HealthOne was a program that not only had to engage clients but had to engage other operators in the local health system through communication, collaboration and cooperation to ensure that goals were achieved. (See Table 1 – a, f and g.)

To bring about the required changes in the program we observed that the planners of HealthOne were also drawing upon ideas of collective and relational leadership. [18,19] The planners did this by encouraging a culture of shared responsibility for the program; not only amongst those employed directly by HealthOne such as the GPLNs but through encouraging dialogue and discussion across other program areas into community health and with GPs working as private providers. Often the program planners were involved in advocating for the use of the service through Local Health Districts and through formalised GP networks. Good communication, extensive interaction and trying 'open up thinking' were the styles most valued and enacted by the program planners. (See Table 1 – d, e and f)



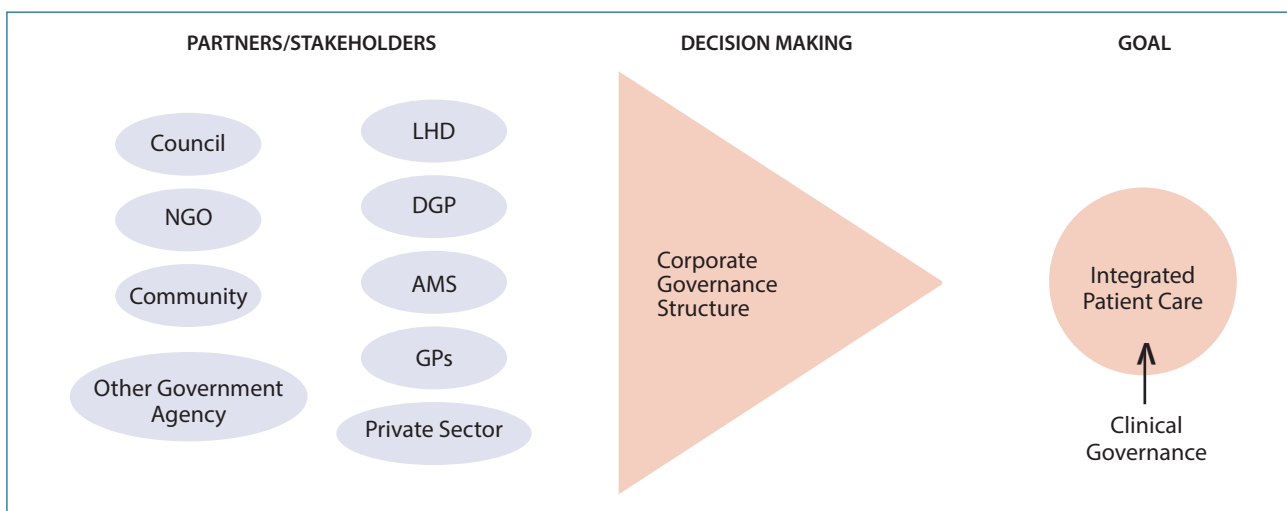
**Table 1: Selected extracts from interviews with program planners and the GPLNs**

IN TEXT IDENTIFIER	SPEAKER	EXTRACT FROM INTERVIEW
a.	Program planner	The critical positions that make HealthOne work are the GP liaison. They're the entry point, they're the cross-over, and that's been a really important initiative.
b.	GPLN	My main role is to offer support to the GPs in managing their clients with existing chronic disease...to capture the clients of GPs that present more than three times in twelve months to hospital and to orient them [GPs] to services in the community, such as the services we offer for diabetes, continence clinic...resources for mental health...
c.	GPLN	We're meant to be looking at prevention, education, all of those factors that come under the management of chronic disease.
d.	GPLN	As part of the HealthOne model, we [in community health] are expecting the myriad of GPs that are out there in GP land to communicate, interact and work with us as a service provider. So this is a new type of service.
e.	Program planner	We've had to recognise that GPs are a business and we probably have to put ourselves out a bit to support them in their business, in order to open up their thinking a bit... to be doing things differently.
f.	Program planner	We're going to be connecting them up differently and we're going to start with our Community Health Leaders and our GP leaders working together to really identify what are the things that they both really care about.
g.	Program planner	Establishing pathways...is our biggest thing...the hospital discharge planners have got lots of other pathways that they're familiar with, but HealthOne is new.

HealthOne was an attempt to develop a new practice model and engage GPs in coordinating with community health services in new and specific ways. Through the research it was possible to identify a re-making of the partnership and professional roles of the GPLNs and GPs in primary health services. Figure One demonstrates the range of partners and stakeholders that were meant to be engaged in HealthOne activities and this includes, amongst others; Non-Government Organisations, the Local Health Districts, the

Divisions of General Practice, Aboriginal Medical Services as well as GPs working in the private sector. [20]

The aim of HealthOne was to build connections between different parts of the health system and enhance the provision of primary community healthcare across populations. The governance and accountability systems outlined in the HealthOne guideline documents were perhaps more aspirational rather than evidenced in

**Figure 1: Selected extracts from interviews with program planners and the GPLNs**

practice. One of the regular comments from those who were operating within the site was a perceived sense of distance from the centre of the change process. High staff turnover and the complications over grading of the new positions could provide some explanation for this. Another reason why accountability mechanisms were never completely transparent for those at the site, was the generalised sense that community health services were 'under siege', with expectations of further funding reductions.

## Discussion

Given the context of continual change in which HealthOne was being placed, it is clear that we were investigating a situation where, as argued by some practice-based theorists changing practices are neither discrete nor stable. [14,17] Innovative practice is a continuous process, one that stops and starts and has many twists according to the situation in which it is occurring – this is a very different view to traditional formal planning processes or logic framework approaches and has significant implications for health service delivery redesign. Redesigning change in this particular setting was far more complicated than a 'Plan, Do, Study, Act' action learning and research model – which it has been argued is, anyway, rarely ever rigorously applied in healthcare settings. [21]

A significant observation by the academic research team members was that their initial assumption that a 'space for learning' would be available within the service redesign process was mistaken. There remained a persistent gap at the research site for time to 'step out' of the process of being engaged in the rapidly changing service activities and reflect on the learning that was taking place. In this sense one of the aims of the research – that of identifying what supports professional learning as change is taking place – was never completely realised. The process of rapid change at the research site, without time set aside for those involved to reflect on the process of change was a program limitation and consequently appears as a limitation in what the research was able to achieve.

The conditions which impacted on practices emerging included: stability; local condition responses and changes; there were times of instability and disturbances; and at various stages where there are attempts to codify emergent practices. Lengthy written documents were developed to respond to the many contingencies that the HealthOne initiatives faced and were instrumental in trying to guide field workers; but their effectiveness appeared limited and are best understood as one of a number of factors that impacted on service redesign.

Much of the language in the guiding documents for HealthOne talked of the importance of teamwork through the collaboration, coordination and cooperation of healthcare workers. [22] Team-based approaches in primary healthcare settings for the management of specific chronic diseases have already been attempted and evaluated, for example the area of diabetes and cardiovascular diseases. [23] There are calls for studies of longer duration than the one we have undertaken and that more systematic evaluation methodologies on the impact of primary healthcare teams have been called for. [24,25]

A limitation of this study is that it followed the changes and development of HealthOne only in the formative stages of the program. Obvious concerns that emerged within the program; such as, staff turnover and, for example, sustainability of the GPLN positions were unable to be conclusively addressed within the remit of the study design. It is worth noting that the GPLN positions have been maintained since the research commenced, but due to further reform are nested within a new program description. A major recommendation arising from this study would be for further, longitudinal studies at specific sites which could focus on the how to maintain innovative work practices as pathways are being disrupted and then re-formed.

## Conclusion

HealthOne was in part a response to the regular calls for coordination, integration and team-based approaches to be a feature of the delivery of primary and community healthcare. As a program intervention HealthOne could be described as an attempt to remake or change accepted or standard practices in community and primary healthcare – an attempt to remake practices in an integrated and coordinated manner – the remaking and consolidation of the practices of the GPLN and the different ways that GPs were involved were central to that. New ways of working and different approaches between professional groupings were attempted.

Managing program redesign and change in such a complicated and dynamic environment as primary and community healthcare is challenging. Contextual factors have to be taken into account; the changing policy environment, changing populations, and changing funding structures. We argue though, that practices were remade in the HealthOne program as new healthcare worker roles and relationships were performed at this particular site. This research, even though it occurred in a context of rapid change and 'reform exhaustion' in the health sector, provides evidence of the potential for new and locally responsive

programs to continue to be developed in primary and community healthcare.

### Competing interests

The authors declare that they have no competing interests.

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## Introduction of the Community Rehabilitation Northern Queensland Service

M Mervin, R Barker, C Sealey and T Comans

### Abstract

**Objective:** To analyse trends in length of hospital stay before and after the implementation of the Community Rehabilitation Northern Queensland Service (CRNQ) in Townsville, Australia.

**Design:** Retrospective analysis of collected administrative data provided by the data custodian Townsville Hospital Health Service District.

**Setting:** All patients discharged from the Townsville hospital between 1 July 2008 and 30 June 2013 for whom the Australian Refined Diagnosis Related Groups were stroke (B70), degenerative nervous system disorders (B67) or rehabilitation (Z60).

**Main outcome measures:** Average length of stay and total number of inpatient episodes coded stroke, degenerative nervous system disorders or rehabilitation.

**Results:** Length of stay for the selected diagnosis related groups was consistently ranging from 23 days to 25

days for the period 2008-2012. In the first year of full operational capacity of CRNQ (2012-13), there was an average reduction of six days in length of stay.

The major reductions in length of stay occurred in patients admitted for rehabilitation care.

**Conclusions:** This study adds additional evidence that earlier discharge can be facilitated for patients with neurological conditions living outside metropolitan areas when appropriate rehabilitation services are available in the community.

**Abbreviations:** AR-DRG – Australian Refined Diagnosis Related Groups; CRNQ – Community Rehabilitation Northern Queensland Service.

**Key words:** community rehabilitation; public hospital; length of stay.

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### Introduction

Rehabilitation services outside major cities in Australia are often inadequate to service the population needs. Rates of rehabilitation in hospital vary from 3.9 per 1,000 people in major cities to 2.7 per 1,000 in inner regional and 2.4 per 1,000 in outer regional areas. [1] In 2004, the median stay for rehabilitation for older people was 15 days, [2] but this is likely to be higher in regional and remote areas due to the lack of community services for people living outside major cities. Previous research has demonstrated that earlier discharge can be facilitated if appropriate community services are available. A British study found that participants could be discharged six days earlier to release capacity in the health system for the treatment of predicted increases in participants with stroke in the future. [3]

The Community Rehabilitation Northern Queensland Service (CRNQ) is an innovative community rehabilitation

service based in Townsville, Australia. It was implemented in November 2011 to provide services to people who have experienced neurological conditions such as stroke, Parkinson's disease, and multiple sclerosis. It also offers services for a range of other non-specific conditions associated with functional decline. The CRNQ is a person-focused inter-professional service with student-assisted service delivery. It employs 20 full-time equivalent staff providing physiotherapy, occupational therapy, speech pathology, social work, dietetics, exercise physiology, rehabilitation nursing and rehabilitation assistant input to the programs. The CRNQ uses the International Classification of Functioning, Disability and Health (ICF) framework to guide assessment, planning, and documentation to ensure that participants have streamlined assessments and consistent goal setting and planning in place. In 2012-13, the CRNQ provided 15 different programs to 272 participants across prevention, early intervention, postdischarge and lifespan themes with a total of 10,909 occasions of service. [4]

The objective of this study was to estimate the impact of the introduction of the CRNQ service on length of hospital stay in Townsville on relevant participant groups. We analysed trends in length of hospital stay before and after the implementation of the community rehabilitation service.

## Methods

We conducted a retrospective analysis of routinely collected administrative data provided by the data custodian Townsville Hospital Health Service District. Data items used in this analysis are listed in Table 1. Participants were all patients discharged from the Townsville hospital between 1 July 2008 and 30 June 2013 for whom the Australian Refined Diagnosis Related Groups (AR-DRG) were either stroke (B70), degenerative nervous system disorders (B67)

or rehabilitation (Z60). Services relating to emergency departments and outpatient visits were not included. We used service related data to estimate changes in admission rates and length of stay over time. To minimise skewing of the data, patients with stays greater than 365 days were excluded from the analysis. This represented approximately 1% of all admissions over that period.

To analyse trends in length of stay, data were analysed yearly for the five years of data available. It compared four years of data before the community rehabilitation centre was implemented with the first full operational year of CRNQ (1 July 2012-31 June 2013).

## Findings

Table 2 presents the diagnostic and demographic characteristics of patients admitted during 2008-2013. In 2008-09, there were 695 inpatient episodes. These increased to 958 episodes in 2011-12 and then decreased to 801 episodes in 2012-13. The average age of admitted patients remained just over 60 years and was fairly consistent over the five years. There was consistently a higher proportion of male patients (~60%) and the majority of admitted patients received either acute or rehabilitation care over the period 2008-13.

The proportion of inpatient episodes coded stroke decreased from 43% in 2008-09 to 29% in 2012-13 while the proportion of inpatient episodes coded as rehabilitation increased from 43% to 55% over the five-year period. Length of stay for the selected AR-DRG grouping was consistently ranging from 23 days to 25 days for the period 2008-2012 (see Table 3). In the first year of full operational capacity of CRNQ (2012-13), there was an average reduction of six days in length of stay. The major reductions in length of stay occurred in patients

**Table 1: Data Items Requested from Townsville Health Services District**

DATA	DATA ITEMS	ORIGIN
Participant data	<p><b>Socio-economics:</b> Age at the time of admission, gender.</p> <p><b>Diagnosis:</b> Diagnosis related group, ICD-10 diagnostic code relevant to the participant's inpatient episode, diagnosis type.</p> <p><b>Treatment:</b> Admission date to hospital, discharge date, transfers and discharges within Townsville Hospital and Health Service, referrals, and readmission, date of discharge from the episode of care, type of care (e.g. acute, palliative, maintenance, rehabilitation), admit source, discharge disposition, length of stay.</p>	Townsville Hospital and Health Service



**Table 2: Demographics of admitted episodes to Townsville Hospital 2008-2013**

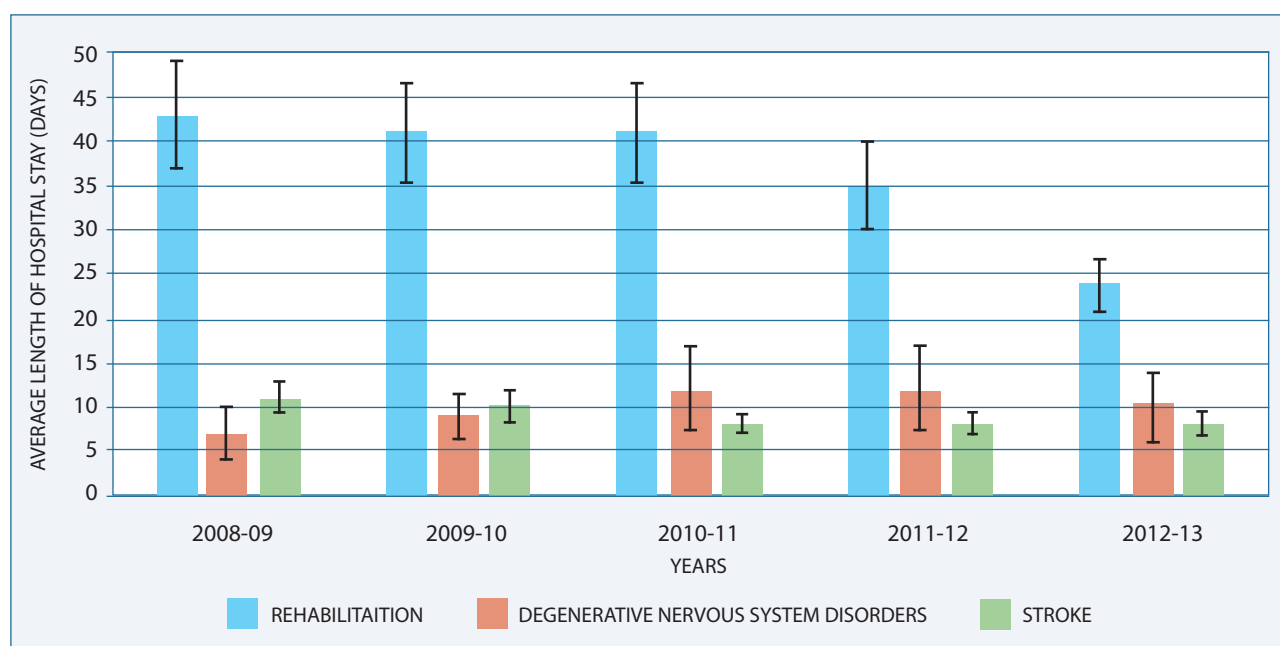
CHARACTERISTIC	2008-09	2009-10	2010-11	2011-12	2012-13
Number of admitted episodes	695	774	759	958	801
Age, mean (SD)	61.3 (20.3)	61.4 (19.5)	60.9 (20.4)	63.0 (20.2)	63.2 (19.0)
Female, n (%)	294 (42%)	303 (39%)	317 (42%)	404 (42%)	323 (40%)
Care type, n (%)					
Acute	369 (53%)	407 (53%)	356 (47%)	385 (40%)	322 (40%)
GEM and maintenance	9 (1%)	10 (1%)	9 (1%)	11 (1%)	16 (2%)
Palliative	7 (1%)	19 (2%)	12 (2%)	39 (4%)	21 (3%)
Rehabilitation	310 (45%)	338 (44%)	382 (50%)	523 (55%)	442 (55%)
AR-DRG description, n (%) <sup>a</sup>					
Rehabilitation	290 (43%)	325 (43%)	373 (50%)	521 (54%)	443 (55%)
Degenerative neurological	95 (14%)	105 (14%)	87 (12%)	89 (9%)	123 (15%)
Stroke	289 (43%)	331 (43%)	290 (39%)	346 (36%)	235 (29%)

Abbreviations: AR-DRG = Australian Refined Diagnosis Related Groups; GEM refers to Geriatric Evaluation & Management; SD = standard deviation.

