Rural allied health workforce retention in Victoria: Modelling the benefits of increased length of stay and reduced staff turnover

Final Report

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RURAL ALLIED HEALTH WORKFORCE RETENTION IN VICTORIA: MODELLING THE BENEFITS OF INCREASED LENGTH OF STAY AND REDUCED STAFF TURNOVER

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PREFACE

Given the current shortage of health workers in rural and remote areas, workforce recruitment and retention remains one of the major challenges for governments, workforce agencies and health services. To date, most research on rural health workforce issues has focussed on medical practitioners, with much less attention focused on allied health professionals.

In 2008, the Victorian Department of Human Services (now the Department of Health) funded staff from the Monash University School of Rural Health Bendigo through its Workforce Innovation Grant Program 2008-2009 to undertake a study of workforce retention of allied health professionals in Victorian health services. This leading edge project, *Rural allied health workforce retention in Victoria: Modelling the benefits of increased length of stay and reduced staff turnover*, sought to undertake a comprehensive study of the patterns and costs of allied health workforce retention within health services located in rural areas. The research involved extensive fieldwork across western Victoria.

The findings outlined in this report provide, for the first time, systematic empirical evidence of patterns of rural allied health workforce retention to underpin workforce planning strategies for rural allied health professionals. Although more research is required, this new knowledge of how long different allied health workers remain in employment in different rural settings, the role and effectiveness of retention incentives, and the costs of replacing allied health workers resulting from avoidable turnover enables policymakers and human resource personnel to better target measures designed to improve allied health workforce retention.

Many people contributed to this study. While it is not possible to thank everyone who has helped by name, there are several people who deserve special acknowledgement. In particular our thanks go to the following:

- The authors gratefully acknowledge the funding provided by the Department of Health, without which this research could not have been conducted.
- Particular mention goes to Kate Groves for her generous commitment to, and assistance with, the project since its inception. Despite her busy schedule, Kate facilitated and supported the project throughout its duration. Thanks also go to Kathleen Philip and Susan Morgan.
- Chief Executive Officers of the Health Services across rural Victoria and their managers for their assistance and participation in the project. To maintain confidentiality individual health services and employees are not named.
- The following members of the Project Reference Group were generous in their time and provision of information about allied health workforce issues - Graeme Allan, Deanne Brogan, Dr Adam Chalmers, Nerissa Fry, Therese Gerber, Carol Parker, Jane Sheats, Dr Pamela Snow, Wendy Swan, Dean Taylor and Dr Robyn Vines.
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SUMMARY

Allied health professionals are an essential component of the rural health workforce, and the demand for their services is likely to increase with the ageing of the population, the growing burden of chronic disease, and an increasing emphasis on the delivery of multidisciplinary care. Many rural communities are experiencing a shortage of allied health workers, high levels of staff turnover and problems recruiting new staff. Difficulties in recruiting allied health workers to rural areas heighten the need for health services to maximise the retention of health workers already practising in these areas.

Despite the importance of good workforce data to underpin workforce planning, few measures of turnover and retention are routinely compiled by health services and authorities in Victoria. Effective workforce planning requires good data on the patterns of workforce turnover and retention and the costs associated with replacement of staff, together with an understanding of the main aspects of workforce retention that can be influenced through workforce retention strategies.

Workforce data were collected from a stratified sample of rural health services from three Department of Health regions in Victoria. Geographical features used for stratification were distance from Melbourne and town size. Primary data were collected on the health service characteristics, managers’ perceptions of the importance of workforce retention and the factors influencing turnover, workforce retention measures implemented by the health service, entry and exit data on all employees providing direct care in their health service over the period 2004-2009, and the costs of replacing an allied health professional. Workforce turnover and retention were examined using five indicators – annual turnover, median length of stay in current position, stability rates, median survival and survival probabilities. Proportional Hazards regression methods were used to model the risks of employees leaving their current position.

A number of significant findings emerged. The pattern of retention differs significantly across allied health disciplines. The current grade of the allied health professional has a significant impact on their risk of leaving a health service, as does a lack of career advancement. Annual turnover rates of allied health employees averaged 28% but were highest for employees in the most remote health services (35%). Retention (stability) rates averaged 82% after 12 months, but were lowest for remote health service employees (64%), where over one-third of the allied health workforce had left by the end of the first year. Despite these apparent associations between geography and turnover and retention indices, regression modelling indicated that geography was not significant once adjustments for grade, career advancement, discipline, age and gender were made. The costs of recruiting allied health professionals varied widely across the health services surveyed (median $26,721). Recruitment costs tended to be most expensive for allied health professionals in remote health services (median $45,781).

This study provides important new quantitative evidence to underpin allied health workforce retention policies. It has also generated evidence of the need for further research to assist in workforce planning and sustainability of the allied health workforce. The study shows how allied health workforce retention can be rigorously monitored using a suitable methodology, and highlights the value in implementing a strategic approach to inform workforce planning.

The development of a strategic approach requires an agreed set of indicators to monitor workforce, evidence-based benchmarks to guide workforce planning, the capacity to collect and analyse appropriate data, ongoing monitoring of the costs associated with turnover, and formulation and evaluation of appropriate retention strategies that bundle suitable incentives and support measures designed to increase length of stay and minimise avoidable turnover.
BACKGROUND

Many rural communities across Australia are experiencing a shortage of allied health professionals, high levels of staff turnover, and significant problems in recruiting new allied health professionals. Difficulties in recruiting workers to rural areas heighten the need to maximise the retention of allied health professionals already practising in these areas.

While the importance of recruitment is readily acknowledged, it is just as important to retain allied health professionals in rural areas and particularly remote communities. As the distance from metropolitan areas increases, the more problematic the retention of rural allied health workers becomes (Stagnitti et al., 2006). Rural communities unable to recruit and retain health professionals inevitably suffer from problems of access to health care at times of need, poorer health status, and problems in delivering reliable and consistent services (Mills & Millsteed, 2002).

While the literature is replete with studies of rural health workforce recruitment, much less is known about the determinants of turnover and retention, including the extent to which they differ according to geographical location, health profession, or in relation to workforce retention strategies. Retention is a measure of workforce length of stay that can indicate who is leaving and staying and for how long within a health service (Waldman, 2006). Although health services acknowledge that some workforce turnover is desirable, they also recognise that excessive avoidable turnover can be problematic. Low retention and high workforce turnover result in loss of skills and experience, restricted consumer access to care, compromised continuity and quality of care, and high recruitment costs.

Despite their potential benefits for informing workforce planning, few measures of turnover and retention are routinely compiled by health services and authorities in Victoria. Those that are collected are often used in isolation and are therefore subject to considerable limitations. Average (mean) tenure, for example, as reported by the State Services Authority fails to inform about former employees and presents a skewed distribution of tenures unduly influencing the mean. For optimal workforce planning, health service managers need a more comprehensive picture of the patterns of workforce retention, as may be built up by utilising a suite of indicators that collectively address the weaknesses of individual indicators. In addition to such quantification of turnover and retention, managers can be assisted by a solid evidence-base of the costs associated with recruitment of staff, and the main determinants of workforce turnover and retention that can be influenced through workforce retention strategies. Only then can they target retention measures effectively in order to address those issues which lead people to leave prematurely. Minimising avoidable turnover of staff and retaining the most valuable health workers is the key to workforce stability and the delivery of continuous, high quality health care.

OBJECTIVES

The objectives of this study were:

• To trial a methodology for measuring the turnover and retention of allied health professionals in rural health Services in Victoria;
• To compare the turnover and retention of allied health professionals in rural communities differing in geographic and population characteristics using a suite of indicators;
• To quantify the main determinants underpinning poor rural health workforce retention among allied health professionals;
• To calculate and compare the costs of replacing allied health professionals employed in health services in different rural locations and different size communities; and
• To identify successful retention strategies and model the effects of incentives on workforce retention.
Understanding these issues provides benefits to:

- Communities (through identifying strategies which promote optimum retention of the most experienced and valued allied health professionals in their local health service),
- Health workers and services (through quantifying the benefits of retaining skilled and experienced employees and minimising vacancies and the need for constant recruitment of new staff), and
- Health authorities (through adoption of evidence-based strategies that minimise the cost of recruiting new staff and maximise the quality of services guaranteed by stable, experienced staff employed in rural health services).

**LITERATURE REVIEW**

Allied health professionals are an essential and significant component of the rural health workforce. As the population ages and changes in the patterns of disease and disability occur, the demand for allied health professionals will increase (Struber, 2004). Compared with literature on medical and nursing workforce issues, significantly less attention has been paid to allied health professional workforce shortage (National Rural Health Alliance, 2004). Nonetheless, a sound knowledge and understanding of the existing rural allied health workforce is necessary to guide workforce planning (Smith et al., 2008).

There is no clear and consistent agreement in Australia on what occupations are included in the allied health workforce (Australian Health Workforce Advisory Committee, 2006). The constitution of the **Services for Australian Rural and Remote Allied Health (SARRAH)** professional body recognises that “allied health professionals are tertiary qualified health professionals who apply their skills to diagnose, restore and maintain optimal physical, sensory, psychological, cognitive and social function. They are aligned to each other and their clients” (SARRAH, 2009:4). Allied health professionals provide integrated care that is specialised and comprehensive in a variety of areas, and improve health outcomes by maximising individuals’ function and independence (National Rural Health Alliance, 2004). Training of allied health professionals in Australia has increased, but there are still shortages across all disciplines, especially in rural areas where there are sixty percent fewer practising allied health professionals per 100,000 population than in capital cities (Struber, 2004).

In terms of our current knowledge of allied health workforce recruitment and retention, much of the research and corresponding literature has been descriptive in nature, based on surveys and interviews asking allied health professionals why they take up rural practice, why they leave and why they stay (O’Toole, Schoo & Hernan, 2010; Stagnitti et al., 2006; Williams, D’Amore & McMeeken, 2007) (See for example). Much of this research has been based on samples that are not necessarily representative of the broader allied health professional workforce. For this reason, more comprehensive research is needed to provide a sound evidence base around the factors influencing staff retention.

Factors that influence allied health professionals to join, stay or leave a health service can be grouped into professional/organisational factors and personal/community factors. These factors are invariably interrelated.

Professional and organisational factors that attract allied health professionals to work in rural areas include the work role such as job appeal (O’Toole, Schoo & Hernan, 2010), the opportunity to gain experience (Mills & Millsteed, 2002; O’Toole, Schoo & Hernan, 2010) and financial incentives (Gillham & Ristevski, 2007). Remaining at a health service can be influenced by organisational factors including effective communication with management (Dodd, Saggars & Wildy, 2009), management style and organisation policy (Gillham & Ristevski, 2007), support from both management and peers (Dodd, Saggars & Wildy, 2009; Stagnitti et al., 2006), clear job descriptions, orientation and training (Stagnitti et al., 2006) and the variety and field of work (Belscher et al., 2005; Perkins et al., 2007; Stagnitti et al., 2006). Professional factors include inter-professional...
collaboration and teamwork (Dodd, Saggers & Wildy, 2009), autonomy (Stagnitti et al., 2006), professional development opportunities (Dodd, Saggers & Wildy, 2009; Gillham & Ristevski, 2007). Mills & Millsteed, 2002), and career paths (Dodd, Saggers & Wildy, 2009; Gillham & Ristevski, 2007).

Professional and organisation factors also contribute to the poor retention of allied health professionals. Career prospects and pathways are significant professional factors that can influence an allied health professional to leave or stay in a health service. Alternative career opportunities, lack of career paths/advancement and lack of career structure within the service all contribute to the poor retention of allied health professionals (O’Toole, Schoo & Hernan, 2010; Perkins et al., 2007; Stagnitti et al., 2006). Lack of professional development and support (Mills & Millsteed, 2002; Stagnitti et al., 2006) contributes to the poor retention of allied health professionals. Organisational factors that contribute to the poor retention of allied health professionals include issues with management (Perkins et al., 2007; Stagnitti et al., 2006), workplace politics, lack of resources by the health services, and heavy workloads/burnout (Perkins et al., 2007).

Personal and community factors that attract allied health professionals to a rural area include a rural background or experience (Hughes, 1998; Playford, Larson & Wheatland, 2006), appeal of the rural lifestyle and environment (Belscher et al., 2005; Mills & Millsteed, 2002; O’Toole, Schoo & Hernan, 2010; Perkins et al., 2007), family reasons (O’Toole, Schoo & Hernan, 2010; Perkins et al., 2007), social and community connectedness (Gillham & Ristevski, 2007). These personal factors have also been found to contribute to an allied health professional leaving or staying in a health service (Belscher et al., 2005; Mills & Millsteed, 2002; Perkins et al., 2007). The role of and inter-relationship between these factors that impact on health workforce retention in rural and remote areas is summarised in Figure 1. Because the retention of allied health professionals in rural areas is a complex inter-relationship of both professional and personal factors (O’Toole, Schoo & Hernan, 2010), retention strategies must be wide-ranging (Mills & Millsteed, 2002).

Several programs have been developed in Victoria to assist in the recruitment and retention of allied health professionals, including Region of Choice, Mentoring Works and the State Wide Allied Health Workforce Education Program (O’Toole, Schoo & Hernan, 2010). However, to ensure their effectiveness, health services need evidence about which interventions work best for workforce retention, and which factors are most amenable to modification in order to increase the likelihood of improved retention (Humphreys et al., 2009).

Setting benchmarks for workforce retention is difficult in the absence of representative data for different allied health professionals working in different geographical circumstances (Humphreys et al., 2007). Successful health workforce planning requires robust, reliable and timely data on workforce supply and requirements (Australian Health Workforce Advisory Committee, 2006). Many organisations collect allied health workforce data, including the Australian Institute of Health and Welfare (AIHW), the Australian Bureau of Statistics (ABS), the Australian Department of Health and Ageing, and State and Territory Health Departments (Australian Health Workforce Advisory Committee, 2006). Unfortunately these data are mostly cross-sectional rather than longitudinal, with no linking of data at an individual level from one ‘snapshot’ to the next. This imposes significant limitations on its usefulness for the calculation of turnover and retention measures. Knowledge of the allied health workforce has been largely informed by descriptive statistics identifying workforce numbers, characteristics, participation, distribution, productivity and the types and quantity of service provision, skills and tasks (Schofield, 2009).