<sup>a</sup>AR-DRG codes Z60=rehabilitation includes sub-acute population with a range of conditions that are mainly neurological and musculoskeletal that led to the initial hospitalisation, B67= degenerative neurological, B70=stroke.

**Table 3: Length of stay of admitted episodes to Townsville Hospital 2008-2013**

DIAGNOSIS CODE AND YEAR	NUMBER OF SEPARATIONS	LENGTH OF STAY (DAYS)		
		MEAN (STANDARD DEVIATION)	95% CONFIDENCE INTERVAL	RANGE
<b>ALL</b>				
2008-09	674	24 (39)	21.2 – 27.1	0-310
2009-10	761	23 (39)	20.2 – 25.8	0-274
2010-11	750	5 (42)	21.5 – 27.6	0-335
2011-12	956	23 (44)	20.2 – 25.8	0-355
2012-13	801	17 (26)	15.4 – 19.0	0-278
<b>Rehabilitation</b>				
2008-09	290	43 (51)	37.1 – 49.0	0-310
2009-10	325	41 (52)	35.4 – 46.7	0-274
2010-11	373	41 (54)	35.0 – 46.0	0-335
2011-12	521	35 (55)	30.1 – 39.6	0-355
2012-13	443	24 (31)	21.0 – 26.9	0-278
<b>Degenerative nervous system disorders</b>				
2008-09	95	7 (14)	3.9 – 9.4	0-65
2009-10	105	9 (13)	6.3 – 11.5	0-74
2010-11	87	12 (21)	7.2 – 16.3	0-135
2011-12	89	12 (22)	7.5 – 16.9	0-170
2012-13	123	10 (21)	6.2 – 13.8	0-206
<b>Stroke</b>				
2008-09	289	11 (16)	9.0 – 12.7	0-130
2009-10	331	10 (19)	7.8 – 11.8	0-229
2010-11	290	8 (9)	6.9 – 8.9	0-60
2011-12	346	8 (11)	6.8 – 9.1	0-98
2012-13	235	8 (9)	7.1 – 9.5	0-50

**Figure 1: Average length of hospital stay (days) and 95% confidence interval of all ARDRG selected groupings**

admitted for rehabilitation care (see Figure 1). The average length of stay of inpatient episodes coded rehabilitation decreased from 41 days (95% confidence interval: 35.0–46.0) in 2010-11 to 35 days (30.1–39.6) in 2011-12 and then to 24 days (21.0–26.9) in 2012-13 (first year of full operational capacity of CRNQ).

## Discussion

The study looked at the impact of the Community Rehabilitation Northern Queensland centre established in November 2011 on average length of stay at the Townsville hospital using data from Townsville Hospital Health Service District over the period 2008-13.

Our analysis showed that while the total number of inpatient episodes for whom the diagnostic group was stroke, degenerative nervous systems disorders and rehabilitation increased over the period 2008-13, the average length of hospital stay decreased by six days. The greatest change was in the average length of stay of inpatient episodes coded rehabilitation. Patients admitted for rehabilitation were younger than patients admitted for stroke and degenerative nervous system (mean age = 57 years vs. 59 years and 70 years respectively). It is possible that patients admitted for rehabilitation were discharged to the CRNQ instead of receiving continuing care at the Townsville hospital.

Based on the 2013-14 National Efficient Pricing weights for hospitals (National efficient price of \$4,993 multiplied by cost weight of 0.18), the cost of inpatient rehabilitation

was estimated at \$909.72 per day. [5] A six-day reduction in length of stay represents a released value to the health service. With average separations over the last five years of 788, a total value per year of around \$4.3 million can be estimated if this were to be consistently maintained. The yearly budget for the CRNQ service (excluding the contributions for the education component of the service) was estimated at \$2,792,002, resulting in a 54% return on investment.

Our analysis only looked at three diagnosis-related groups and focused on length of hospital stay. The analysis did not consider the severity of the condition. In addition, the analysis did not examine the effectiveness of the community rehabilitation for patients with neurological conditions compared with patients who receive rehabilitation in hospital. Despite these limitations, our findings relating to shorter length of hospital stays were in concordance with other studies using similar interventions. For instance, a pilot study of rehabilitation at home found an average length of hospital stay of 14 days compared with 27 days when patients with stroke were under rehabilitation at home. [6] Our findings relating to community rehabilitation being a cost-saving alternative also concurred with other studies. [7-9]

This reduction in length of stay in rehabilitation services that generated this value amount may or may not be attributable to the operation of the CRNQ. There may have been other service initiatives operating in the hospital environment

that have contributed to the decrease in length of stay for these patient groups. Further analysis of these data should be conducted in the next two years to evaluate whether this trend in reduction of length of stay has continued or increased.

### Conclusion

Since the implementation of the Community Rehabilitation Northern Queensland centre, there has been a decrease in the average length of hospital stay of patients admitted for stroke, rehabilitation and degenerative nervous systems disorders. This study highlights the importance of access to community rehabilitation services in the management of individuals with neurological conditions living outside metropolitan areas. Clinicians may be unwilling to discharge patients who can still benefit from rehabilitation if no community services are available to continue their rehabilitation journey. Further analysis of these data should be conducted in the next two years to evaluate whether this trend in reduction of length of stay has continued or increased.

### Competing interests

The authors declare that they have no competing interests.

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## Understanding Pharmacist Communication and Medication Errors: A Systematic Literature Review

M Sassoli and G Day

### Abstract

**Objective:** To better understand the inter-professional clinical communication between pharmacists, other health professionals and medication errors.

**Methods:** This research study used a systematic literature review approach by searching online databases including Medline, PubMed and CINAHL to understand the relationship between pharmacist clinical communication and medication errors. The results of this study show that from 1158 studies that were screened and assessed, only 454 studies were initially selected after the application of inclusion and exclusion criteria. A PRISMA chart and descriptive analysis was used to present the result.

**Results:** The results concluded that of the 18 studies, 17 showed a relationship between communication and medication errors, while only one study indicated no relationship. Thematic synthesis was used to classify the result of the 17 studies. The result was classified into five general themes based on the literature review and similarity among the studies.

**Conclusions:** This systematic literature review investigated the interrelationship between communication and medication errors. In regards to patient safety, the research highlights that structured communication is effective in preventing medication errors. These errors can occur within the medication management cycle at any point of the drug distribution chain. This is due to the involvement of different health professionals, and different steps in the cycle from the correct prescription through to correct administration. Thus, to effectively prevent medication errors and reduce the rate of patient harm, structured communication (verbally and non-verbally) is highly recommended.

**Abbreviations:** GP – General Practitioner; SLR – Systematic Literature Review.

**Key words:** structured communication; health professional communication; medication; safety; pharmacist; medication error.

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### Literature review

Medication errors are one of the top ten serious adverse events of medical errors, which directly or indirectly have a negative impact on the quality of care. [1,2]

Medication errors are defined as any factors that alter the distribution chain, which includes the prescribing, dispensing, preparation and administration of drugs. [3,4] Medication errors are a common preventable type of error that causes patient harm, unwanted hospitalisation, longer stay in hospital and even fatality. [5] Due to the complexity of the medication process, the contributing factors of medication errors within the hospital are either systematic or related to individual healthcare professional issues. [2,6] Pharmacists play various roles in the healthcare system and

pharmaceutical care requires the pharmacist's involvement to prevent and solve drug related problems. [7] Additionally, pharmacists help with improving safety of medication use, [8] quality assurance and care services, which can reduce or eliminate the risk of errors. [9] Medication errors can be due to prescribing, dispensing and drug administration errors and related factors to the drug distribution chain. [3, 10-14]

Medication errors issues and factors are significant safety problems in hospitals worldwide. [15-17] Approximately 2-3% of all admissions to Australian hospitals were medication related errors, which were predominantly caused by systematic rather than individual healthcare professional failure. [18-20]

Each year, over 1.5 million Australians experience adverse drug events. [21] Adverse drug events have been identified as one of the most significant causes of morbidity in Australia. [22] A recent Australian study suggested that medication-related incidents accounted for over 230,000 admissions and cost the Australian healthcare system approximately \$1.2 billion annually. [18,20] Medication errors in Australian hospitals were mainly reported as administration errors based on the ward stock, while dispensing errors were among the least common errors. [23] Medication error contributing factors can be categorised as knowledge-based, rules-based, action-based and or memory-based. [24] Clinical errors occurred in 20% to 25% of medication administration worldwide and are clinically significant within Australian medication error cases. [25,26] Additionally, Queensland Health reported that 27% of clinical incidents were due to communication failure and a leading contributing factor in staff or practitioner related SAC1 incidents. [27]

Various Australian studies related to medication errors found that 26% of 27,000 hospital incidents were medication related. [23] The Western Australian Health Clinical Handover Policy aims to achieve effective, high quality communication of clinical information when the responsibility for patient care is transferred. This results in reducing incorrect treatment, delays in diagnosis and treatment, adverse events, length of stay, expenditure, unnecessary tests, treatments and communication, patient complaints and malpractice claims. [28]

Whenever a patient's medication information is communicated, there is a potential for medication errors. [29] Thus, the accuracy of patient current medication information is important as it varies due to patient confusion; inadequate communication between General Practitioners, (GPs) pharmacists and specialists; the degree

to which relatives have been informed; and information about drug and dosage gained by informed healthcare workers. [30] Communication in the health sector affects all aspects of human health and it plays a unique role in health services. 'Health communication has become an accepted tool for promoting public health'. [31] The exchanging of information can happen in both verbal and non-verbal forms at various levels. [31-33]

Within the health sector, inter-professional communication regularly involves the interaction of various healthcare professionals. In such diverse fields at various stages of patient treatment, health professionals must work collaboratively together in complementary roles to reduce negative impact on care. Communication is the key to efficient collaboration between and within healthcare teams. [34-39] Issues in communication, especially the transfer of clinical information, have been identified as one of the most important factors in serious adverse events in Australian healthcare settings [40] and about 70% of medical incidents are caused by communication failure. [41] Inter-professional communication is complex and communication barriers can lead to ineffective communication within inter-professional teams. [31,42,43] The medication management cycle indicates that decisions from appropriate treatment to the transfer of verified information are all based on communication. [24]

A 2006 review of New South Wales public hospitals reported that medication errors occurred in 17,367 incidents. In 968 of these medication incidents, the results were primary and secondary patient harm. [44] In addition, the NSW Health Patient Safety and Clinical Quality Program reported that the major contributing factors causing medical errors were deficiencies in policies (25%), communication (25%) and knowledge competency (18%). [45] The Victorian public health system in 2008-09 and Queensland Health in 2005-06 reported that 20% of sentinel events were due to communication issues or failures and it was the second most common contributing factor to sentinel events. [46] Furthermore, another Australian study between 2005-2010 revealed that reported medication errors were caused by poor communication between GPs, pharmacists and patients (8.7%), and poor staff communication and coordination (9.6%). [47] The Queensland Health Patient Safety Report of 2005-06 indicated that medication incidents were one of the top five primary clinical incidents (21%). Of these medication incidents, communication was one of the top five contributing factors to sentinel events (20%) and it emphasised that staff to staff communication failure



was one of the top five sub-category contributing factors (13.7%). [48] However, by comparison, the Queensland Health Patient Safety Report of 2006-07 showed a reduction in medication incidents (12%) where 11% were caused by staff to staff communication failure. [49] Therefore, it could be suggested that there is a direct relationship between communication and medication incidents.

Various clinical strategies have been designed to reduce medical incidents and improve patient safety. The SBAR verbal communication framework is one of the strategies that have been introduced into health communication aimed at preventing medical incidents. [50] The SBAR communication model provides a framework to enable individuals with basic communication skills to accurately share information about the patient's current condition. [51] The SBAR verbal communication framework has been implemented and adapted in various countries such as Canada, America and United Kingdom hospitals. [52-54] The SBAR tool brought changes to communication processes and improved patient safety outcomes, teamwork and overall satisfaction of nurses, physicians, staff and patients. [35, 55-57] Expanded SBAR (or ISBAR or iSoBAR) is now being used across Australia to encompass the transfer of accountability and responsibility required at handover with the Australian Commission on Safety and Quality in Healthcare recommending the SBAR communication toolkit as a simple solution for most communication related issues. [40]

Despite all of the various studies that indicated the relationship between medication errors and communication, there was a paucity of literature to define interprofessional communication between pharmacists and other health professionals, medication errors and structured clinical communication. Additionally, the literature failed to identify studies that addressed structured communication and a reduction in medication error rates.

The study aims to find if a relationship exist between the communication among different health team members (particularly pharmacists and other health team members) and medication errors in different studies, and; does structured communication reduced the medication errors rate?

### Research design and methods

The systematic literature review (SLR) process is commonly used in the field of healthcare and in this study the SLR was used to identify the relationship between medication errors and health communication, specifically to find

whether implemented structured communication reduces medication errors. PICO elements (Participants, Intervention, Comparators and Outcomes) were used for the question revision:

- Participants were considered to be all health professionals who communicate medication therapy within the drug distribution process in all medical fields;
- Intervention was the structured communication among health professional specifically pharmacists;
- Comparator considered any structured communication in written or verbal for mat and medication safety verses poor communication and medication errors; and
- Outcomes identified whether structured communication reduced medication errors rates and if there is any relationship between communication and medication safety.

A list of exclusion and inclusion criteria was generated according to the key questions, (Table 1). Studies were limited to those with outcomes and factors related to structured communication and reduced numbers of medication errors. Medication errors and health communication were defined according to previous studies and, to ensure that studies that were reviewed were relevant to current world practice, published English-language academic journal articles between the years 2000-2015 were chosen.

The inclusion criteria such as study population, study settings and geography, language, time period and publication criteria were considered prior to data extraction. In terms of the selection of suitable articles, four phases of the developed research's strategy such as identification, screening, eligibility and including phase were applied.

Using the key words 'health professional communication' and 'medication errors', 'structured communication' and 'medication errors', 'structured communication' and 'medication safety' and 'pharmacist', an electronic search of databases including CINAHL, PubMed and Medline was undertaken. A large number of potentially eligible records were assessed for inclusion against predetermined criteria. As the potential to duplicate the same article from multiple databases is inevitable, EndNote software was used to remove duplicates automatically to reduce biases. In the screening phase, the inclusion criteria was applied to the title and abstract of each study that was found during searching process. Additionally, a note taking strategy was used and the studies fulfilling the inclusion criteria were saved separately in a specific document.

**Table 1: Inclusion and exclusion criteria of the study**

INCLUSION CRITERIA	EXCLUSION CRITERIA
<b>Study population:</b> All health professionals involved in patient pharmaceutical therapy	<b>Study population:</b> <ul style="list-style-type: none"> <li>All patient related studies are not linked to health professionals</li> </ul>
<b>Study settings:</b> <ul style="list-style-type: none"> <li>Studies conducted in the developed world including the United States, Australia, New Zealand and Europe</li> </ul>	<b>Study settings:</b> <ul style="list-style-type: none"> <li>Developing countries</li> </ul>
<b>Time period:</b> <ul style="list-style-type: none"> <li>2000 – 2015</li> </ul>	<b>Time period:</b> <ul style="list-style-type: none"> <li>Before 2000</li> </ul>
<b>Language:</b> <ul style="list-style-type: none"> <li>English</li> </ul>	<b>Language:</b> <ul style="list-style-type: none"> <li>Non-English</li> </ul>
<b>Publication Criteria:</b> <ul style="list-style-type: none"> <li>Peer reviewed</li> <li>Academic Journal article</li> <li>Full text and abstraction availability</li> </ul>	<b>Publication Criteria:</b> <ul style="list-style-type: none"> <li>Peer reviewed paper</li> </ul>

For eligibility purposes, the inclusion criteria were applied specifically the contents of each selected paper from the screening phase to determine their accuracy. In the inclusion phase, the final decision for included articles was made based on a close assessment of each paper's contents and the application of the inclusion criteria using the PRISMA flow chart to report the selected study decision. The checklist used for the quality assessment of the selected papers, specifically, the Greenfield and Pawsey [58] quality

assessment tool, was used to examine the quality based on appropriateness of the research question, research design and justification, relevance of methodology, analysis of results, and logical presentation of the research (Table 2).

A data extraction process was used to provide an overview of all the data from included and selected studies. A data extraction form was designed based on the general information (author, article title, type of publication, year and setting), study characteristics (objective, study

**Table 2: Assessment criteria adapted from Greenfield, Pawsey [58] study**

FOR ALL STUDIES	ASSESSMENT CRITERIA
	Clearly specified and appropriate research question Clear details and justification of study design, including selection of cases and controls Detailed description of research setting, data collection methods and type of analysis performed Logical presentation and discussion of results and study conclusion Adequate sample size and response rate (>60%) relative to study
OVERALL RATINGS	ASSESSMENT CRITERIA
+++	All of the above criteria fulfilled
++	Almost all of the above criteria fulfilled, and those criteria that were not fulfilled were thought unlikely to alter the conclusions of the study
+	Some of the criteria were fulfilled, and those criteria that were not fulfilled were though unlikely to alter the conclusions of the study

design and unit of allocation), participant characteristics, settings, outcome measurement and results. [59] Accuracy and consistency of data entry was controlled and monitored through revision by two independent researchers on the data extraction and data entry process.

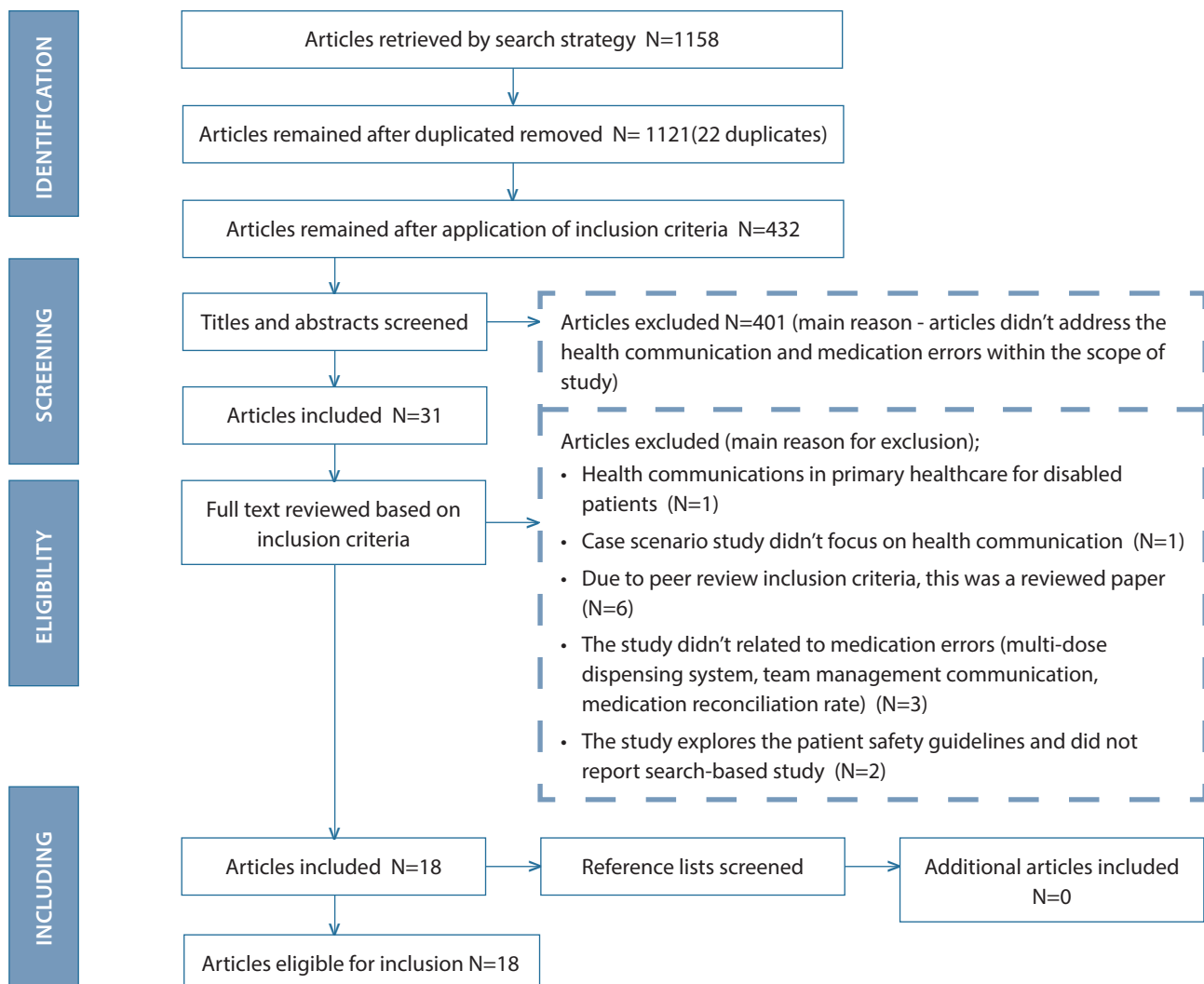
## Results

The initial search identified a total of 1158 citations. After scanning citation titles, 454 were selected for further screening and their complete abstract and content were reviewed. Of these, only 18 studies were eligible to be included in the systematic review. Thirteen studies were excluded because these papers were not peer reviewed, or were unrelated to health communication, medication errors (multi-dose dispensing system, team management com-

munication and medication reconciliation rate) or explored the patient safety guidelines with the lack of research outcomes. The PRISMA flow chart (Figure1) was used to summarise the result of data extraction after the inclusion and exclusion criteria stage and to show the final selection result.

The quality assessment criteria were critically applied to the 18 studies and the result showed that seven studies fulfilled the all assessment criteria with +++ ratings and ten studies fulfilled almost all the criteria and failed in one to two criteria and were thought unlikely to alter the conclusions of the study. A summary of the quality assessment results can be seen in Table 3.

Figure 1: PRISMA Chart



**Table 3: The quality assessment results**

NO	AUTHOR	THE STUDY TITLE	JOURNAL NAME	QUALITY RATING ACCORDING TO GREENFIELD ET AL
1	[60]	Poor communication on patients' medication across healthcare levels leads to potentially harmful medication errors.	Scandinavian Journal of Primary Healthcare	+++
2	[61]	Do you believe your patients are reasonably safe from medication errors, falls, and other adverse events? Compare your opinions and observations to those of nearly 5,000 nurses who responded to this major safety survey.	Nursing 2006	++
3	[62]	To illustrate variety of medication errors in the emergency department.	Academic Emergency Medicine	++
4	[63]	Bedside nursing handover: a case study.	International Journal of Nursing Practice	+++
5	[64]	Healthy work environments, nurse-physician communication, and patients' outcomes.	American Journal of Critical Care	++
6	[65]	Drug error in maternity care: a multi-professional issue	British Journal of Midwifery	++
7	[66]	Collaboration – integrating nursing, pharmacy and information technology into a barcode medication administration system implementation.	CARING	+++
8	[67]	Communication skills training to address disruptive physician behaviour.	AORN (Association of Perioperative Nurse) Journal	++
9	[68]	Applying airline safety practices to medication administration.	Academy of Medical-Surgical Nurses	+++
10	[69]	Barriers to safe medication administration in the nursing home-exploring staff perceptions and concerns about the medication use process.	Journal of Gerontological Nursing	++
11	[70]	Antecedents of severe and non-severe medication errors.	Journal of Nursing Scholarship	++
12	[71]	A secondary care nursing perspective on medication administration safety	Journal of Advanced Nursing	+++
13	[72]	Reflection and analysis of how pharmacy students learn to communicate about medication errors	Health Communication	++
14	[73]	Reducing medication errors and increasing patient safety: case studies in clinical pharmacology	The Journal of Clinical Pharmacology	++

**Table 3: The quality assessment results**

NO	AUTHOR	THE STUDY TITLE	JOURNAL NAME	QUALITY RATING ACCORDING TO GREENFIELD ET AL
14	[73]	Reducing medication errors and increasing patient safety: case studies in clinical pharmacology.	The Journal of Clinical Pharmacology	++
15	[74]	Comparison of medication safety effectiveness among nine critical access hospitals.	American Journal of Health System Pharmacy	+++
16	[75]	Errors in general practice: development of an error classification and pilot study of a method for detecting errors.	Quality and Safety in Healthcare	++
17	[76]	Communicating medication changes to community pharmacy post-discharge: the good, the bad, and the improvements.	International Journal of Clinical Pharmacy	+++
18	[77]	Pharmacists' inter-professional communication about medications in specialty hospital settings.	Routledge Taylor & Francis Group	+++

**Table 4: Data extraction result from the data extraction results**

REF NO	AUTHOR/ YEAR	TITLE	COUNTRY	PUBLICATION TYPE	OBJECTIVE	OUTCOME MEASURES	DESIGN	PARTICIPANTS	RESULTS	STUDY LIMITATION
7	[66]	Collaboration – Integrating Nursing, Pharmacy and Information Technology into a Barcode Medication Administration System Implementation.	United States.	Journal.	To reduce medication errors when ordering/ transcribing medication. To standardise medication administration practices. To bring administration documentation to the point of care.	This study used three phases of unfreezing, moving and refreezing of Kurt Lewin organisational change model and named it as project origination, workflow redesign and implementation/acceptance/ integration. In this study a lot of various communications is used with different carts, evaluation rating, meeting, guidelines to identify potential issues with implementation of new system.	Qualitative.	365 bed hospital, implemented a Barcode Medication Administration system.	Barcode implementation caused dramatic increase in the reported prevented or near-miss medication error. It prevents from over 700 (average) medication errors per month that could cause real harm to patients. It helped to identify the total scope of potential errors and near misses.	This study did not mention any limitations.

Table 4: Data extraction result from the data extraction results *continued*

REF NO	AUTHOR/ YEAR	TITLE	COUNTRY	PUBLICATION TYPE	OBJECTIVE	OUTCOME MEASURES	DESIGN	PARTICIPANTS	RESULTS	STUDY LIMITATION
13	[72]	Reflection and analysis of how pharmacy students learn to communicate about medication errors.	UK.	Journal.	To examine how pharmacy students are socialised to apply communication strategies when responding to potential medication errors and their prevention.	30 min to 2 hours face to face interviews of 28 questions on topics such as memorable communication-related medication errors, reflections on medication errors made, and training on how to handle medication errors.	Qualitative.	44 participants who enrolled in a 6-year entry level pharmacy program and had completed at least one rotation (a period of 4 months). 33 female and 11 male participants.	<p>The thematic analysis results showed five main themes regarding medication errors and communication that address the nature and extent to which pharmacy students are socialised to communicate about medication errors, and the role of communication in medication errors.</p> <p>These five themes were; pressure to be perfect, feeling comfortable talking about mistakes, assuming and communicating responsibility for error, learning how processes can contribute to errors and their prevention, and inadequate and inconsistent training on how to handle medication errors.</p>	<p>All the participants were from the same school.</p> <p>The principal investigator could not ask important follow up questions as the researcher student was asked to do interviews.</p> <p>The more specific questions about the role of disclosure in medication errors should be asked rather than the general questions.</p>
14	[73]	Reducing medication errors and increasing patient safety: case studies in clinical pharmacology.	United States	Journal.	To summarise current known medication errors and translate the information into case studies illustrating common scenarios leading to medication errors.	<p>Each case was analysed to provide insight into how the medication error could have been prevented.</p> <p>For this reason, the system errors are described and the application of failure mode effect analysis is presented to determine the part of the 'safety net' that failed.</p>	Qualitative.	7 representative cases from clinical pharmacology, which failed and led to medication errors.	<p><b>Case1:</b> Communication problems.</p> <p><b>Case 2:</b> Origin of the informed consent doctrine.</p> <p><b>Case 3:</b> Instruct patients to call when anything unusual or unexpected occurs (provide the patient with the information that he/she would want to know if receiving the medication).</p> <p><b>Case4:</b> Regarding the use of zeros in written prescriptions: always lead and never follow. Poor communication in the form of illegible medication orders, prescription-writing errors to correct.</p> <p><b>Case 5:</b> Indicated that up to half of all medication errors arise from physician orders, (occurrence of medication errors in hospitalised patients: physician ordering = 39-49%, nursing administration = 26-38%, transcription = 11-12%, pharmacy dispensing = 11-14%), also inadequate monitoring is frequently included.</p>	This study did not mention any limitations.



Table 4: Data extraction result from the data extraction results *continued*

REF NO	AUTHOR/ YEAR	TITLE	COUNTRY	PUBLICATION TYPE	OBJECTIVE	OUTCOME MEASURES	DESIGN	PARTICIPANTS	RESULTS	STUDY LIMITATION
									<p><b>Case 6:</b> High alert medication and patient safety, pharmacological criteria for identifying high risk drugs.</p> <p><b>Case 7:</b> System errors leads to medication errors. This study did not mention any limitations.</p>	
17	[76]	Communicating medication changes to community pharmacy postdischarge: the good, the bad, and the improvements.	UK.	Journal.	<p>To establish the extent to which community pharmacies currently receive discharge medication information, and for which patients.</p> <p>To determine community pharmacy staff opinion on where and how current communication practice could be improved.</p>	Reported receipt of discharge medication information from hospitals and general practices.	Qualitative.	14 community pharmacies.	<p>Receiving information: community pharmacists reported that the receipt of information regarding medication change was inconsistent and once they received patient discharge medication summary, it was helpful and informative. Also, pharmacists described lack of standardisation, and differences in quality and frequency of communication that they received from individual hospital trusts and between hospitals trusts.</p> <p>Pharmacists regularly did not receive information from hospital. Lack of standardised processes for the receipt of information within the pharmacy was another related problem to this study and mainly the pharmacists felt that the consequence of poor communication could be fatal and lead to patient harm. The main suggestion from pharmacy staff to improve current communication was for both hospital and medical practices to provide information more routinely, using standardised processes and encourage the widespread use of the limitation of this study was interviewing of participants during opening hours and the participants having an interrupted interview to serve customers. There were distractions during the interview.</p>	The limitation of this study was interviewing of participants during opening hours and the participants having an interrupted interview to serve customers. There were distractions during the interview.

**Table 4: Data extraction result from the data extraction results *continued***

REF NO	AUTHOR/ YEAR	TITLE	COUNTRY	PUBLICATION TYPE	OBJECTIVE	OUTCOME MEASURES	DESIGN	PARTICIPANTS	RESULTS	STUDY LIMITATION
17	[77]	Pharmacists' inter-professional communication about medications in specialty hospital settings.	Australia.	Journal.	What is the nature of the communication about medication between hospital pharmacist and health professionals from other discipline groups in specialty hospital settings?	Semi structured interviews with and the participant observations at different level of communication in the specialty hospital of Victoria.	Qualitative.	Pharmacists, nurses, and doctors.	Thematic analysis of the data showed four themes: • Task focused interprofessional communication • Little interprofessional collaboration • Interprofessional asymmetries in behaviour, knowledge and attitudes • Lesser visibility of clinical pharmacy	Only one metropolitan hospital participated in this study and the data might not be transferable to other hospitals. Observations were not conducted in perioperative care setting and it is possible that one or more new themes could have emerged in this setting.