1 Now known as Regional Allied Health Works (RAHWorks)
2 Now known as CPDWorks
Stability rates are continuous retention measures that track individuals from hiring to termination by establishing cohorts. This gives an indication of the proportion of the cohort that have left (and conversely, the proportion that have stayed) and for how long (Waldman, 2006). Through monitoring a combination of turnover and retention indicators over time, employers can establish baselines, gain a better understanding of what a reasonable retention period or turnover rate for particular professions in their specific context might be, set appropriate retention and turnover goals, and use these indicators to evaluate the impact of retention incentives or other strategic interventions (Humphreys et al., 2007).

When setting retention and turnover goals, managers will need to recognise that some turnover is good for an organisation and some natural turnover should occur (Blaufuss, Maynard & Schollars, 1992), as this generates the infusion of new ideas, new practices and new personnel, all which can have a positive impact on the organisation (O’Brien-Pallas et al., 2006).

Whilst evaluation of retention incentives can be aided by sound turnover and retention metrics, evaluation of effectiveness of the intervention/s is only one side of the equation. Ideally health service managers (and policy makers) require information on the costs of implementing interventions versus the costs of not doing anything. Data on the full scope of avoidable turnover or its costs are rarely available or analysed (Jones, 2004). Information on turnover costs would provide knowledge to demonstrate potential organisation savings or costs avoided if retention investments are made (Jones, 2004). Retention benefits include fewer vacancies and reduction in vacancy costs, a reduction in recruitment advertisement costs, fewer new hires and reduction in hire costs, reduced orientation and training costs, maintained or increased productivity, and fewer terminations and...
termination costs (Jones & Gates, 2007). Many of the turnover costs are hidden or difficult to estimate and there can be uncertainty about how much turnover actually costs or how important it really is (Jones, 2005).

Numerous retention strategies have been employed to address the problem of poor retention in the medical workforce (World Health Organisation, 2010). Fewer recruitment and retention strategies have been developed or implemented for the wider health workforce (Allan & Ball, 2008). Regardless of the workforce group, however, little research has been undertaken generally to determine the success of incentives in retaining the health workforce in rural and remote areas, especially the allied health workforce (Buykx et al., 2010). This project provides an evidence-base of the turnover and retention of allied health professionals in different geographical health service settings within western Victoria and combines this with an evidence-base of the costs of replacing allied health professionals in such settings.

**METHODODOLOGY**

**Workforce retention indicators**

A variety of workforce retention measures exist that differ in their strengths and weaknesses. A selection of indicators, chosen for their combined strengths have been utilised in this study to provide a broad picture of workforce turnover and retention. (see Appendix 1).

1. **Turnover Rate:**

   Crude turnover rates measure the proportion of the workforce that leaves during any given time period. This indicator requires only simple arithmetic to use. However, as an overall measure crude turnover fails to identify subgroups that may be leaving at a higher rate (eg. 100% turnover may mean that every employee leaves or that half of the employees and then all of their replacements leave). Thus no conclusions can be drawn about a leaver’s length of service with an organisation.

2. **Stability:**

   This indicator provides a measure of the proportion of employees who have remained with an organisation in any given time period. It is a little more sophisticated than turnover in that it requires the establishment of a cohort of employees (eg. all those who were employed at the start of 2004) and following their retention over time. Its strength as a useful measure includes its ability to indicate the retention rate of experienced employees.

3. **Median Length of Employment in current position:**

   This provides a summary measure of the average length of time that current employees have been employed by an organisation. A major strength is the ability to extract this measure from cross-sectional data on current employees, which is sometimes the only data available. It is a more appropriate measure than the mean length of service in current position because length of stay data have a skewed distribution, however it gives no indication of patterns of employment for ex-employees.

4. **Survival Probabilities:**

   Survival probabilities estimate the likelihood that an employee will remain employed beyond any given time. Generally the time origin is when the employee commenced employment and so this group of indicators allows tracking of employment patterns by commencement date rather than by calendar year. Median Survival is the time at which half the workforce have left and half remain employed and is thus an average length of stay measure. Survival analysis and associated regression methods are useful for making comparisons between subgroups and allows assessment of whether apparent differences are significant as well as adjustment for other factors.
Secondary workforce data

Initially the project scoped the availability of existing workforce retention data and assessed its utility for this project. Sources investigated included State Health Authorities and Rural Workforce Agencies, with a view to collecting data that would enable the development of appropriate workforce retention benchmarks based on an analysis of retention patterns characterising different professions and evidence of variation according to geographical location. Such benchmarks could then be used to underpin a workforce framework by which governments and health services can assess the adequacy and effectiveness of current workforce planning measures on health service sustainability. Unfortunately, despite the significant amount of health workforce data routinely collected by health services, professional organisations, workforce agencies, and governments, unit record data relating to patterns of workforce retention are either not available or easily accessed.

Primary data

In the absence of existing secondary data at an appropriate level, it was necessary to collect primary data directly from rural health services. For this reason, the project team worked closely with health services to collect and examine data relating to allied health workforce turnover and retention in order to identify the characteristics of those workers who leave and stay, as well as estimating the costs incurred by the health services due to turnover.

Sampling framework

Although the initial proposal intended to collect data for the entire state of Victoria, funding enabled only three of the five Department of Health regions to be included in the study. For cost and logistical reasons, health services employing allied health professionals in the Loddon-Mallee, Grampians and Barwon-South Western regions were selected for inclusion in the study.

A stratified sample of rural and regional hospitals and health services was invited to participate in the study. Stratification criteria were designed to select health services located at different distances from Melbourne and servicing communities varying in population size. Preference for inclusion in the sample was given to communities that had an integrated health service - that is both hospital and community services were provided from the one health service. Population size was determined from the 2006 Census Data QuickStats, Urban Centre/Locality (UC/L) (ABS, 2009). Health service distance from Melbourne either less than or greater than 200 kilometres from Melbourne was determined using Google Maps (Google Maps Australia, 2009). Table 1 shows the stratification criteria that determined the selection of health services.

Table 1: Matrix for sample inclusion

<table>
<thead>
<tr>
<th>Distance from Melbourne</th>
<th>Urban Centre/ Locality Population</th>
<th>Department of Human Services Region</th>
<th>Victoria</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LODDON MALLEE REGION</td>
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<td></td>
<td></td>
<td>GRAMPIANS REGION</td>
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<td></td>
<td></td>
<td>BARWON SOUTH WESTERN REGION</td>
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<tr>
<td>100-200 kms</td>
<td>&lt;5000</td>
<td>1</td>
<td></td>
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<td></td>
<td>5,000-10,000</td>
<td>2</td>
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<td>&gt; 10,000</td>
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<td>&gt; 200 kms</td>
<td>&lt;5000</td>
<td>6</td>
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<tr>
<td></td>
<td>5,000-10,000</td>
<td>3</td>
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<td></td>
<td>&gt; 10,000</td>
<td>4</td>
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</table>

*In one community, the researchers were required to include an additional health service in order to obtain coverage of the allied health workforce in the town, effectively making the number of health services contacted total nineteen.
Health service reconnaissance fieldwork

Health services in eighteen towns were selected to participate in the project. Health service Chief Executive Officers and/or Managers located at these towns were contacted to arrange an initial visit by the researchers to discuss the project and the data collection tools to be used.

Following initial contact with the health service managers, two health services indicated that they did not employ allied health professionals themselves but contracted these services in from larger health services within their region. One health service chose not to participate in the project following initial contact. A total of sixteen health services were visited by the researchers to discuss the project and the data collection tools to be used. All these services indicated that they would like to participate in the project.