Note: The complete data extraction's table is available on request from the authors.

## Discussion

The results showed that of the 18 studies, 17 showed a relationship between communication and medication errors, while only one study indicated that there was no relationship. Thematic synthesis was used due to nature of the research (qualitative) to identify patterned meaning across a database and to classify the results of the 18 studies. The themes were synthesised after a line-by-line coding of the included studies. The organisation of these codes into related areas helped to construct descriptive themes and finally, the development of analytical themes. [78]

The results of the studies were classified into five general themes based on the literature review and similarity among of the studies. These themes included:

- Relationship between medication error and communication;
- Structured communication and patient safety;
- Medication communication management cycle;
- Health professional communication education; and
- Pharmacist views about medication errors.

### Relationship between medication error and communication

Five studies pointed directly or indirectly to a relationship between communication and medication errors at different stages of providing care to patients. [60-62, 64,75]

The application of a communication definition [31,32] to these studies indicates that failure in the transmission of clinical information from one healthcare provider to another has the potential for medication errors. [40] Nurses identified a breakdown in communication as the most significant factor related to medication error and failure in the exchanging of medication information (inadequate communication) within an interdisciplinary team leading to patient harm and medication error. [61] Similarly, research showed that the main cause of medication errors was prescription errors (42%) and poor communication (30%). [75] In addition, the critical evaluation of one case study indicated that the main issues were related to the medication communication process in the drug distribution chain. Furthermore, various strategies that were recommended to prevent medication errors in an emergency department were mainly focused on communication and exchanging of clinical information among various healthcare providers. [62] The relationship between medication errors and communication was supported as the study result showed that nurse-physician communication has an impact on medication errors. [64] In this context, it is believed that insufficient information, faulty exchanges of existing information, or ambiguous and unclear information as a part of poor communication lead to medical incidents. [79] According to the findings in these five studies, the researchers agreed that there is a strong relationship between the communication process and drug

distribution chain, with failure of communication during medication management playing a key role in medication error.

### Structured communication and patient safety

Structured communication is one of the recommended solutions to prevent medical incidents and medication errors. [38,80] In this context, different pathways, guidelines, technology use and standardised charts have been used to improve patient safety. [14,81] In a three-hospital study, the handover sheets were used as a structured communication tool to communicate patient clinical information effectively and accurately at handover time. [63] Although involving a barcode medication administration system increased the workload of nurses and pharmacists, it also increased patient medication safety by reducing medication errors at the ordering, transcribing and administration stages of the medication process. [66] The use of bedside barcode systems combined with an interprofessional team and onsite pharmacy consultation reduced the number of medication errors. [74] Two studies [66,74] used the barcode system as a form of structured communication to reduce the medication incidents and to improve patient safety. The first step to reduce or eliminate recognised errors is to enhance communication skills and better interactions between the healthcare team and the patient to improve patient safety. [73] The findings of these studies highlighted that using structured communication avoids preventable medication errors, which costs both patient and healthcare system. Most of the researchers agreed that structured communication can improve patient medication safety rate but there are limited studies that measured the reduction in medication errors when using structured communication.

### Medication management cycle

In the drug distribution chain, [3] the breach of the seven 'rights' (right patient, right drug, right dose, right time, right route, right reason and right documentation) along with inter-professional communication, prescription errors accounted for 70% of medication errors. [14] Medication administration errors occur in one in every five medication dosages. [6] Three of the reviewed studies reported that communication failure leads to medication errors and is due to poor communication by multidisciplinary teams through the drug prescription and drug administration cycle, [65] inadequate communication as the responsible person's attention was drawn away from achieving the medication administration goal [68] and communication issues at every stage of the cycle, were evident as a leading cause of medication errors. [69] According to the medication

management cycle [24] and these studies, [65,68,69] the researchers argued that communicating effectively and working collaboratively are important factors of medication safety.

### Health professional communication education

Health professionals realise that there is a need to pay greater attention to communication in the workplace. This requires healthcare professionals to be formally trained in communication skills. The theoretically-based two days communication skills training program for nurses enabled them to identify situations that warrant crucial conversations regarding to patient safety. [67]

Similarly, educating pharmacy students about communication and medication errors enables them to communicate effectively around various medication errors. [72] These two studies indicated that education on how to communicate effectively, as a part of the socio-cultural environment of the healthcare system, is important and necessary for all health professionals to reduce communication-based medication errors.

### Pharmacists and communication

Pharmacists play a primary role in preventing medication errors. Pharmacists' daily practices involve communication pathways from the physician's order, transcribing it onto a label for the patient and making sure that the right medication and right dose matches the patient prescription. All of these steps are based on communication and with it comes the potential for medication errors. Pharmacists among other health professionals are the ones who indicated the importance of effective communication. [16, 82-84] The reviewed study explored the importance of medication communication between community pharmacies and different healthcare providers during transfers of care and this study explained that the lack of a standardised process for the receipt of information within the pharmacy was another related problem and the pharmacists felt that the consequences of poor communication could be fatal or lead to patient harm. [76] The roles of pharmacists are often assumed to be 'guardians' in ensuring that medication errors do not occur. [2]

Thus, from the pharmacist's perception, communication plays a key role in patient medication management and safety. In addition, the result of another study showed that the reactive medication communication between pharmacists and other health professionals, like nurses and doctors, has expanded the pharmacist's role, involving them in decision-making at the treatment level. [77]

## Other findings of the SLR

While the systematic review finding could be categorised into five main themes, other findings have emerged. Although the Chang and Mark [70] research indicated that there is no relationship between communication factors and medication error related factors, it did not define communication variables clearly. This study is in contrast with the 17 other studies, which highlight the relationship between communication and medication errors. Additionally, it could be argued that this study only measured communication with physicians and did not clarify the communication variable factors appropriately during the medication process use.

Thus, it could be suggested that there is a deficit in information about the measurement of the communication contributing factors during the drug distribution chain in this study.

In relation to the limitation of the included studies, eight of the studies did not mention any research limitation. [60-62, 65,66,69,73,74] Four studies could not be generalised due to their small sample size, participants' specific characteristics and measurement of the related factors. [68,71,75,77] In contrast to earlier findings, however, there was no evidence of structured communication reducing medication errors in longitudinal studies. Additionally, in relation to the medication management cycle, a considerable number of studies discussed the structured communication between nurses and physicians, pharmacists and doctors and nurses, nurses and nurses, especially in handover time and the outcome of the structured communication on medication errors. [61,65, 67-69, 71,75,77]

Controversially, there have been no studies specifically targeting structured communication between pharmacists and other health professionals who are involved in the patient medication management cycle and the effect of structured verbal or non-verbal communication between pharmacists and other health professionals on medication errors. Furthermore, the majority of the studies were from the United States, United Kingdom and Canada while there were only two studies from Australia.

What has not been highlighted is that while there have been a number of studies that have emphasised structured communication (barcode, electronic resources, SBAR, etc.), no study has accurately quantified the reduction in medication errors by using one or more of these approaches. There has not been any attempt to identify the 'gold standard' that is: does one of those structured communication approaches have a greater impact on reducing medication errors than the other reported approaches?

## Limitations

The limitation of this study considered the publication bias among the included studies, although the peer reviewed search strategy was applied. To offset this potential bias, two researchers, unrelated to the study, reviewed the work for consistency and completeness. Additionally, the limitation in the search strategy was considered as the search protocol might have overlooked some important studies. This study included all the qualitative, quantitative and mixed method studies that fulfilled the inclusion criteria and this can influence the choice of studies outcome. The inclusion criteria of studies into a review process may be influenced by knowledge of the results of the set of potential studies. Unpublished research was not included in this study, to reduce the potential of this influence.

The limitation of quality assessment and data extraction was reduced by the review by two independent researchers.

## Conclusion

The outcomes of this study are instructive for health managers in several ways.

Firstly, the study demonstrates the considerable cost implication of poor clinical communication and medication error. A focused approach on inter professional communications could significantly reduce hospital costs and poor patient outcomes. Secondly, improving communication in relation to medication errors can provide organisations with measurable improvements in patient safety and quality.

The finding of this study provides a deeper understanding of the relationship between communication and medication errors and offers an agenda for future study. As a result of this systematic review, future research could include:

- Does the use of structured verbal communication, like SBAR, between pharmacists and other health professionals involved in the medication management cycle reduce the medication error rates?
- Future research, using a longitudinal study approach, could examine whether the implementation of structured communication reduces the medication error rates and improves patient medication safety.
- From the perspective of quality of care and patient safety, what is the quantifiable outcome (savings to the patient and healthcare system, reduced cost of treatments through reducing medication errors, cost of reduced morbidity and mortality) of using structured communication to reduce the number of medication errors?

Overall, this SLR, with all its challenges and limitations, defines the relationship between communication and medication errors. Additionally, this study indicates the need for future longitudinal quantitative studies and qualitative research on the use of structured communication between health professionals and the reduction in medication errors.

## Competing interests

The authors declare that they have no competing interests.

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# Mainstreaming Human Immunodeficiency Virus (HIV) Insurance in India: Opportunities and Challenges

M Trivedi

## Abstract

Millions of Indians fall into poverty because of the private high Out of Pocket pattern of health financing, due to the absence of insurance coverage. Conditions like HIV and AIDS also influence poverty due to a life-long treatment requirement. Access to insurance coverage (commercial or voluntary) has been denied to People Living with HIV (PLHIV) through various clauses. However lately, there have been certain experiments on inclusion of HIV into new or existing schemes. This paper provides a systematic review of coverage, managerial and financial systems of selected cases of HIV insurance pilots in India with an objective to explore its sustainability and ability to be replicated.

A cross-sectional descriptive analysis of existing literature and in-depth case studies of relevant health insurance schemes were used for the review. Data was compiled using qualitative data collection tools such as in-depth interviews with officials. The schemes were analysed using two frameworks viz. managerial ability and coverage ability. The managerial ability was analysed through a Strength-Weakness-Opportunity-Threat (SWOT) analysis. The coverage ability was analysed through three dimensions viz. a) breadth b) depth and c) height. In India, there are two types of insurance policies vis-à-vis HIV coverage. These were categorised as HIV-specific and HIV-sensitive policies.

Of the seven pilot schemes reviewed, the small-scale health insurance schemes show limited success owing to smaller pool and limited managerial capabilities. The large schemes offer avenues for mainstreaming but pose issues of governance as well as marketing among PLHIVs. The findings of the research identify a specific set of issues and challenges for sustainability and replication from three perspectives viz. a) market, b) cost recovery and sustainability and c) equitable coverage.

**Abbreviations:** AIDS – Acquired Immune Deficient Syndrome; ART – Anti-retroviral Therapy; BPL – Below Poverty Line; FF-HIP – Freedom Foundation Health Insurance Policy; HIV – Human Immunodeficiency Virus; IRDA – Insurance Regulatory and Development Authority; NGO – Non Government Organisation; PLHIV – People Living with HIV; OI – Opportunistic Infections; OOP – Out of Pocket; RSBY – Rashtriya Swasthya Bima Yojana; STI – Sexually Transmitted Infection; SWOT – Strengths, Weaknesses, Opportunities, Threats; UHC – Universal Health Coverage; UNDP – United Nations Development Program.

**Key words:** health Insurance; Human Immunodeficiency Virus; equity; sustainability.

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## Introduction

India's health situation, although improved over time, remains a major cause of concern compared to other industrialising countries. Owing to a demographic transition, India has witnessed an increasing proportion of young population over the last few decades and this scenario is likely to continue for another two decades or so. [1] This is particularly important, as the young population is vulnerable to Sexually Transmitted Infections (STI), including Human Immunodeficiency Virus (HIV). India continues to

have a reasonably high burden of HIV infection and a related condition called Acquired Immune Deficient Syndrome (AIDS). [2] India does not have a generalised epidemic, and in comparison with many southern and eastern sub-Saharan African countries, it has a lower HIV prevalence as well. According to latest available estimates, India had an adult HIV prevalence of 0.26% or around 2.11 million People Living with HIV (PLHIV) in 2015. [2] In relative terms, the burden of HIV in India may not seem very high, but in an absolute sense, the burden of more than two million individuals is significant. HIV has spread widely across various states and across various sections of the population in India, and has been recognised as the most important public health issue in recent times. [3-5] The decreasing mortality and yet continuing incidence of HIV infection indicates that an increasing number of people are going to need treatment and care over time. [6-8]

There is no cure for HIV infection. However, there is a therapy called anti-retroviral therapy (ART) through which the infection can be managed. The ART includes provision of drugs and medicines, laboratory examinations including measurement of performance of immune system in terms of CD4 count – a lab test that measures the number of CD4 T lymphocytes (CD4 cells) – and medical as well as psychological consultation. Since its commencement in 2004, India's free ART programme has grown steadily. By 2014, it had expanded to cover more than 850,000 eligible patients through more than 400 ART centres across the country. [2] Despite the availability of free ART, poor families need to spend Out-of-Pocket (OOP) to meet health expenses arising out of treatment of certain opportunistic infections, including hospitalisation. There has been evidence of PLHIV facing financial burden while seeking treatment therapy under the government programme. [9-14]

The linkages between high spending on health and its effect on poverty – in terms of pushing many people below the poverty line, and affecting the living status of households who are already poor – are well established. [15-18] While on one hand, the catastrophic expenses arising out of hospitalisation in the absence of health insurance coverage have also been well documented, [19-21] people living with chronic conditions, whose spending is mostly outpatient in nature, are also vulnerable to the effect of rising OOP expenditure. [22] Although chronic conditions are largely associated with non-communicable diseases, the financial implications of communicable diseases like HIV and AIDS also influence poverty in a similar manner. While the impact of poverty on increased vulnerability to HIV infection has

been debated, [23-25] the household level socio-economic impact of the infection has been well documented. [14, 26-28]

The OOP - due to lack of health coverage - is experienced by everyone, but the access to commercial or voluntary health coverage by purchasing health insurance at a premium has been denied to PLHIV in India through various clauses of different insurance policies.

These exclusions are of two types, a) pre-existing conditions, and b) permanent exclusions. The pre-existing conditions clause refers to those conditions that existed at the time of enrolment. The permanent exclusion clause is for certain conditions that are excluded 'forever' from the list of benefits, irrespective of the time of their occurrence.

STIs including HIV are one such 'permanent exclusion'. While the exact wording for such exclusions can vary across policies, one of the mainstream health insurance policy reads as follows: 'Sexually transmitted diseases, any condition directly or indirectly caused due to or associated with Human T- Cell Lymphotropic Virus Type III (HTLB-III) or Lymphotrophy Associated Virus (LAV) or the Mutants Derivative or variation Deficiency Syndrome or any syndrome or condition of a similar kind commonly referred to as AIDS'. Certain preexisting chronic diseases like diabetes are covered in selected health insurance policies either after a waiting period or with additional premiums. Such coverage is almost nonexistent for HIV-related conditions.

The situation of health insurance for HIV in India has evolved over time. The discourse around insurance for HIV changed in the 2000s because of a) successful scale up of free ART programme, b) stabilisation of incidence of HIV cases, and c) emerging global debate on universal health coverage and the rollout of state and nation-wide government funded health insurance schemes.

HIV coverage in India started in schemes that provided employment-based coverage. The social health protection schemes like the Employee State Insurance Scheme, Central Government Health Scheme and organisations like the Railways and Defence, were providing all HIV care, including free access to ART. [29] However, such coverage was by default rather than design. With very limited coverage and in the absence of a free ART programme till 2004, the advocacy for mainstreamed financial coverage for HIV started with focus on covering ART for those outside the net of such schemes. During the 1990s and the first half of 2000s, along with advocacy for coverage by activists and researchers, there were also discussions within the insurance industry to start learning about the epidemic so as to prepare for product development. [30]

Despite the changing nature of favourable discourse about insurance for HIV, there remained a denial of coverage by the mainstream commercial insurance schemes. [31] As a result, a number of pilots were initiated to demonstrate the possibility of such coverage.

These included a) Freedom Foundation Health Insurance Policy (FF-HIP), b) Karuna Trust health insurance scheme, c) Aarogyasri scheme, d) Yeshasvini Co-operative Farmers Health Care Scheme, e) Mukhya Mantri Jeevan Raksha Kosh Yojana (MMJRK), f) Rashtriya Swasthya Bima Yojana, (RSBY), and g) Star Health Insurance Netplus health insurance scheme.

Of these seven schemes, the first two schemes were pilot projects initiated by United Nations Development Programme (UNDP). The next were three (c-e) were state-level schemes from Andhra Pradesh, Karnataka, and Rajasthan states, respectively. The RSBY is a Pan-Indian health insurance scheme for low-income sections of the society. Lastly, the Star Netplus health insurance scheme was exclusively offered to a group of PLHIV in partnership with a Non-Governmental Organisation (NGO) called Population Service International Connect.

This paper provides a comparative analysis of the above-mentioned seven insurance schemes from the perspective of their coverage as well as management potential.

## Methods

This is original research that involved cross-sectional descriptive analysis of existing literature and in-depth case studies of relevant health insurance schemes. The data sources were a review of secondary data, observation,

and interviews with managers of the schemes. Two major objectives were a) to review the managerial and financial systems of selected cases of HIV insurance schemes in India, and b) to explore their efficacy, sustainability and ability to be replicated. An in-depth review was carried out based on case studies of each scheme, comparing their unique features and using an analytical framework. The schemes were analysed from two broad perspectives. a) managerial ability, and b) coverage ability. The managerial ability was analysed through a SWOT (Strength-Weakness-Opportunity-Threat) tool. The internal environment of the schemes was analysed to understand their strengths and weaknesses and the analysis of the external environment yielded opportunities and threats to these kinds of schemes. The coverage ability was analysed through the three dimensions of Universal Health Coverage (UHC), a) breadth i.e. the magnitude of the population that is covered, b) depth which includes the extent or scope of various health services that are covered, and c) height in terms of the level of financial protection or sum insured amount offered in the coverage. A framework was developed to analyse the coverage ability of various schemes.

The framework involved a set of sub-components across the three UHC components. These sub-components, used as variables for analysis, were given weights that were applied to these variables/scores to quantify the performance of schemes across the three dimensions. This ultimately helped arrived at a UHC index. The details of variables and their scores are described in Table 1. Assessment of managerial and coverage ability through a SWOT and UHC analysis is original research, and adds to existing knowledge.

**Table 1: Framework for analysis and weighted scores of components**

UHC COMPONENT	SUB-COMPONENT OF UHC	SCORE
Depth of coverage In terms of scope of services	Outpatient services	1
	Inpatient services	1
	Operative procedures	2
	STI treatment	1
	OI treatment	1
	ART	2
	Maternity benefits	1
	Choice of providers	1
Height of coverage In terms of scope of financial protection	Less than Rs. 100,000 per annum	3
	More than Rs. 100,000 per annum	6
	Unlimited	9
Breadth of coverage In terms of scope of population coverage	Stage specific PLHIV	3
	BPL PLHIV	6
	All PLHIV	9

## Analysis

A brief description of seven cases is provided below before analysing them from a coverage and managerial ability perspective.

### Freedom Foundation Health Insurance Policy

Freedom Foundation (FF) initiated a two-year pilot project in 2006, to explore the feasibility of offering an insurance scheme for PLHIV to cover their medical expenses including cost of ART, Opportunistic Infections (OI) management, and periodic testing including CD4 counts, on a graduated cost recovery model. All above-mentioned services were provided to all ART-eligible individuals visiting FF, Bangalore by a team of experienced healthcare providers. A Health Insurance Policy (HIP) was offered as a joint venture with the UNDP, in which the foundation acted both as insurer and service provider.

Under the scheme, the insured clients were to receive the coverage benefits – up to a total sum insured of Rs. 13620 (US\$ 227) per year at a payment of stipulated premium, which were on a sliding scale based on economic categories. Only sixty-nine people were enrolled as against the target of 158 individuals who were ART-eligible because of their CD4 counts. Overall, against the total premium collection of Rs. 301,002, (US\$ 5017), the corresponding claim amount was Rs. 433,257. (US\$ 7221). Despite having a good adherence and treatment follow-up, the scheme was withdrawn at 19 months, despite the original plan of 24 months. The main reason for the withdrawal was the financial nonviability of the scheme, which is attributed to an inability to recruit enough clients to the scheme. The foreclosure report indicated three major reasons for this: a) lack of awareness about health insurance, b) financial constraints, and c) availability of the free government ART programme. [32]

### Karuna Trust Experiment

Karuna Trust has offered a health insurance scheme in association with UNDP and the National Insurance Company during 2002-2005. This scheme was targeted towards the poor, and offered free hospitalisation coverage at the stipulated government facilities.

The annual premium of Rs. 30 (US\$ 0.5) was subsidised for various sections of society. The scheme had a component of no-exclusion, and thus, was one of the first Community Health Insurance schemes to have covered 'all illnesses' including pre-existing conditions.

In this context, by virtue of no-exclusion, HIV-related illnesses were also covered under the policy. However, with very limited coverage amount, costly ART treatments

or monitoring tests were not covered. In 2006, UNDP and Karuna Trust extended their partnership to mainstream HIV intervention in primary care, and covered 'some investigations as well as treatment of OIs'. [33] Under the scheme, HIV was being mainstreamed in primary health care and included a novel concept of offering PHC Voluntary Counselling and Testing Centres. The extended scheme also went on to cover more than 49,000 people by July 2007. The scheme also reimbursed Rs. 2,99,400 (US\$ 4990) towards claims. [34] The UNDP partnership with Karuna trust ended in 2007. There is lack of documentation or evaluation of this scheme.

### Star Netplus Health Insurance

A private health insurance company – Star Health and Allied Insurance Co. Ltd – has offered an insurance product aimed at PLHIV since July 2007. The group policy offered coverage to all HIV positive individuals who were yet to reach the AIDS stage. The 'Star HIV Care Policy' offered critical illness coverage, in which the insured person received limited monetary assistance against the onset of a pre-decided event. [35] From 2008, a partnership between PSI Connect and Star Health initiated a pilot project through which a composite policy with both lump sum payments as well as hospitalisation benefits were developed as a part of the single coverage. On one hand, while the insured were given a choice of providers, the project also made efforts to sensitise more than 1000 hospitals.

However, It offered enrolment only to a group of around 200 PLHIV, a condition that left individual aspirants out of the coverage. As a promotion, the scheme had a subsidy component wherein 50 per cent premium for the base product was provided through USAID funds under the Connect project. From a modest beginning of an annual enrolment of 256 PLHIV in 2008, the scheme went on to cover more than 7000 PLHIV in 2010. It was estimated that the aggregate claim rate under the scheme was 11 per cent and average claim of Rs. 4,954 (US\$ 83). [35] Although the partnership between Star Health and Project Connect ended in 2011, this scheme is still functional with revised coverage.

### State Sponsored Large Scale Schemes

As discussed earlier, several government-sponsored schemes operate in India. Most of these schemes contribute to the larger goal of universal coverage. Among these, a major state-level health insurance initiative is the Rajiv Aarogyasri CHI Scheme (Aarogyasri) of the Andhra Pradesh government. Functional since 2007, the scheme caters for around 65.4 million poor people across the state. The scheme is free to beneficiaries as the state government pays the premium to



the designated insurance company. [36] Aarogyasri had an inclusion clause in the scheme that ensured that 'treatment for all the identified diseases, including HIV and Hepatitis-B related conditions' are covered by design. [37] The scheme offers coverage of tertiary care of 938 predefined treatment and follow-up packages.

Another ambitious government-sponsored scheme, RSBY was launched in 2008. The scheme is being offered in 25 states in partnership with insurance companies to provide financial coverage from hospitalisation expenses up to Rs. 30,000 (US\$ 500) per family per year, who has opted to become a member by paying Rs. 30 (US\$ 0.5) for the membership.

The entire premium is paid jointly by the central and state governments. In RSBY, HIV was excluded in during the first year. Later on, from the second year onwards, it was removed from the list of conditions that are permanently excluded. [38]

Both these schemes are meant only for the population owning a Below Poverty Line (BPL) card – an identity proof issued by government to poorer sections of society. This means that individuals who are HIV positive but do not possess a BPL card are not covered. To the best of author's knowledge, currently, there are no estimates on the proportion of PLHIV who are also BPL cardholders. This makes the coverage of HIV positive people in government sponsored schemes more debatable.

A similar large-scale scheme is Yeshasvini Cooperative Farmers Health Care Scheme in Karnataka. The scheme started in 2003 and offers coverage to more than three million beneficiaries against specified surgeries and procedures. It is open only to registered members of the specified cooperatives in the state. Started with a premium of Rs. 60 (US\$1) per year per person, the scheme as of 2011-12 operates at an annual premium of Rs.160 (US\$ 3) per member. This self-funded scheme does not have insurance coverage from any insurance company; it is operated by the Yeshasvini Trust, and a TPA called 'Medi Assist India TPA Pvt. Ltd.' is the risk-bearer entity. It covers free consultations, diagnostics at discounted rates, and over 1700 types of operations. Although not designed in the original plan, the scheme currently does not exclude HIV positive individuals. Since 2008, Yeshasvini coverage has been extended to all pregnant women who are found to be HIV positive during their antenatal check-ups.<sup>1</sup>

Even before the Gol free ART programme, Rajasthan provided partial funding for ART for specified poor patients through the Chief Minister's Relief Fund in Rajasthan. [39] Even after penetration of Gol's free ART programme, Rajasthan continued to offer HIV coverage through the MMJRK. Launched in January 2009 for the BPL families, the scheme aims to provide free secondary and tertiary health services. The coverage includes all kinds of inpatient as well outpatient services, conveyance, largely through government hospitals and selected thirty-two private hospitals. Although not included as a fundamental design of the scheme, in December 2009 PLHIV were accorded BPL status, and thus made beneficiaries of the scheme. [40] According to an official from the Rajasthan State AIDS Control Society, more than 12,000 patients have benefited from the scheme during April-December. [41] Details of these seven schemes are summed-up in Table 2.

The seven schemes (cases) can be broadly classified into two categories, HIV-sensitive policies and HIV-specific policies. The HIV-sensitive policies include schemes that already exist but have been modified to include PLHIV and also schemes that have been developed to proactively include PLHIV, along with other communities. The HIV-specific policies are insurance schemes that are exclusively developed for and cater to PLHIV. Of the seven schemes described above, FF-HIP and Star Netplus schemes are examples of HIV-specific policies, and the remaining five are categorised as HIV-sensitive policies that cater for other vulnerable groups as well. The two groups of schemes were analysed from managerial ability and coverage ability perspectives. The managerial ability was analysed through a SWOT analysis. The coverage ability was analysed through the lens of three dimensions of UHC, a) breadth, b) depth and c) height, as discussed earlier.

### Managerial ability - SWOT Analysis

The SWOT analysis of HIV-specific policy is summarised in Figure 1. The various strengths of the HIV-specific schemes include a) motivation of the promoters, b) customised products, c) choice of providers with technical competency to treat HIV related complications, and d) community action/involvement. The biggest strength of HIV-specific schemes is the high level of motivation by the promoters of the schemes. The efforts of Freedom Foundation and Star Health resulted in the evolution of first-of-its kind of schemes that provided tailor-made features. Schemes like FF-HIP featured in-house clinical care by a medical team that has been offering care over many years. On the other hand, Star can ensure access to quality clinical care with a Netplus scheme with a free choice

<sup>1</sup> See circular no. NRHM/MCH/61/08-09, at <http://karhfw.gov.in/nrhm2/7.pdf>, [accessed August 3, 2011].



**Table 2: Comparison of schemes covering PLHIV in India ( Adapted from (Trivedi and Gupta 2012)**

PARAMETERS	DETAILS OF THE SCHEME	SCHEMES						
		KARUNA TRUST	FREEDOM FOUNDATION	STAR NETPLUS	RSBY	AAROGYASRI	YESHASVINI	MMJRK
Who are covered	All PLHIV							Ö
	BPL PLHIV	Ö			Ö	Ö	Ö	
	Stage specific PLHIV		Ö	Ö				
What benefits are covered	Outpatient services	Ö			Ö	Ö	Ö	Ö
	Inpatient services	Ö	Ö	Ö	Ö			Ö
	Operative procedures	Ö	Ö	Ö	Ö	Ö	Ö	
	STI treatment	Ö	Ö	Ö	Ö			Ö
	OI treatment	Ö	Ö	Ö	Ö			Ö
	ART		Ö					
	Maternity benefits				Ö		Ö	Ö
What cost is covered	Choice of providers			Ö	Ö	Ö	Ö	
	Sum insured amount (Rs.)	Rs. 30,000	Rs. 13620	Rs. 30,000	Rs. 30,000	Rs. 200,000	Rs. 200,000	Unlimited

of providers. This enabled the insured to access providers who were expert in treating HIV-related illnesses. Lastly, being schemes which were run either by a care and support organisation or through a network of positive people, they ensured community linkages and actions through group formation and community involvement.

The weaknesses of such schemes include a) small pool of beneficiaries, b) no or little risk pooling, c) limited financial protection, d) high premium-low coverage mix, and e) low sustainability. HIV-specific schemes, being disease-specific schemes, offer a limited scope of pooling in terms

of magnitude of members and risks. With limited pooling and mandates to cover expensive treatment, these schemes rely on a) higher premiums b) selection of coverage, and c) subsidies. Both FF-HIP and Star Netplus schemes offered limited financial protection (up to Rs. 30000 or Us\$ 500) to selected individuals (eligible in terms of CD4 counts), and had to rely on subsidies (UNDP and USAID, respectively) to make the premium affordable. This resulted in poor sustainability and limited commercial viability of such schemes like FF-HIP, especially in absence of donor funds.

**Figure 1: SWOT framework for HIV-specific policies**

STRENGTH	WEAKNESS
Motivation of the promoters Customised products Technical competency of the providers Community action/involvement	Small pool of beneficiaries No or little risk pooling Low sustainability High premium-Low coverage mix Limited financial protection
OPPORTUNITY	THREATS
Knowledge generation (Evidence) Advocacy – Adoption by insurance cos. and funding agencies Community mobilisation	Depleted funding from development partners Cream skinning Partnership issues Poor interest among insurer Poor interest among providers

The opportunities of HIV-specific schemes are three-fold, viz. a) knowledge generation, b) advocacy for product innovation and c) community mobilisation. Looking at the external factors, the biggest contribution these schemes provided was new evidence on the experience of covering HIV-related expenses through a health insurance mechanism. These schemes provided data on illness profiles, treatment seeking and health expenditure. Such data can feed into the actuarial calculation and provide opportunities for product development in the long run. Similarly, these schemes provided avenues of renewed and sustained advocacy for coverage for HIV by being pioneers in the field. The data and advocacy can influence policymakers to incorporate health insurance in the realm of care and support policies. Lastly, the evidence of performance of schemes, in terms of claims rate and average claim amount, can also generate interest among insurance companies as well as funding agencies to support mainstreaming of HIV into commercial health insurance.

The threats to such schemes include a) depleted funding from development partners, b) cream skimming among insurers, and c) partnership issues with insurer and providers. The reliance on outside funding to support the premium remains the biggest threat for HIV-specific schemes; reduced funding can seriously harm the very existence of such schemes.

Another threat remains with cream skimming; insurer and provider tend to choose relatively low-risk clients leaving the end-stage PLHIV out of the pool. This means there may be a tendency to choose relatively healthier HIV cases (with higher CD4 count) while not insuring and treating the AIDS cases (with lower CD4 count). Finally, in the absence of a policy mandate, important stakeholders, i.e. risk-bearers like

insurance companies and healthcare providers, can opt-out of partnerships. This can affect the performance as well as sustainability of the schemes.

A similar SWOT analysis on HIV-sensitive policies, i.e. the remaining five schemes that covered PLHIV along with other vulnerable populations, is outlined in Figure 2. The most positive outlook of HIV-sensitive schemes is their mainstreaming nature, which does not discriminate based on a person's HIV status. These schemes treat HIV like any other conditions and provide a case for an ideal way of mainstreaming HIV into existing coverage options. Second, they offer a wider pooling, both in terms of number of members as well as their risks. With the exception of Karuna Trust, all other HIV-sensitive schemes are population-wide schemes spread across the states, and ensure coverage to entire family irrespective of their risks. The large pool, as well as government sponsorship, reduced the premium to very low or nil in the majority of cases, which makes the schemes affordable to the entitled. The component of government ownership in such schemes makes them sustainable, at least in short to medium term. Lastly, unlike HIV-specific policies, HIV-sensitive policies cover HIV unrelated conditions as well, and thus offer diversified and holistic coverage.