The health services included different models of provision - fully integrated health services, multipurpose services, hospitals and community health services. Visits to the health services provided the opportunity to obtain feedback on the proposed data collection tools, the feasibility of the data collection process and to ensure the information that was collected would be informative for the health services themselves. This process also finalised the specific allied health professions to be included in the study. These included Dietitians, Occupational Therapists, Physiotherapists, Podiatrists, Psychologists, Social Workers and Speech Pathologists.

Ethics

Ethics approval for the study was obtained from the Monash University Human Research Ethics Committee (MUHREC). Permission letters were completed from the Chief Executive Officers whose services were participating in the study.

Reference Group

A Reference Group was formed as part of the project to provide additional expertise and experience that would assist to maximise the success of the project and the transfer of knowledge obtained into the allied health workforce policy arena. The Reference Group included representatives from the allied health professions, Department of Health regions included in the study, and healthcare associations. The role of the Reference Group was to discuss the issues around retention and avoidable turnover of allied health professionals, provide methodological advice, share ideas and information, and act as conduit for the successful adoption and implementation of outcomes of the research (See Appendix 2 for a copy of the Reference Group Terms of Reference and Reference Group Membership).

Data collection

Following the reconnaissance visits to health services, the data collection tools were modified and finalised, Ethics approval was gained for the resultant amended data collection tools. These tools were sent to the Chief Executive Officers of the participating health services. The data collection tools used to obtain information from the Health Services included 3 parts:

1) Questionnaire: Each health service was asked to provide information about the characteristics of their health service, numbers and composition of their allied health workforce, managers’ perceptions of the importance of workforce retention and the factors influencing turnover and workforce retention measures implemented by the health service (Appendix 3).

2) Employment Length of Stay template: Each health service was requested to record de-identified entry and exit employment data and selected characteristics for individual allied health professionals employed by the service at any time during the five year period 2004-2009 (Appendix 4).

3) Cost of Recruitment Survey: Each health service was asked to calculate or estimate both the direct and indirect costs associated with recruiting an allied health professional (Appendix 5).
The data collection tools were delivered via express mail and returned in an express reply-paid envelope. Some health services chose to return their data electronically. Follow-up telephone contact was made to each health service to ensure that they had received the survey, to clarify any questions they may have regarding the data collection process, and to encourage them to contact the researchers if they had any problems. Each participating health service was also sent a letter from the Department of Health informing them that the data collection requirements and processes had been independently reviewed by the Department of Health’s Data Management Advisory Committee.

Health services that indicated that they would participate in the project also received follow-up phone calls during the three-month data collection period. On receipt of their data, health services were paid either $500 or $1000 (depending on the size of the health service) on invoice to cover costs associated with their participation in the research project and extraction of the de-identified data.

**Data analysis**

Simple descriptive statistics, arithmetic calculations, Kaplan Meier Survival analysis and proportional hazards regression analysis were used to analyse and model the data, the latter enabling assessment of the impact of a single factor once adjustments are made for other factors. Analysis of the questionnaire was undertaken using the statistical Package PASW 18 whilst analysis of the de-identified employment data and cost of recruitment survey was undertaken using StataIC, release 10 (Statacorp, College Station, Texas USA) and Microsoft Office Excel 2007.

**RESULTS**

As indicated above, resource and time constraints limited the size of the sample that could be included in the study. Nonetheless, sufficient data were obtained to indicate both the value and viability of the methodology, and to provide important empirical evidence about the patterns of allied health workforce turnover and retention. All results reported below are presented in such a way as to maintain confidentiality and meet Ethics requirements.

Of the sixteen health services initially agreeing to participate in the study, eleven health services completed and returned all 3 parts of data collection. Each participating health service was categorised as follows.

- Health services serving a town population greater than 50,000 were categorised as **regional** health services.
- Health services serving a town population between 5,000 – 50,000 were categorised as **rural** health services.
- Health services serving a town population less than 5,000 and that were located more than 200 kilometres from Melbourne were categorised as **remote** health services.

These categories were selected to maintain confidentiality of workforce data while at the same time capturing any meaningful differences that might relate to size and location of community.

**Characteristics of health services**

As might be expected, the size and nature of the allied health workforce varied considerably across the participating health services. What follows is a brief summary of the sentinel characteristics of the health services included in the study.

- Rural and remote health services had fewer than 25 allied health professionals whilst regional health services had in excess of 25 allied health employees.
- Health service catchment size was under 50,000 with the exception of regional health services.
All health services employed Social Workers (n=11) and most employed Occupational Therapists (n=10) and Physiotherapists (n=10).

Remote Health Services did not employ the full range of allied health workers that regional and rural health services employed.

**Allied health professionals**

- The total number of allied health professionals included in the study was 922.
- Physiotherapists were the largest profession with 253 (27%), followed by Occupational Therapists 182 (20%), Social Workers 175 (19%), Dietitians 95 (10%), Speech Pathologists 88 (10%), Psychologists 77 (8%), and Podiatrists 52 (6%).
- Females accounted for 792 (86%) of the allied health professionals.
- 392 (43%) of the allied health professionals were less than 30 years of age, 235 (26%) were aged between 30 and 40 years, 160 (17%) 40 to 50 years, 103 (11%) 50 to 60 years, and 27 (3%) greater than 60 years.

**Workforce retention**

- The length of vacancies for allied health positions varied according to community size and location, with remote health services reporting a much longer length of vacancy for allied health professionals than the regional and rural health services.
- Podiatrists were reported by the health services as having the longest length of vacancy, a finding consistent with indications by health managers of the difficulty in recruiting them to rural health services.
- Remote health service managers felt that a reasonable length of stay for allied health professionals was approximately two years. This tended to be shorter than what managers of the rural and regional health services reported.
- More than half of all health services managers agreed that turnover of allied health professionals can be reduced by retention incentives.

**Triggers to leave health services**

- Most of the health services (n=10) conduct exit interviews with their allied health professionals on cessation of employment.
- The main triggers for allied health professionals to leave a health service as reported by the managers included spouse employment opportunities, working in isolation, lack of career opportunities and a desire to travel.

**Workforce retention measures**

- Education and regulatory retention measures most often reported by the health service managers included salary packaging and funding for continuous professional development. Flexible contracts and working arrangements as well as support for career paths were also frequently reported as retention measures.
- More than half of the health services that employed Physiotherapists, Occupational Therapists, Social Workers and Speech Pathologists indicated that they sought to recruit health workers from a rural/remote background.
- Conditional licensing was used to retain the services of Podiatrists and Physiotherapists in some rural and remote health services.

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3 Conditional licensing or registration may apply to health professionals who are not eligible for the full registration. Conditional registration imposes certain requirements or limits to ensure these health professionals do not practice outside of a supervised practice or training program or some area of need or workforce shortage.
Higher salaries were used to improve allied health workforce retention by rural and remote health services, particularly for Social Workers and Podiatrists.

Health services utilised other forms of monetary compensation including retention incentives or allowances for minimum periods of service, and paid or subsidised housing, which was reported as being paid most often to Podiatrists and Physiotherapists.

Management support in the form of supportive supervision and mentoring was used by most health services.

Rural and remote health services generally offered a greater range of retention incentives than the regional health services.