While being all-inclusive is a strength of HIV-sensitive policies in terms of being nondiscriminatory, the same characteristic also result in one of the weaknesses. Unlike HIV-specific schemes, HIV-sensitive schemes are not tailor-made and thus, may not cover, for example, certain expensive treatments. Another weakness of such schemes is the fact that PLHIV not owning a BPL card may not get covered in most schemes. Since the enrolment is based on owning a BPL card, poor PLHIV, in the absence of such card, may be excluded.

**Figure 2: SWOT framework for HIV-sensitive policies**

STRENGTH	WEAKNESS
Mainstreaming Large pool- greater pooling Sustainability Affordable premium Diversification of coverage	Coverage may not be need-specific Governance issues Eligibility – non-BPL are excluded Competency of providers
OPPORTUNITY	THREATS
UHC Pro-poor Linkages with other govt. programmes Advocacy for funding for non-BPL PLHIV	Poor marketing among PLHIV Change in government insurance policy Change in government care and support policy

Similarly, these schemes often have governance issues in terms of improper implementation at enrolment as well as utilisation levels. Finally, at least in the case of Karuna Trust and MMJRK scheme of Rajasthan, there is no choice of provider and benefits are largely available from public sector facilities only. Providers catering to the general population may not be oriented towards clinical as well as non-clinical needs of PLHIV, behaviours that can affect their healthcare utilisation under such schemes.

Looking at the external factors, these schemes provide an excellent platform for advocating universal coverage by ensuring that specific conditions are not excluded. Being insurance schemes for the poor, they also contribute to the argument of the poverty alleviation ability of insurance schemes, especially for diseases like HIV. HIV-sensitive schemes provided learning for linking the community to other government-sponsored health as well as social security programmes. Lastly, there is an opportunity to cover nonpoor PLHIV in such schemes, by awarding them conditional BPL status or through inviting private funding to subsidise the premium for them. Threats to HIV-specific schemes include poor marketing of such benefits to the subset of PLHIV in the community; in the environment of non-coverage, inadequate awareness of such benefits can reduce utilisation of benefits even after enrolment. In the event of a change in the stand of government policy of insurance or HIV care and support, sustainability and utility of these schemes can be jeopardised.

### Coverage ability --UHC analysis

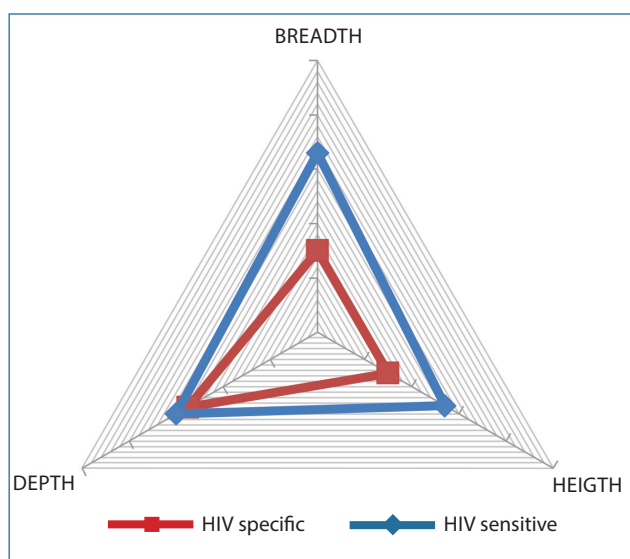
The seven schemes were analysed from the lens of three dimensions of UHC, as outlined above. Although all these schemes provided coverage for HIV, they perform differently in their characteristics in terms of coverage across breadth, depth and height. The breadth indicates the level of the population that is covered, the depth includes the extent or scope of various health services that are covered, and the height is measured in terms of the level of financial protection offered in the coverage. The performance of schemes across these dimensions was scored based on the framework and index value, as described earlier. Relative performance of various schemes across components of UHC – in the scale of one to ten – is provided in Table 3. These scores were then plotted in a Radar chart using MS-Excel for better visualisation of relative performances of schemes. These charts are presented as Figure 3-6. HIV-specific and HIV-sensitive policies perform equally in terms of depth as they cover a variety of diseases, conditions and procedures. However, HIV-specific schemes offer relatively lower coverage breadth and height and limited financial coverage. HIV-sensitive schemes, by their nature of being all-inclusive, offer wider scope of coverage across populations and across disease conditions. Thus, they have better performance in breadth and height of coverage. This comparison is illustrated in Figure 3 below.

**Table 3: Three dimensions of HIV coverage: A comparison across schemes**

TYPE OF POLICIES	PILOT SCHEME	RELATIVE PERFORMANCE ACROSS COMPONENTS OF UHC (SCORE OUT OF 10)		
		BREADTH	HEIGHT	DEPTH
HIV-specific policies	Freedom Foundation	3	3	5
	Star Netplus	3	3	6
HIV-sensitive Policies	Karuna Trust	6	3	6
	RSBY	6	3	8
	Aarogya Sri	6	6	4
	Yeshasvini	6	6.5	
	MMJRK	9	9	7

Trivedi, M. and I. Gupta (2012). "HIV Insurability in India: Early History and Current Status." *Journal of Health Management* 14(4): 435-450.

**Figure 3: Three dimension of HIV coverage – a comparison across HIV sensitive and HIV specific policies**

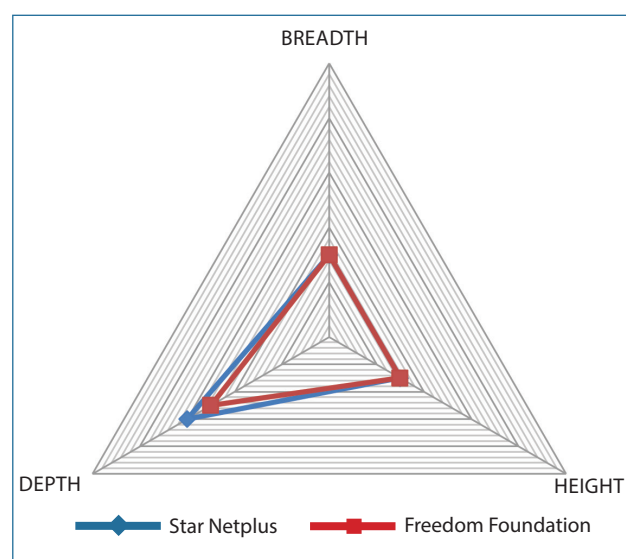


Looking at the individual schemes under the HIV-specific category, being disease-specific schemes, both FF-HIP and Star Netplus scheme have low a breadth of coverage; they offer a limited scope of risk pooling as both of them cover individuals only in late stage of infection. Star Netplus scheme covered relatively healthier PLHIV – and thus has relatively better risk pooling – but the FF-HIP lacked risk pooling altogether. Additionally, Star Netplus scheme had provision for exclusion of advanced cases of AIDS patients. This meant that the coverage for insured clients was automatically terminated once the lump sum amount at the stage of full-blown AIDS, and was not offered renewal of the hospitalisation coverage. As for the depth, i.e. the range of clinical procedures covered for management of HIV, both these schemes covered OI treatment, treatment for sexually transmitted infections, and inpatient hospitalisation. While FF-HIP covered ART and Star Netplus scheme covered operative procedures, neither of them covered maternity benefits. Both the schemes also offered very limited height of coverage i.e. highest amount that will be reimbursed under the coverage; while FF-HIP had coverage for around Rs. 13,000, (US\$ 217); the most common Star Netplus package had effective hospitalisation coverage of Rs. 15,000 (US\$ 250) only.

This is low compared with sum-insured of HIV-sensitive schemes in the range of Rs. 30,000 – 200,000 (US\$ 500-3333). Both the schemes also performed poorly on breadth and height parameters; while Star Netplus performed slightly better in terms of depth of coverage, owing especially to the fact that it offered a choice of coverage as well, the FF-HIP also performed poorly in this aspect. Across the schemes,

these two score poorly in terms of universal coverage, as can be seen from Figure 4. However, the contribution of Star Netplus, in terms of generating first-of-its kind of data for actuarial calculations, is significant and generally acknowledged.

**Figure 4: Three dimension of HIV coverage – comparison across HIV specific schemes**



The individual schemes among the HIV-sensitive schemes were divided into two segments for UHC analysis. The first segment was schemes with moderate performance and included the Karuna Trust, Yesashvini and Aarogyasri schemes. The second segment included RSBY and MMJRK, which were top performers from the UHC perspective. Detailed analysis and description of their performance is provided below. In the first segment, all three schemes offer moderate breath of coverage as they leave out individuals who do not have a BPL card or who are not part of cooperative groups.

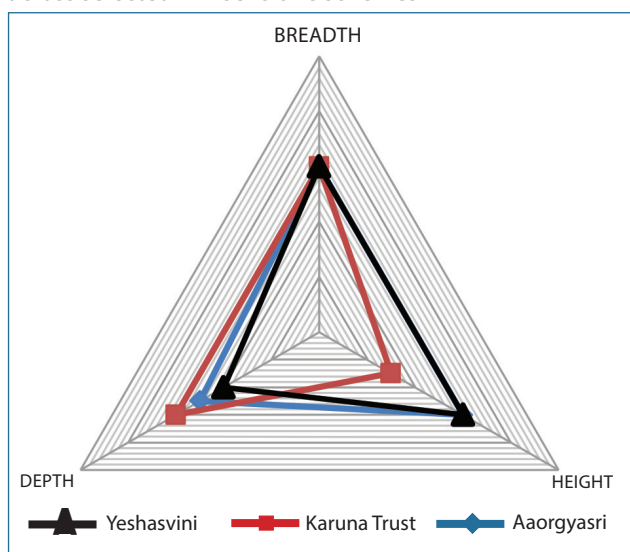
Karuna Trust scheme has been the frontrunner in offering coverage without any exclusions. It offers coverage to BPL populations only. Similarly, Aarogyasri as well as Yesashvini schemes offer coverage to only those who happen to be part of the specified subpopulation.

Yesashvini scheme, although covering HIV positive pregnant women, has this limitation of coverage within the specified eligibility.

As for the depth of coverage, there are differences and Karuna Trust scores higher than the two other schemes. While the former covers all clinical procedures, the latter two offer only critical illness coverage for specified surgeries and conditions, and thus, for example, do not cover OI related hospitalisation. Among the two state-specific schemes,

Yesashvini scores slightly better as it covers maternity benefits as a part of the convergence of National Rural Health Mission - National AIDS Control Programme initiative. As for the height of coverage, Karuna Trust scheme performed poorly with low sum-insured amount as compared to the two other schemes which had sum-insured amount of Rs. 200,000 (US\$ 3333). Figure 5 provides a comparison of these three schemes, which performs moderately among the seven schemes from the perspective of universal coverage.

**Figure 5: Three dimension of HIV coverage: comparison across selected HIV sensitive schemes**



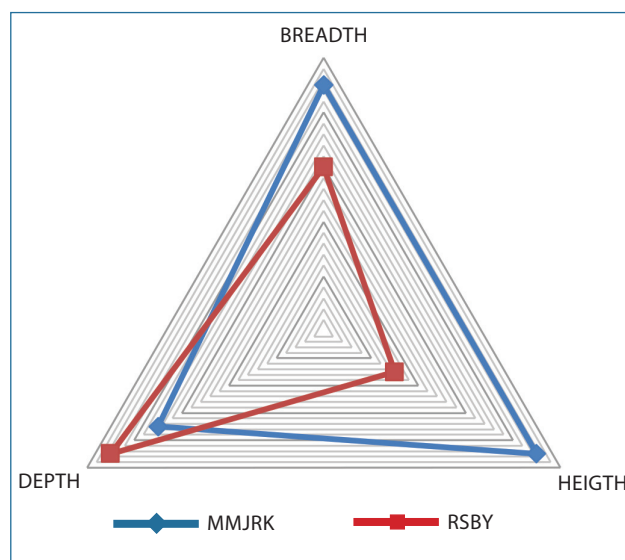
The second segment of HIV-sensitive scheme includes two top performers among all schemes i.e. RSBY and MMJRK of Rajasthan. The common factor in both these schemes was the high level of depth of coverage; both the schemes by and large covered all outpatient and inpatient services, OI treatments, STI treatments and maternity benefits.

RSBY performed slightly better in terms of depth as it offers a wider choice of providers within and outside government, as compared to its Rajasthan counterpart, where one has to rely heavily on government providers. For the other two parameters i.e. breadth and height of coverage, MMJRK scored way above RSBY. The MMJRK offered great height of coverage through unlimited amount of financial cover as compared to very limited financial coverage of RSBY. A very important breadth of coverage related initiative of MMJRK is offering PLHIV BPL status to the HIV positive population. Thus, while schemes like RSBY, Aarogyasri and Yesashvini do not exclude HIV related conditions, MMJRK goes a step further and includes all PLHIV into the net of coverage. These characteristics make MMJRK the top performer among the seven insurance coverage schemes though relatively very high breadth and height of coverage. Figure 6 illustrates this comparison.

## Practice Implications

The World Health Organisation has reiterated the need for universal health coverage, which essentially means that everyone will have access to health services and will not

**Figure 6: Three dimension of HIV coverage: comparison across selected HIV sensitive schemes**



suffer financial hardships paying for them. [42] Various countries, including India, have started thinking along the lines of UHC as recommended by the WHO. Now, and especially in the light of discussions around UHC, the debate for mainstreaming HIV in insurance is being nested within the discourse on health equity and treating HIV as any other disease that impacts the poor and vulnerable to a greater extent. While there has been a great deal of debate around universal health coverage in India, there is limited discourse around the disparities in health insurance system that affect the equity and efficiency aspects of coverage in the form of excluding certain conditions.

The last decade witnessed quite a few efforts to address the issue of covering emerging diseases like HIV and AIDS. This included experiments at different levels involving commercial insurance companies, bilateral agencies, NGOs and state and national governments. These experiences have certainly generated a momentum for larger policy level efforts to mainstream HIV in the insurance sector. This paper presented assessment of managerial and coverage abilities of seven such experiments.

Cost recovery and sustainability are interrelated and important characteristics of any insurance scheme. Small and disease-specific pools are not sustainable and are difficult to upscale and replicate. Any disease-specific schemes are against the fundamental basis of insurance and results



have indicated the same for HIV-specific policies as well. An important finding points to the fact that a HIV-specific scheme is not the way forward.

Although HIV-specific policies offer tailor-made coverage, and provide opportunities for providing specified care through experts, these schemes suffer from issues of sustainability as they offer a limited risk and finance pooling. Most importantly, these schemes rely heavily on donor funding that is provided for administrative costs as well as subsidising the premium. Donor funding to demonstrate the possibility of health insurance coverage for HIV was essential; however, the findings indicate that this model is not sustainable on its own in the absence of such financial support.

HIV-sensitive schemes, on the other hand, promote mainstreaming and ensure pooling across various risks, but they largely exclude non-poor PLHIV. HIV-sensitive schemes are better off with larger and better pooling, and have enhanced avenues for cost recovery and sustainability in the presence of government subsidies. Such subsidies are not based on HIV infection status; they are available to economically weaker sections of society, irrespective of their disease status. This kind of provision of government subsidy promotes targeting public funds from an equity perspective as well. Thus, for the HIV positive population, there remains a trade-off between positive discrimination through getting disease-specific insurance and becoming mainstreamed to avoid negative discrimination. [43]

Advocacy efforts are occurring in a few states to provide blanket inclusion of PLHIV in the BPL list so as to enable them to access all other social protections. [44] This is based on an argument that HIV households who were poor but not necessarily in possession of the BPL card could not access benefits of many social protection schemes that were targeted only to BPL households. However, awarding disease-based conditional BPL status cannot be an equitable solution, as the BPL status has to be based on economic criteria. HIV need not be treated differently than other chronic diseases. The 'equity across diseases' argument in favour of covering HIV in existing health insurance mechanisms like other chronic diseases does not go hand-in-hand with the advocacy for awarding HIV-specific conditional BPL status to every PLHIV irrespective of their economic status.

The small-scale exclusive schemes have clearly initiated advocacy and attempted to fill the gaps in terms of data and experience in providing HIV coverage. The comprehensive government sponsored schemes offer potential for such

coverage within their equity-based coverage ambit. The Insurance Regulatory and Development Authority (IRDA) issued an exposure draft in February 2012 to 'provide insurance cover to persons living with HIV and people vulnerable to HIV/AIDS, under health insurance policies of both life and non-life insurance companies'. The National AIDS Control Organisation also constituted a working group on providing health insurance to PLHIV and those vulnerable to HIV in September 2012. In February 2013 the IRDA was further directed by the Delhi High Court to act swiftly on the implementation of guidelines providing health insurance coverage for PLHIV. In 2013 the Institute of Actuaries in India released two important studies on mortality and morbidity among PLHIV, to fill the data gap in the insurance industry. Lastly, the Standing Committee on Health and Family Welfare of the Rajya Sabha recently submitted its report on the 'Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) (Prevention and Control) Bill, 2014' on April 29, 2015. Among other things, the Bill stated that 'there should not be denial or unfair treatment in providing insurance cover to people living with HIV (PLHIV)'.