Retention measures reported by managers to be effective included career development opportunities, supportive work environment, and support for permanent residency, increased remuneration/financial incentives, community/social engagement and leave without pay.

Other retention strategies used by health services to retain workers included relocation costs, staff rotations, community/social involvement and unpaid leave.

Health services generally have no formal means of monitoring the effects of their workforce retention strategies and incentives on length of stay other than through exit interviews and surveys.

Workforce retention patterns

Although the study sample size was small, the quality of the data provided by the health services was high. In relation to patterns of allied health workforce turnover and retention, four main indicators were calculated. These were:

1. Annual Turnover
2. Stability after 1, 2, 3 and 4 years
3. Median Length of Stay in Current Position
4. Survival Probabilities
   - Survival Probability after 1, 2, 3 and 4 years.
   - Median Survival.

Table 2 presents these results broken down by Regional, Rural and Remote Health Service locations (See Appendix 1 for Indicator definitions).

### Table 2: Length of Stay Indicators by Regional, Rural and Remote Health Services

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>All Health Services (n=11)</th>
<th>Regional Health Services</th>
<th>Rural Health Services</th>
<th>Remote Health Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Turnover (%)</td>
<td>28.2</td>
<td>20.0</td>
<td>25.9</td>
<td>35.2</td>
</tr>
<tr>
<td>Median Length of stay in current position (years)</td>
<td>3.0</td>
<td>3.9</td>
<td>2.5</td>
<td>1.9</td>
</tr>
<tr>
<td>Stability after 1 year (%)</td>
<td>81.9</td>
<td>84.8</td>
<td>94.9</td>
<td>64.0</td>
</tr>
<tr>
<td>Stability after 2 years (%)</td>
<td>64.9</td>
<td>70.6</td>
<td>77.3</td>
<td>46.6</td>
</tr>
<tr>
<td>Stability after 3 years (%)</td>
<td>54.9</td>
<td>64.4</td>
<td>68.0</td>
<td>33.7</td>
</tr>
<tr>
<td>Stability after 4 years (%)</td>
<td>51.7</td>
<td>60.1</td>
<td>62.7</td>
<td>33.7</td>
</tr>
<tr>
<td>Survival Probability after first yr (%)</td>
<td>73.4</td>
<td>73.5</td>
<td>74.1</td>
<td>68.3</td>
</tr>
<tr>
<td>Survival Probability after 2 yrs (%)</td>
<td>56.5</td>
<td>59.3</td>
<td>51.1</td>
<td>39.6</td>
</tr>
<tr>
<td>Survival Probability after 3 yrs (%)</td>
<td>48.7</td>
<td>52.0</td>
<td>41.5</td>
<td>27.9</td>
</tr>
<tr>
<td>Survival Probability after 4 yrs (%)</td>
<td>42.8</td>
<td>46.3</td>
<td>35.3</td>
<td>22.9</td>
</tr>
<tr>
<td>Median Survival (years)</td>
<td>2.7</td>
<td>3.4</td>
<td>2.1</td>
<td>1.6</td>
</tr>
</tbody>
</table>
Table 2 illustrates that geographical location and size of health services influences health workforce turnover and retention, prior to adjusting for confounding variables.

The average annual turnover for all health services was 28.2%, though the annual turnover for regional health services was lower at 20.0% and the annual turnover for remote health services was highest at 35.2%.

Other retention indicators exhibited the reverse pattern to annual turnover - that is, regional health services tended to have higher retention than both the rural and remote health services.

Allied health professional retention for all health services as measured by median length of stay in current position was 3 years. This was higher in regional health services, at 3.9 years, with remote health services having the shortest median length of stay in current position, at 1.9 years.

Retention of allied health professionals as measured by stability was calculated using a cohort of allied health professionals who were still employed as at the 1/1/2006. This indicator had a different pattern from that found with median length of stay and annual turnover. Rural health services have better stability than regional health services (94.9% retained after 1 year), and continued to have the same pattern of stability in years 2, 3 and 4 relative to regional health services.

Allied health professionals working in regional, rural and remote health services have similar survival probabilities for the first year of employment, best seen by the overlapping lines for the first 12 months in Graph 1. After the second year, however, those allied health professionals working in remote health services exhibited significantly poorer survival compared to rural and regional health services.

Graph 1: Survival curve analysis for Regional, Rural and Remote Health Services
Survival curves provide a graphical representation of survival probabilities. Median survival is the number of years of employment from when each employee commenced work until half have left and half remain, illustrated in Graph 1. The median survival for all allied health professionals across the eleven health services was 2.7 years. Regional health services had the longest median survival with 3.4 years compared to 1.6 years for the remote health services. A strength of this measure is its ability to inform what might be a reasonable length of stay for allied health professionals in these Regional, Rural and Remote Health Services. These results indicate that, on average, employment for around 3 years appears to be reasonable in large regional centres, employment for around 2 years is reasonable in medium size rural centres, whilst a small rural centre might only reasonably expect about 18 months employment from its allied health professionals.

This graph indicates that there may be a crucial period in which employment mobility of allied health professionals in regional, rural and remote health services diverges. For the data in this study, divergence occurred between 1 and 2 years after commencement of employment. This can be seen by the separation of the curves in this time frame (curves run parallel before 1 year, diverge between 1 year and 2 years, and then run parallel again after 2 years).

Graph 2 illustrates the differences in survival for the various allied health professions included in the study.

**Graph 2: Survival curve analysis for the Allied Health Professions**

- Podiatrists and dietitians had the poorest retention as measured by the survival probabilities with a median survival of less than 2 years. Most other professions had reasonably similar median survivals of around 3 years, though social workers had the best survival with a median survival of around 4 years.

Two Cox Proportional Hazards regression models were developed which modelled allied health professionals from commencement of employment with the health service (these models utilised data from 917 employees). A considerable advantage of using regression modelling to examine employment mobility data is that adjustments can be made for potentially confounding associations (associations where a factor in the model, for example age, is associated with both the outcome, duration of employment, and other factors in the model, for example grade of employment).
Results of these alternate models are shown in Tables 3 and 4 below. The first model (Table 3) includes a variable measuring whether grade advancement occurred during the term of an individual’s employment. The second model (Table 4) included a variable measuring the actual grade at which they were employed at the time when they left employment or, for those still employed, their grade at the end of the study.

Hazard Ratios (as shown in tables 3 and 4) are the instantaneous risk of leaving employment for individuals from the “Variable” group compared to the risk of leaving employment for individuals from the “Reference” group. A Hazard Ratio of 1.0 indicates no difference between the two groups. A Hazard Ratio greater than 1.0 indicates an increased risk of leaving employment for the members of the “Variable” group compared to members of the “Reference” group. A Hazard Ratio less than 1.0 indicates reduced risk of leaving employment for the members of the “Variable” group compared to members of the “Reference” group. Confidence intervals and p values give an indication of how certain we can be about the size of the Hazard Ratio. Conventionally a p value less than 0.05 is considered to be sufficiently certain, which is equivalent to a confidence interval that excludes a Hazard Ratio of 1.0.

Both models indicate that the differences across allied health professions are highly significant (p<0.01 in both models) in explaining the risks of an employee leaving a health service. For example, it can be seen in Model 1 that social workers have a 40% increased risk of leaving their employment (Hazard Ratio 1.40) compared to physiotherapists (and we can be 95% confident that the true population interval lies between 9% and 80%) after adjusting for other variables in the model. Model 2 estimates social workers on average to have a 30% increased hazard of leaving their employment compared to physiotherapists (95% confidence interval 0% to 70% increased hazard) after adjusting for other variables in the model.

Table 3: Model 1 Proportional hazards regression model which includes grade advancement

<table>
<thead>
<tr>
<th>Reference</th>
<th>Variable</th>
<th>Hazard Ratio</th>
<th>P value</th>
<th>Lower Limit 95%CI</th>
<th>Upper Limit 95%CI</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiotherapist</td>
<td>Dietitian</td>
<td>1.48</td>
<td>0.002</td>
<td>1.20</td>
<td>1.82</td>
<td>0.003</td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>Occupational Therapist</td>
<td>0.88</td>
<td>0.341</td>
<td>0.66</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>Podiatrist</td>
<td>1.75</td>
<td>0.082</td>
<td>0.92</td>
<td>3.33</td>
<td></td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>Psychologist</td>
<td>1.37</td>
<td>0.122</td>
<td>0.90</td>
<td>2.06</td>
<td></td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>Social Worker</td>
<td>1.40</td>
<td>0.013</td>
<td>1.09</td>
<td>1.80</td>
<td></td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>Speech Pathologist</td>
<td>0.84</td>
<td>0.387</td>
<td>0.56</td>
<td>1.27</td>
<td></td>
</tr>
<tr>
<td>Grade advancement</td>
<td>No grade advancement</td>
<td>4.37</td>
<td>&lt;0.001</td>
<td>2.77</td>
<td>6.90</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Grade advancement</td>
<td>N/A grade advancement</td>
<td>1.95</td>
<td>0.034</td>
<td>1.06</td>
<td>3.59</td>
<td></td>
</tr>
<tr>
<td>Not locum or agency</td>
<td>Locum or agency staff</td>
<td>6.88</td>
<td>&lt;0.001</td>
<td>3.20</td>
<td>14.80</td>
<td></td>
</tr>
<tr>
<td>(for each year of age)</td>
<td>AHP age when exited</td>
<td>0.95</td>
<td>&lt;0.001</td>
<td>0.94</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>Male</td>
<td>1.37</td>
<td>0.018</td>
<td>1.07</td>
<td>1.77</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Model 2 Proportional hazards regression model which includes current grade

<table>
<thead>
<tr>
<th>Reference</th>
<th>Variable</th>
<th>Hazard Ratio</th>
<th>P value</th>
<th>Lower Limit 95%CI</th>
<th>Upper Limit 95%CI</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiotherapist</td>
<td>Dietitian</td>
<td>1.31</td>
<td>0.048</td>
<td>1.00</td>
<td>1.72</td>
<td>0.001</td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>Occupational Therapist</td>
<td>0.81</td>
<td>0.100</td>
<td>0.62</td>
<td>1.05</td>
<td></td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>Podiatrist</td>
<td>1.92</td>
<td>0.054</td>
<td>0.39</td>
<td>3.74</td>
<td></td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>Psychologist</td>
<td>1.32</td>
<td>0.315</td>
<td>0.74</td>
<td>2.35</td>
<td></td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>Social Worker</td>
<td>1.30</td>
<td>0.053</td>
<td>1.00</td>
<td>1.70</td>
<td></td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>Speech Pathologist</td>
<td>0.84</td>
<td>0.274</td>
<td>0.61</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>Grade 1 now</td>
<td>Grade 2 now</td>
<td>0.55</td>
<td>0.005</td>
<td>0.38</td>
<td>0.79</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Grade 1 now</td>
<td>Grade 3 or above now</td>
<td>0.30</td>
<td>&lt;0.001</td>
<td>0.23</td>
<td>0.39</td>
<td></td>
</tr>
<tr>
<td>Not locum or agency</td>
<td>Locum or agency staff</td>
<td>7.72</td>
<td>&lt;0.001</td>
<td>4.43</td>
<td>13.45</td>
<td></td>
</tr>
<tr>
<td>(for each year of age)</td>
<td>AHP age when exited</td>
<td>0.96</td>
<td>&lt;0.001</td>
<td>0.95</td>
<td>0.98</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>Male</td>
<td>1.34</td>
<td>0.147</td>
<td>0.88</td>
<td>2.05</td>
<td></td>
</tr>
</tbody>
</table>
The Cox Proportional Hazards models were able to adjust for the effects of some employees being locums or agency staff.

Both regression models indicate that with each year of increased age allied health professionals on average have a significantly reduced hazard of leaving employment with the health service, after adjustment for other factors (including for example, employment grade in Model 2). Model 1 estimates that there is a 5% reduction (95% CI 3-6%) in hazard of leaving (Hazard Ratio 0.95) for each year older an employee becomes, whilst Model 2 estimates a 4% reduction in hazard of leaving (95% CI 2-5%).

Model 1 demonstrates that grade advancement has a highly significant association with allied health professional turnover, whilst Model 2 indicates that an allied health professional’s current grade of employment is also highly significantly associated with turnover (both p<0.001). Grade 2 allied health employees have around half the risk of leaving compared to Grade 1 employees, whilst allied health professionals employed at Grade 3 or above have around one-third the risk of leaving compared to Grade 1 employees.

Gender was a significant predictor of hazard of leaving employment in Model 1 when information about grade advancement was included. However, in Model 2 where the actual grade of employment was included, gender was not significant at α=0.05 level of significance.

Whether an allied health practitioner was employed on a part-time or full-time basis did not predict their risk of leaving a rural health service.

Individual level data were not available for whether allied health practitioners received additional monetary compensation such as paid or subsidised housing and retention incentives or allowances for minimum periods of service. These data were available at the level of the professional discipline and analysis (not shown) indicated that paid housing was not a significant predictor of employee turnover, whilst results for financial incentives were mixed (one model indicated significance, the other model did not).

Geographical location as measured by the Rural and Remote Metropolitan Areas (RRMA) classification did not significantly predict allied health professional exits once adjustment for other factors had been made.

**Staff Replacement Costs**

Because health services found it difficult to calculate the actual costs of recruiting an allied health professional, the costs of replacing an allied health professional presented in Table 5 are best estimates. The results do, however, provide insight into the nature and magnitude of costs incurred by health services in recruiting allied health professionals.

Costs varied between the health services and the Inter Quartile Range (IQR) was calculated for the regional, rural and remote health services. To maintain confidentiality these results are not presented in the report.

Direct costs include those expenses associated with vacancy costs (costs of temporary staffing, overtime, costs of patient transfer and loss of contractual work), recruitment costs (advertising, search firm costs, interviewing costs, relocation expenses), and orientation and training costs (staff time and salaries, equipment, up-skilling programs, supervising/ mentoring).

The size and location of a health service has a clear association with the cost of recruitment – something which is shown with remote health services having much higher direct costs than rural and regional services, especially with regards to the vacancy costs.