The findings of this research indicate that HIV-specific policies should be a preferred option. In order to improve mainstreaming, it is important that exclusions clauses in existing commercial health insurance products are removed. This will enable people – irrespective of their economic status – to purchase commercial health insurance, if they so desire. Lastly, it is important to ensure that all PLHIV who are of poor economic status are made eligible so that they are able to purchase government-sponsored health insurance.

There remain challenges for stakeholders to take the various provisions forward and make them a reality in terms of adequate enrolment and utilisation of such schemes. The government needs to play an important stewardship role to ensure that provisions made within the existing insurance system do not remain as mere tokenism.

### Limitations

While seven case studies were conducted, detailed data was available for only two cases. i.e. Freedom Foundation and Star Netplus scheme. This was largely because four of these cases were government-sponsored schemes and it was difficult to get a complete set of data from any of them. Also, Karuna Trust scheme lacked documentation that was conducive to good research. Attempts were made to compile detailed data from all schemes but without any substantial success.



## Competing interests

The author declares that he has no competing interests.

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# The Influence of Politics on Accountability of Health Professionals in Bangladesh: An Analysis of the Quality of Health Service Delivery

M Islam

## Abstract

This study explored the role and responsibility of elected officials including political actors and addressed the factors of politics, decentralisation, bureaucratic management, and political commitment to understanding accountability in health service delivery. This study used qualitative case studies for which a total of 68 in-depth interviews and five focus group discussions were conducted in two areas of rural and urban Bangladesh. The findings show that political actors have poor commitment to improving accountability and healthcare delivery. The elected officials are not interested in organising regular meetings and they are even reluctant to organise a health service committee to make health officials accountable. The opposition political parties have no participation in health service organisations as the existing political

culture does not allow it. Moreover, elected officials have a limited administrative authority because of an inadequate decentralised health system that leads to poor accountability and inadequate healthcare delivery. Further, bureaucrats want to capture power and are unwilling to decentralise the health system. The policy recommendation includes the decentralisation of healthcare provision and increased participation of elected representatives in a decentralised system.

**Abbreviations:** ADP – Annual Development Plan; MP – Member of Parliament; NGO – Non Government Organisation; UHC – Upazilia Health Complex; UP – Upazilia Parishad.

**Key words:** politics; elected officials; decentralisation; accountability; quality of healthcare.

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## Introduction

The quantitative indicators of maternal and child health in Bangladesh have improved significantly over the last several years. Data from the World Bank [1] show that the Maternal Mortality Ratio declined from 322 per 100,000 live births in 2001 to 170 in 2013. Life expectancy at birth increased from 45 years in 1970 to 70 years in 2013, and the Infant Mortality Rate declined from 94 per 1,000 live births in 1990 to 33 in 2013.

However, the quality of health service delivery is still inadequate. [2] Quality of healthcare is defined as the degree to which health services for individuals and populations is consistent with current professional knowledge and standards, and increases the likelihood of desired health outcomes. [3] A number of components enable patients to achieve desired health outcomes e.g., affordability, accessibility, efficiency, effectiveness and utilisation comprise quality health services. [4,5]

This study used maternal health as indicators to understand the influence of accountability on the quality of health service delivery, as the maternal health indicators have changed significantly during the last decade. Moreover, the health service organisations used as cases in this study are mainly maternal and child health as those services are very crucial to healthcare delivery in Bangladesh. In addition, no other studies based on maternal health services have been used for understanding accountability in Bangladesh.

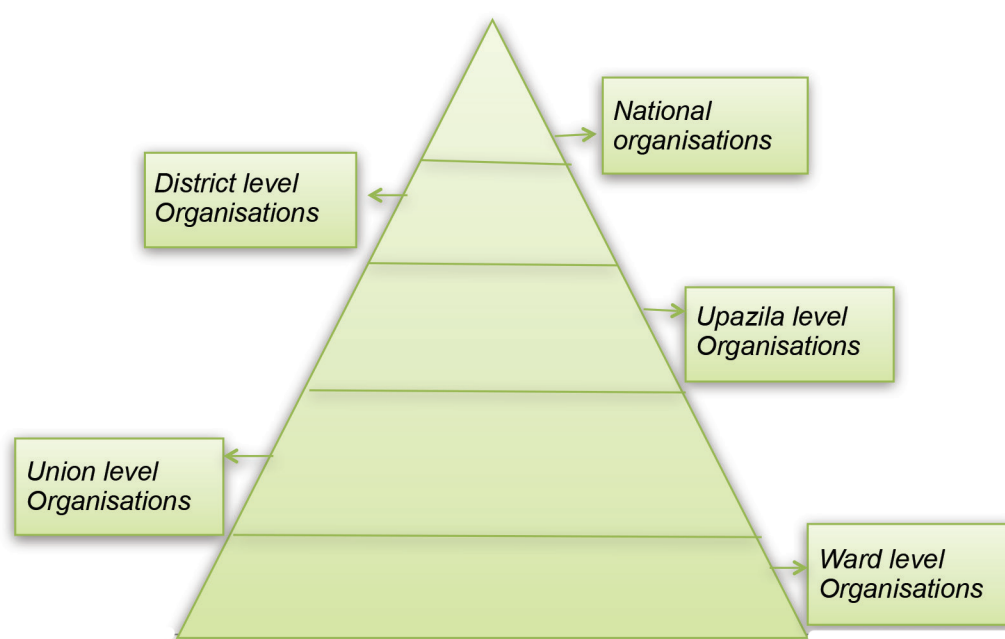
### Demographics and health status

Health services are organised under the supervision of the Ministry of Health and Family Welfare, a centralised and bureaucratic organisation, headed by a cabinet minister. This organisation is responsible for implementing, managing, coordinating and regulating health service delivery, which is divided into two branches – health services and family planning – administered by separate directorates. [6] Primary healthcare is not free, but requires only a very small fee for service as defined under government provisions. This healthcare is provided through a four-tiered system of government owned and staffed facilities at the union<sup>1</sup> (lowest administrative unit) level all the way up to the central/regional level, [7] which is based on an administrative hierarchy. Locally elected officials are able to supervise health officials in improving health services; however they have no administrative authority to take action in implementing health services. The local health service bureaucracy, which is structured by hierarchy, is mainly responsible for implementing health activities.

The health service department at an upazila, the second lowest tier of regional administration, provides services through the upazila health complex (UHC). A UHC has under it union sub-centres and community clinics as the lowest tier of administrative unit (ward level). [8] Domiciliary services e.g., services at the patients' homes, are provided through field staff from the Department of Health service organisations in order to make health services accessible to grassroots people. The upazila health administrator (that is, the upazila health and family planning officer) is mainly responsible for guiding health staff including field workers to promote the quality of healthcare. [8]

<sup>1</sup>Union Councils (or Union Parishads or Town Unions or Unions) are the smallest rural administrative and local government units in Bangladesh. (Khan, Dr. Mohammad Ibrahim. 'Functioning of Local Government (Union Parishad): Legal and Practical Constraints' Democracy Watch.

**Figure 1: Administrative Hierarchy of the Health System in Bangladesh**



#### Notes:

NATIONAL LEVEL	DISTRICT LEVEL	UPAZILA LEVEL	UNION LEVEL	WARD LEVEL
<ul style="list-style-type: none"> <li>Medical College Hospital (300-500 beds)</li> <li>Specialised Hospitals</li> <li>Post graduate Medical Institutes</li> </ul>	<ul style="list-style-type: none"> <li>District Hospitals (50-200 beds)</li> <li>Medical College and Hospital</li> <li>Specialised Hospital</li> </ul>	<ul style="list-style-type: none"> <li>Upazila Health Complex (31-50 beds)</li> </ul>	<ul style="list-style-type: none"> <li>Rural Health Centre</li> <li>Union Subcentre</li> <li>Union Health and Family Welfare</li> </ul>	<ul style="list-style-type: none"> <li>Community Clinic</li> </ul>

Source: Directorate of Health Services (2011, p. 13)

## Organisations

Osman [9] states that sources of finance for the health sectors in Bangladesh consist of a combination of different elements, which include households, government revenue, donors and the community through non-government organisations (NGOs). Osman [9] also states that the majority of health expenditure comes from households, accounting for 45.6 per cent of the total health expenditure in Bangladesh in 2006. Of the remaining expenditure, 26.6 per cent comes from government revenue, 25.8 per cent from external donors, and two per cent from community sources through NGOs. Osman [9] further states that a donor consortium<sup>2</sup>, led by the World Bank, provides financial and technical assistance on a continuous basis to the health sector of Bangladesh that could contribute to enhancing the governance of health service organisations.

Scarcity of skilled health professionals is one of the challenges of adequate facilities of health service organisations in Bangladesh. Rahman et al [10] argue that Bangladesh has a shortage of health service personnel with only 246 physicians and 136 nurses per one million populations in 2005. This means that there is one doctor for 4,065 people on average, and one nurse for 7,353 people on average in 2005. In 2013, the ratio of physicians improved (1:3,297) but the nurse ratio decreased (1:11,696). [8]

One of the criteria of improved service delivery of health service organisations is the amount of money allocated by the government. The government Annual Development Program (ADP) report shows that the government allocation to the health sector is relatively low in Bangladesh. [11] The effective delivery of services consists of efficiency of health professionals, sufficient allocation of budget, and the managerial efficiency of the organisation. With regard to allocation, the ADP report in Bangladesh states that US\$560.03 million was allocated for the 2010-2011 financial year to improve health, nutrition, population and family planning and to assist in achieving the goals of health for

all including the targets of the MDGs. This amount is the equivalent of 37.3 % of the total health budget and 5.68% of the total budget of the country in the same financial year. This percentage of the development budget in the health sector has increased slightly from 37.3% to 41% in 2012-13. [12] However, this amount is relatively small and inadequate to meet the necessary health goal of providing sufficient delivery of services. Data show that in 2006, the total health expenditure in Bangladesh was \$14 per capita, compared to \$29 per capita in India, and \$57 per capita in Sri Lanka during the same period. [13]

Good governance can be assessed by specific standards, including: transparency, accountability, efficiency, effectiveness, fairness, participation, predictability and ownership/engagement. [14,15] Adhering to high standards of governance by implementing accountability for health service organisations can enhance the quality of health service delivery. Accountability of healthcare organisations can be implemented through political oversight and regulation. This study has examined the responsibility of elected officials to assess the quality of health service delivery and to understand and implement accountability for healthcare organisations.

The current status of accountability in health service delivery in Bangladesh has been evaluated in a few studies. Nurunnabi and Islam [16] conducted a quantitative study assessing accountability among privatised healthcare services in Bangladesh. This study showed that 30% of the respondents expressed concerns or doubts about the implementation of accountability of administrators and managers. A similar percentage of respondents reported that waiting time to get an appointment for services was lengthy; potential causes included the observation that nepotism in hiring weakened the effectiveness of administration and management. Mahmud [17] demonstrated that decentralisation of management and services and democratic decision-making contributed positively to community participation and the enhancement of quality healthcare. She also posits that decentralisation is perceived as a way to empower communities by engaging them in local level planning, resource mobilisation, and administrative and judicial authority. A study by Afsana [18] showed that laboratory tests and medications are not broadly available in many hospitals due to corruption and illegal private practice, consequently healthcare users have to spend extra money in order to obtain necessary assessments and treatments. Van [19] has examined three factors that can lead to corruption in healthcare delivery. These factors are: the lack of incentives and poor ethical tenets and values. Osman's

<sup>2</sup> The Donor Consortium consists of international development organisations that work towards improving governance and health service delivery for developing nations such as Bangladesh. These organisations work in different health sectors in Bangladesh. For example, the United Nations Children's Fund (UNICEF) supports child health, immunisation and nutrition programs; the United States Agency for International Development (USAID) and the United Nations Population Fund (UNFPA) support family planning service delivery and population education; the World Health Organisation (WHO) is the main international source of technical assistance in the field of health supporting primary healthcare and maternal and health services; and the Asian Development Bank (ADB) provides support for health planning capacities. [9]

[9] study suggests that managerial inefficiency is one of the causes, which contribute to inaccessibility of health facilities by unfairly distributing available healthcare resources and funding among rural and urban areas.

These studies have not identified and examined the role political actors and factors play in the implementation of health service delivery and the process of accountability. The objective of this study is to identify and examine the role elected officials in the delivery in health services and how politics contribute to or undermine accountability and quality of health service delivery. Local government elected officials should be responsible for supervising health professionals to promote quality healthcare delivery through ensuring accountability. Ensuring responsibility and providing authority may promote accountability; however authorisation of power through bureaucratic channels and the influence of politics over decision-making may limit health service accountability. This happens because of a lack of devolved power to locally elected officials. An assessment of the understanding of political responsibility by politicians and administrative responsibility by healthcare providers and how their understanding contributes to the promotion of accountability and quality of care can be obtained through the use of interpretive qualitative research methods. This paper presents the impact of understanding by politicians and healthcare providers of the role of politics on accountability and healthcare quality.

### Methodology

A total of 68 in-depth interviews and five focus group discussions were conducted in two areas both rural (the Chhatak sub-district) and urban (the Savar sub-district) areas in Bangladesh. These two areas were selected based on socio-economic status and the progress of maternal and child health<sup>3</sup> in Bangladesh. This study was conducted using

in-depth interviews from the national level respondents (-8), health professionals (-37), locally elected representatives (-7), and local informants (-16). In addition, five focus group discussions with a total of 39 respondents or service recipients were approached to collect input from service users in order to assess their understanding of how political action contributes to accountability and the quality of health service delivery.

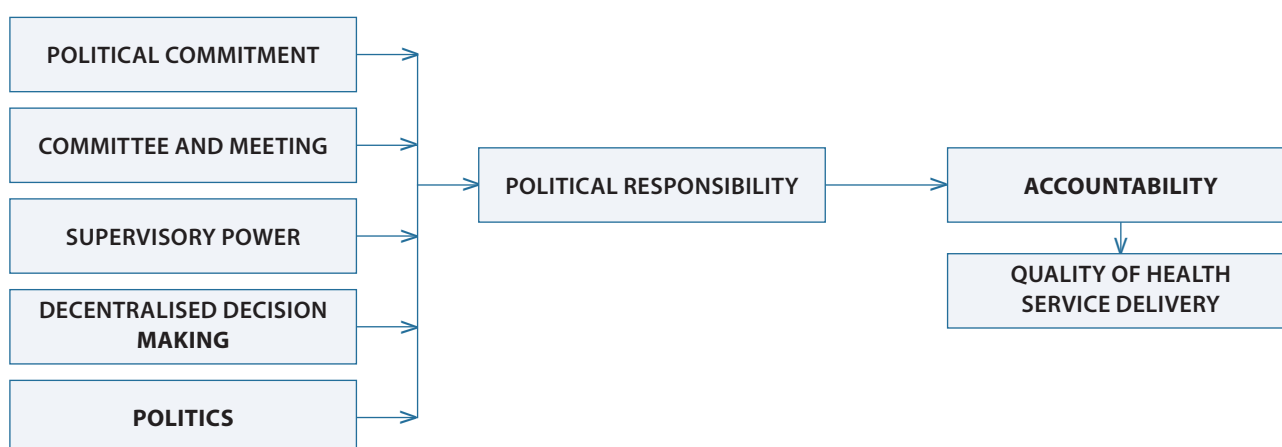
Additionally, this study demonstrates a comparison of accountability and health service quality through examining the views of political actors of the two selected health service organisations. Secondary sources of data from the literature reviews were used in this study for understanding accountability in health service delivery. This study is a part of the author's Ph.D. project (Project no.5880), which was approved, by the Social and Behavioural Ethics Committee, Flinders University, Australia in 2012.

### Results and discussion

Political responsibility and accountability in the delivery of high quality health services Political officials in this study stated that healthcare professionals are responsible and accountable for improving the quality of health service delivery. They also said that some of crucial political factors that affect the accountability of health service organisations (outlined Figure 2) include the items noted below. These factors have been analysed to better understand how political actions can contribute to accountability and the quality of health service delivery.