Regional health services indicated that they have no costs associated with an allied health professional vacancy, presumably reflecting the fact that they had a sufficient complement of staff to continue providing the service even if it had the effect of delaying response time.
### Table 5: Cost of Recruiting an Allied Health Professional

<table>
<thead>
<tr>
<th>Allied Health Professional Recruitment Costs</th>
<th>Direct Costs</th>
<th>Indirect Costs</th>
<th>Total Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Median ($)</td>
<td>Median ($)</td>
<td>Median ($)</td>
</tr>
<tr>
<td>Vacancy Costs</td>
<td>Median ($)</td>
<td>Median ($)</td>
<td>Median ($)</td>
</tr>
<tr>
<td>Regional Health Services</td>
<td>3,130</td>
<td>3,740</td>
<td>3,200</td>
</tr>
<tr>
<td>Orientation Training Costs</td>
<td>8,360</td>
<td>10,510</td>
<td>10,000</td>
</tr>
<tr>
<td>Total Direct Costs</td>
<td>18,882</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>Cost of Decreased Productivity Amongst Remaining Staff Members</td>
<td>1,200</td>
<td>2,500</td>
<td>12,500</td>
</tr>
<tr>
<td>Cost of Initial Reduced Productivity of New Recruit</td>
<td>23,010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Indirect Costs</td>
<td>26,721</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median Total Costs</td>
<td>26,721</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Due to skewed data the median is a better measure of central tendency than mean. However, medians cannot be totalled across the table in the same way that means can be.

- Median recruitment costs were similar for regional, rural and remote health services.
- Regional health services recorded higher orientation and training costs associated with the direct costs of replacing an allied health professional.

Indirect costs include decreased productivity among the remaining staff members - for example, due to loss of knowledge and training resulting from the exiting staff member, loss of morale, and increased workload of staff covering for the vacancy leading to burnout. These costs are real but often difficult to quantify.

Indirect costs also include initial reduced productivity of a new employee as it often takes time for the new employee to achieve job mastery in a complex health service setting. Once again these costs are generally not easily quantifiable.

- Regional health services median indirect costs were significantly higher than those of the rural and remote health services. Regional health services recognised the costs associated with the decreased productivity amongst remaining staff.

The median total cost of recruiting an allied health professional is highest for the remote health services with the majority of the cost being direct costs incurred in replacing allied health professionals.

### Health Service Feedback

An integral part of the project was the process of reporting the findings of the study back to the health service managers once analysis of the data was complete, in order to validate the findings. Each health service manager was provided with the results for their own health service together with aggregated results for regional, rural and remote health services. This provided some baselines for comparisons of turnover and retention indicators and costs of recruitment with other health services located in towns of similar size and distance from Melbourne.

The health service managers found the feedback a valuable exercise as it provided them with empirical evidence relating to the turnover and retention patterns of their allied health workforce compared with similar services, enabled them to validate the statistical findings against how services
managers anecdotally felt their health service workforce was performing, and provided the opportunity to consider why their allied health workforce behaved the way they did.

The feedback process also demonstrated to the health services the feasibility of employing an appropriate methodology and set of workforce retention indicators that could be implemented by the health services or more broadly by health authorities to monitor workforce and provide information to assist in workforce planning and strategies. Given that most health services already collect considerable data relating to their employees, this activity provided managers with additional insight into the nature of sentinel workforce indicators that should be routinely collected as part of the human resource portfolio and how these data could be used to inform strategic workforce planning.

Discussion of the results with health service managers also highlighted some of the problems associated with allied health workforce retention, their take on possible as yet untried solutions to improving the retention of allied health professionals, as well as some of the strategies that individual health services already had in place in an attempt to optimise turnover and retention of their allied health workforce. Table 6 provides a summary of the perceived problem areas impacting on retention and possible interventions indicated by health service managers as solutions to the retention of allied health professionals.

Table 6: Problems and solutions of Allied Health Professional Retention.

<table>
<thead>
<tr>
<th>Retention Problems</th>
<th>Retention Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lack of opportunities for career advancement.</td>
<td>• Scope for reviewing existing Grade structures to explicitly recognise and reward rural work and the development of new roles.</td>
</tr>
<tr>
<td>• Lack of professional development and opportunities for postgraduate education.</td>
<td>• Facilitating access to better continuing professional development and support postgraduate education.</td>
</tr>
<tr>
<td></td>
<td>• Developing multidisciplinary teams to provide support and minimise professional isolation.</td>
</tr>
<tr>
<td>• Inadequate mentoring/supervision, especially for staff working in solo positions.</td>
<td>• Ensuring mentoring and supervision, effective managers and good leadership.</td>
</tr>
<tr>
<td>• Lack of flexibility in the provision of retention incentives that meet the specific circumstances of individual allied health workers while at the same time ensuring equity (what one professional receives another will expect also).</td>
<td>• Statewide targeted incentive packages to reduce the impact of specific measures on perceived inequity of resource allocation.</td>
</tr>
<tr>
<td></td>
<td>• ‘Grow your own’ health workforce through supporting local youth to take up allied health occupations or foster international exchange of allied health professionals.</td>
</tr>
<tr>
<td>• Reluctance of metro-centric allied health professionals to consider rural work and inadequate structures to give them a “taste” of the benefits of rural work.</td>
<td>• Improve workplace engagement and social networks.</td>
</tr>
<tr>
<td></td>
<td>• Rotate allied health professionals based in regional services though different rural and remote health services in the region to provide professional development opportunities and experience.</td>
</tr>
<tr>
<td>• Exiting from employment because of the need to accompany their partners.</td>
<td></td>
</tr>
<tr>
<td>• Desire to travel.</td>
<td></td>
</tr>
<tr>
<td>• Limited social opportunities in the local community.</td>
<td></td>
</tr>
<tr>
<td>• Lack of sufficient patient demand to support a full-time position in any single discipline.</td>
<td>• Encourage combined degrees.</td>
</tr>
</tbody>
</table>
The health service managers employed a variety of retention strategies to maximise the retention of their allied health professionals. These included:

- Providing a comprehensive and well supported induction and orientation program.
- Fostering a positive workplace culture.
- Facilitating social integration within the community.
- Multidisciplinary team environments to encourage teamwork, collaboration and support.
- Appointing allied health workers at a higher grade level to ensure a competitive salary and maximise their retention.
- Cash bonuses for minimum periods of employment service.
- Relocation costs and support with temporary accommodation.
- Delaying, if necessary, the recruitment of a replacement in order to attract the right employee for the service.
- Employing allied health professionals from a rural background and “growing their own” workforce through offering bonded student bursaries.
- Mentoring programs.
- Using information gained from exit interviews to gain insight into why allied health professionals leave and stay and respond accordingly.

Equity was cited often as the biggest problem in the provision of incentives. While managers recognised the benefit of providing specific retention measures to support those allied health professionals most at risk of leaving prematurely, they were concerned that such action might operate as a perverse incentive for long-established employees and those allied health disciplines that were not eligible for such support.

Few services have undertaken any rigorous evaluation of the effectiveness of their workforce retention measures. To monitor the effectiveness of retention strategies and workforce planning, health services need to be provided with a detailed analysis of the employment patterns of their allied health workforce. Health service managers acknowledged the need to collect appropriate data to enable such workforce monitoring to occur. For this to happen, a critical requirement is that health services be provided with the resources, infrastructure, skills and capacity to collect appropriate information for individual staff using databases set up to enable the rigorous and consistent monitoring of retention.

**SUMMARY OF KEY FINDINGS**

Optimising the retention of existing health workers is the key to ensuring the maintenance of locally delivered, appropriate and sustainable health services. This study provides evidence to underpin workforce retention strategies for allied health professionals employed in regional, rural and remote services, and identifies key indicators which can be used to monitor their success.