<sup>3</sup> The Dhaka district (the Savar sub-district) has the lowest human poverty index (26.51%). Conversely, the Sunamganj district (the Chhatak sub district) has the highest human poverty index (39.44). [20] The Study by Sen and Ali [20] shows that the districts that have lower income poverty level, also tend to have a lower human poverty index, reduced child mortality and low fertility rates.

Figure 2: Factors influencing political responsibility and their impact on accountability and quality of healthcare delivery





### **The commitment of elected representatives**

Elected officials can make commitments to expect and demand accountability from healthcare providers and to abolish or minimise corruption among health professionals and organisations. Unfortunately, the leaders of their local political parties do not consider these issues and their impact on the quality of healthcare and their constituent population. Political candidates reportedly address healthcare improvements during election campaigns, but do not follow through with their promises after they are in office.

Though greater democratic governance has been witnessed in the past few years, no significant improvement has been noted in the areas of healthcare quality and accountability. Challenges identified include a lack of clarity about where the responsibility for this commitment should lie. For example, an elected representative of a rural health service organisation stated that the local Member of Parliament (MP) has expressed a commitment to enhancing the quality of health service delivery by promoting accountability. The local MP holds the highest position because his position is above that of secretary and the elected representatives at the local level work under the supervision of the MP. Therefore, he should take on this responsibility, a role designated for his position.

Similarly, the local elected representatives from the urban site argue that the MP likes organised meetings in order to highlight his name and promote economic development rather than focus on improvement of health service delivery. He is only perceived as being sincere when engaged in local activities, including when he visits hospitals to provide supervision. He is reported to recommend doctors for posting/transfer based on political influence or public complaints, but otherwise does not provide constructive suggestions to improve hospital environments.

### **Health Service Committee**

The rural health service organisation has a health service committee under the supervision of local Member of Parliament (MP). This committee should play an important role in promoting high quality health service delivery, but the committee has no administrative authority to recruit doctors or transfer healthcare providers. The committee organises meetings occasionally, through each month, in which constructive discussion can identify issues and develop solutions to promote accountability and enhance quality in delivering health services. However, information from the rural UHC shows that this health services committee organised only two meetings in 2012.

Most elected officials are not willing to organise meetings to improve health service delivery as they have a very limited administrative authority to supervise health professionals. The provision of the existing local council does not allow elected representatives to supervise and monitor health officials as they are only able to play an observational role with health professionals. Elected officials are unable to execute public demands as they have limited authority. Scheduling regular meeting with a specific mission, and with identified goals, objectives, and agendas, allows the evaluation and identification of significant concerns and issues. A definition of criteria for accountability should be developed for local organisations, and periodic assessments should also be developed to evaluate compliance with implemented care standards and regulations.

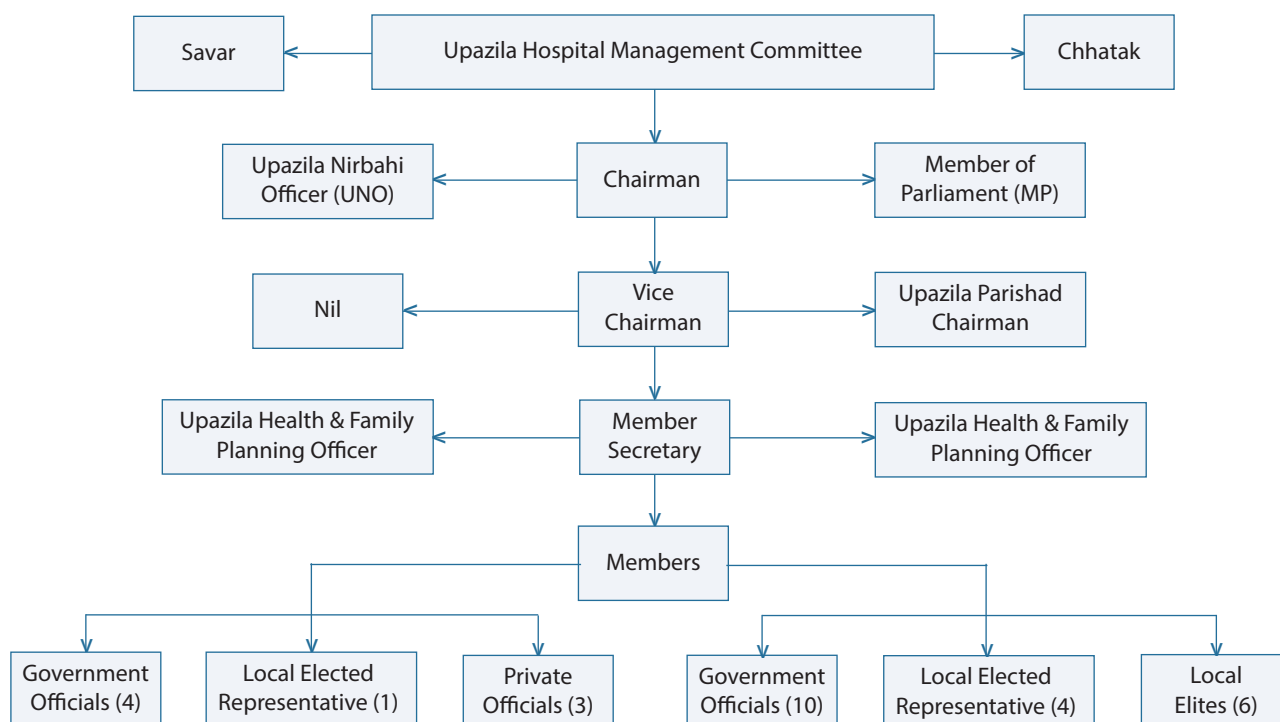
An official source from the urban UHC argues that its upazila has a committee (Figure 3) in name only, but the committee was not functional for a long time. The local MP is required to establish the committee schedule, but the MP has no time to do so.

Therefore, a Health Service Committee is not functioning in urban health service organisations due to a lack of responsiveness by the MP, even though it falls in his job purview. However, the Upazila Parishad (UP) chairman conducts coordination meetings every month in which sub-district level government officials, elected officials, NGOs, field level health workers, and local elites participate. [21] The coordination meeting acts as a guide for promoting accountability and ensuring quality of health service delivery.

Healthcare providers are formally accountable to their own department. Similarly, a UP member organises a ward meeting at the grassroots level to discuss the problems and prospects of health service delivery in addition to other local issues. Meetings at this level discuss the quality of antenatal services, the progress of immunisation, and the improvement of other maternal and child health issues. In fact, such meetings deal with the progress of health outcomes, but elected officials are unable to ensure the accountability of healthcare providers. One of the reasons for this is a lack of supervisory authority of field health service providers, which is discussed in the next section.

### **Supervisory authority of elected representatives**

Involving elected representatives in overseeing the activities of health centres can be one of the ways to promote accountability and the quality of health service delivery, as the local elected representatives work very

**Figure 3: Committee of health service management of Savar and Chhatak upazila**

closely with healthcare providers. However, elected officials do not have the formal authority to supervise healthcare providers. For instance, the UP Chairman argued that the government should give sufficient authority to local elected representatives so that supervision can be improved to ensure the accountability of field healthcare providers. One of the mechanisms could be to require the health and family planning officials to report to elected representatives to ensure accountability. However, currently only the Health Department under which the health centre operates is administratively responsible for supervising the activities of the health centre. The Union Parishad or its Chairman is only able to observe their activities as they do not have the formal authority to supervise the activities of the health centre.

The local policy maker was disappointed with the physicians appointed ad hoc at the local community clinic and union sub-centre (USC), but does not have the authority to make necessary changes or hold the medical doctors accountable. He made efforts to make doctors accountable and keep them working in the hospital, but could not ensure their accountability as he has limited administrative authority to take necessary action (see Box 1.1). Local respondents in this study reported that the MP has taken action against mismanagement by doctors; as a result, doctors leave this

hospital. Out of 20 doctors originally appointed to these facilities, only four doctors remain, limiting the patients' access to services.

#### **Box 1.1: Inadequate supervisory power affects accountability**

The local MP visited hospital, union sub centre and community clinic and noted the absence of doctors. Afterwards, he noticed the absentee and asked the reason of their absence. The MP also argues that it is not possible to ensure accountability of doctors providing excessive power to higher administration. The MP is the chairman of the health service committee but he cannot take action on mismanagement as he holds limited supervisory power. However, the minister can suspend, transfer and take necessary action because he has constitutional power.

*[Source: Interview with local policy maker]*

#### **Constructive politics**

The nature of politics and the attributes of politicians have an impact on accountability and the quality of health service delivery. Politicians in office report avoiding healthcare responsibilities because they perceive them as being under the jurisdiction of the state government.

Opposition political parties have limited access to the activities of health organisations in both rural and urban

sub-districts, but they can bring attention to healthcare challenges and create awareness among the local politicians about the identified problems.

Unfortunately, most political parties have limited understanding of the issues and are not very interested in focusing on healthcare improvements. If the elected officials and opposition parties would collaborate to address these issues, society and the community would benefit.

The prevalent political culture is one of reasons for health professionals' poor accountability. Doctors are involved in politics through a powerful organisation that is connected with national leadership. This political influence allows them to avoid accountability. For instance, the doctors' association works as a powerful arm of the government and plays a significant role in changing health policy and doctor transfers.

Thus, the powerful leaders of doctor's association pay little attention to an MP's actions as they know the MP has insufficient power to take action against the mismanagement of doctors and field staff.

### Decentralised decision-making

Policy makers have understood that the centralisation of decision-making is a major problem for the health sector. Decentralisation can make health service delivery more effective, accountable and transparent. Decentralisation means that health system at the local level have to be accountable to the locally elected governing body.

Unfortunately, the health system is not decentralised; one of the reasons is lack of political will of the centralised democratic government. Centralised officials oppose decentralisation because they do not want to share power with locally elected representatives.

Local level hospitals can provide improved quality of healthcare through local planning and resource management. But local hospitals still depend on the central government for resource allocation and expenditure. The central authority is loath to share power with the local level, including resource allocation to local healthcare organisations. The upazila Health Service Committee can be strengthened through decentralising power to the local level such as authorising the upazila parishad chairman to be able to make decisions for quality improvement.

But local doctors do not want to report to elected officials, believing that they have a poor understanding of hospital administration. For example, on one occasion these officials were called 'half educated or illiterate'. Doctors

and healthcare professionals also fear that unqualified supervisors may interfere with the provision of healthcare and the doctor-patient relationship. Local officials will need to partner with expert doctors to develop guidelines and standards, and perhaps allocate the supervisor role to a qualified health professional and administrator.

### Conclusion

The health system is not adequately decentralised, which reduces power of authority of elected representatives to fight against mismanagement and poor accountability. In addition, healthcare professionals are not willing to be accountable to elected officials, perceiving them to lack education and expertise and to easily succumb to political influence and corruption. Elected officials themselves have shown little commitment to promoting accountability and enhancing the quality of healthcare. Therefore, necessary authority should be designated at the sub-district and lower levels within local governments to promote accountability and quality in healthcare.

### Competing interests

The author declares that he has no competing interests.

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## Manuscript Preparation and Submission

### General Requirements

#### Language and format

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

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

#### Title page and word count

The title page should contain:

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

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

#### Abstract, key words and abbreviations page

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

### Main manuscript

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

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

#### Major and secondary headings

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

#### Figures, tables and illustrations

Figures, tables and illustrations should be:

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

#### Copyright

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

#### Ethical approval

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



## References

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

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

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

### Books and Monographs

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

## Types of Manuscript - some general guidelines

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

#### Content

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

#### Abstract

Structured appropriately and include aim, approach, context, main findings, conclusions.

Word count: 200 words.

#### Main text

Structured appropriately. A suitable structure would include:

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

Word count: general guide - 2,000 words.

References: maximum 25.

### 2. Research article (empirical and/or theoretical)

#### Content

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

#### Abstract

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

Word count: maximum of 300 words.

#### Main text

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

The discussion section should address the issues listed below:

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

Two experienced reviewers of research papers (viz, Doherty and Smith 1999) proposed the above structure for the discussion section of research articles. [2]



Word count: general guide 3,000 words.

References: maximum of 30.

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

### 3. Research note

#### Content

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

#### Abstract

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

Word count: maximum 200 words.

#### Main text

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

Word count: general guide 2,000 words.

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

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

References: maximum of 25.

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

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

#### Content

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

#### Abstract

Structured appropriately.

Word count: maximum of 300 words.

#### Main text

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

Word count: general guide 3,000 words.

References: maximum of 50

### 5. Viewpoints, interviews, commentaries

#### Content

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

#### Abstract

Structured appropriately.

Word count: maximum of 200 words.

#### Main text

Structured appropriately.

Word count: general guide 2,000 words.

References: maximum of 20.

### 6. Book review

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

### Covering Letter and Declarations

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

#### Covering letter

All submitted manuscripts should have a covering letter with the following information:

- Author/s information, Name(s), Title(s), full contact details and institutional affiliation(s) of each author;
- Reasons for choosing to publish your manuscript in the APJHM;
- Confirmation that the content of the manuscript is original. That is, it has not been published elsewhere or submitted concurrently to another/other journal(s).

## Declarations

### 1. Authorship responsibility statement

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

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

### 2. Acknowledgements

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

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

### 3. Conflicts of interest

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

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

'A conflict of interest exists when an author (or author's institution), reviewer, or editor has a financial or personal relationships that inappropriately influence (bias) his or her actions (such relationships are also known as dual commitments, competing interests, or competing loyalties).

The potential for conflict of interest can exist whether or not an individual believes that the relationship affects his or scientific judgment.

Financial relationships (such as employment, consultancies, stock ownership, honoraria, paid expenses and testimony) are the most easily identifiable conflicts of interest and those most likely to undermine the credibility of the journal, authors, and science itself...' [4]

## Criteria for Acceptance of Manuscript

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

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

Only original contributions are accepted (ie the manuscript has not been simultaneously submitted or accepted for publication by another peer reviewed journal – including an E-journal).

Decisions on publishing or otherwise rest with the Editor following the APJHM peer review process. The Editor is supported by an Editorial Advisory Board and an Editorial Committee.

## Peer Review Process

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

The process involves:

1. Manuscript received and read by Editor APJHM;
2. Editor with the assistance of the Editorial Committee assigns at least two reviewers. All submitted articles are blind reviewed (ie the review process is independent). Reviewers are requested by the Editor to provide quick, specific and constructive feedback that identifies strengths and weaknesses of the article;
3. Upon receipt of reports from the reviewers, the Editor provides feedback to the author(s) indicating the reviewers' recommendations as to whether it should be published in the Journal and any suggested changes to improve its quality.

For further information about the peer review process see Guidelines for Reviewers available from the ACHSM website at [www.achse.org.au](http://www.achse.org.au).

### Submission Process

All contributions should include a covering letter (see above for details) addressed to the Editor APJHM and be submitted either:

(Preferred approach)

- 1) Email soft copy (Microsoft word compatible) to [journal@achse.org.au](mailto:journal@achse.org.au)

Or

- 2) in hard copy with an electronic version (Microsoft Word compatible) enclosed and addressed to: The Editor, ACHSM APJHM, PO Box 341, North Ryde NSW 1670;

All submitted manuscripts are acknowledged by email.

### NB

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

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The Medical Journal of Australia. Advice to authors submitting manuscripts. Available: <<http://www.mja.com.au/public/information.instruc.html>> (Accessed 28/02/06)

Further information about the Asia Pacific Journal of Health Management can be accessed at: [www.achse.org.au](http://www.achse.org.au).

### ***About the Australasian College of Health Service Management***

ACHSM (formerly Australian College of Health Service Executives) was established in 1945 to represent the interests of health service managers and to develop their expertise and professionalism. Today, the college is the leadership and learning network for health professionals in management across the full range of health and aged care service delivery systems in Australia and New Zealand and the Asia Pacific with some 3,000 members from both public and private sector organisations and non-government and not-for-profit organisations.

ACHSM aims to develop and foster excellence in health service management through the promotion of networking, the publication of research, and through its educational and ongoing professional development activities, including accreditation of tertiary programs in health service management, mentoring and learning sets.

ACHSM has Branches in all Australian States and Territories, New Zealand and Hong Kong. Memoranda of Understanding link ACHSM with other health management bodies in the Asia Pacific. As an international organisation, ACHSM is able to draw upon the experiences of researchers and managers in Australia, New Zealand, Hong Kong and other countries within the region to give readers valuable insights into management issues and approaches in a range of cultures and jurisdictions.



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