In summary, analysis of the literature, available secondary data and the primary data collected showed that:

1. Allied health professionals are becoming an increasingly important component of the health workforce under the health reforms agendas characterising developed countries such as Australia, USA and Canada where populations are ageing, the burden of chronic disease is increasing, and multidisciplinary teamwork is at the forefront of a primary health care approach;

2. Workforce retention is recognised as an important aspect of workforce supply. While there has been increasing focus on retention at the international level (WHO, 2010; 2010a), to date, in Australia there has been insufficient attention to retention relative to recruitment;
3. Some health workforce turnover is inevitable, even desirable, but there is scope for support strategies to minimise avoidable turnover that imposes significant costs on health services and disadvantages patient care;

4. The current costs associated with replacing allied health professionals who leave prematurely are high, particularly in rural and remote areas;

5. This study of allied health professionals shows that:
   - Annual turnover is insufficient as a stand-alone measure of employment patterns for workforce planning. A suite of different measures of turnover and retention are required to adequately describe the employment patterns of allied health staff in different health services;
   - Patterns of retention vary by allied health discipline. This was evident in the survival curves and regression models which showed that highly significant differences in the hazard of leaving employment exist between the seven allied health disciplines in this study. It follows that health services need to implement a range of retention measures or strategies that are individual and discipline specific, in preference to a “one coat fits all” approach;
   - The current grade of allied health professional is a significant factor in determining the length of stay; and
   - The spread of geographical locations obtained for this study was insufficient to demonstrate a significant association between service location and length of service once confounding variables had been taken into account. The key workforce mobility indicators of annual turnover, length of stay in current position, stability, survival probabilities and median survival showed that regional health services had lower turnover and higher stability of their allied health workforce, however once adjustments were made for grade, career advancement, age, discipline and gender, geographic location was no longer significantly associated with turnover hazard.

6. Many factors, both professional and personal, impact upon retention of allied health professionals in rural and remote areas. An important finding of this study is the significance of opportunities for career advancement. The higher retention of allied health professionals in regional health services may be attributed to the size of the service and the opportunities that larger health services have to offer with respect to career advancement. In contrast, small rural and remote health services may not have the critical mass of staff to enable them to provide the range of career advancement opportunities and senior clinical roles that allied health professionals seek. Nonetheless, enterprising managers found scope to restructure allied health professional roles within smaller health services to assist in professional development and enhance career advancement. In the words of Perkins et al., “the extent to which some career aspirations can be fully met will be limited by the remote context and organisational scale but that same scale might also provide opportunities for flexibility in job design and work content enabling staff to meet professional needs through satisfying and well designed jobs” (2007:97).

7. Given that some allied health professionals are more difficult than others to retain, workforce baselines should be established and strategies then developed to reflect these differences.

8. There have been few rigorous evaluations of the effectiveness of workforce retention incentives and strategies generally, and what exists has focussed largely on the medical workforce (Buykx et al., 2010; Humphreys et al., 2009a).

Study limitations

While they should not detract from the overall value of this landmark study of allied health workforce retention, this study is characterised by a number of the usual limitations relating to:
Sampling procedure: in the absence of a suitable sampling frame, a purposive sample was adopted to include appropriate health services stratified by Department of Health region, geographical location of the service and size of the town/city in which the service was located. The selection of services thus sought to ensure a good representation of health services located in towns of varying location and size. This approach, however, limits the generalisability of the findings, to the extent that the services selected are representative of other Victorian or Australian health services.

Sample size: The small sample of health services reflected the time and resource constraints of the project. Clustering by health service was appropriately accounted for in the analysis. Data on 922 employees, representing 474 exits across the eleven services was sufficiently large to enable the identification of significant associations.

Data availability: Despite copious data collected on staff, many services lacked data on a number of sentinel characteristics that the retention literature has indicated would be worthy of investigation - these indicators include conjugal status of the employee, remuneration, retention incentives, birthplace and length of time spent in rural areas as a child. As a result, researchers were restricted to those data items collected by all services included in the sample.

Data quality: While the overall quality of the data was very good, not all services were equipped to provide it easily from existing electronic data-bases. As a result, only some health services provided de-identified data as an electronic spreadsheet. Others provided handwritten data or in a different format to the template provided which increased the scope for data entry error.

Requirements and assumptions of the statistical methods used: The Proportional Hazards regression model as used in this study is a semi-parametric model that assumes that the ratio of the risk leaving a health service in different groups (eg. Grade 1’s compared to Grade 2’s) is constant over time.

Policy implications of findings

The goal of optimising allied health workforce retention is linked to minimising avoidable turnover. As stated previously, some turnover is inevitable (for reasons beyond the control of the service and community), and desirable (for new ideas, succession planning etc). Reducing avoidable turnover, however, will benefit patients by ensuring continuity of appropriate care through experienced staff, benefit services by minimising costs of replacement, and maximise the professional satisfaction of allied health professionals through minimising disruption and increased workloads.

The findings from this study provide important new evidence to underpin allied health workforce retention policies. There is no doubt that such policies must build upon recruitment of appropriate staff in the first instance. Situations exist where health services have failed to recruit appropriately suffer early loss of appointed staff or continue to struggle to attract allied health staff and are required to contract these services from elsewhere. Services that are successful in recruiting appropriate staff still need to monitor their workforce retention and ensure that staff are provided with appropriate support, recognition and remuneration to maximise their satisfaction and thereby minimise any ‘trigger’ to leave prematurely.

Workforce retention monitoring and indicators

1. Local health services: A key aspect of maximising workforce retention is for health services to routinely monitor trends with respect to staff mobility, including exit interviews. Most of the health services undertook exit interviews with staff, and some services also used staff satisfaction surveys to monitor their workforce and identify at an early stage the risk factors for allied health professionals leaving their service. The information gained from this process can highlight organisational deficits and problems that can be addressed (Flint & Webster, 2007). Unfortunately, the information gained from the exit interviews is often not used to inform workforce planning. Local workforce retention strategies should focus on: 
Selecting appropriate indicators by which to monitor workforce turnover and retention;

Maintaining a data collection process that minimises the impost on staff and cost to the service but which maximises key data items important for informing workforce retention;

A system for regular monitoring and reporting retention performance to management;

A means for evaluating the effectiveness of existing retention strategies and monitoring the implementation of alternative incentives. Rigorous and ongoing workforce monitoring would also assist health services in evaluating and validating retention incentives and strategies already in place as well as justify further expenditure to help sustain a strong allied health workforce;

Formulating and updating strategic workforce planning for allied health staff; and

Reviewing the recruitment process and measuring the direct and indirect cost of vacancies and staff replacement. Despite the difficulties associated with measuring the direct and indirect cost of a vacancy, it is clear that replacing an allied health professional is expensive, more so for remote health services compared to rural and regional health services. This is a particular concern as remote health services have the highest turnover and shortest length of stay from their allied health professionals.

2. Regional authorities - Workforce planning and solutions to poor retention must be implemented at the local service level but also at higher organisational levels. Regional authorities can play an important role, over and above that currently being undertaken by Victoria’s Region of Choice program (now known as Regional Allied Health Works). In particular, regional authorities should be consider:

Resourcing local health services with staff and infrastructure required to collect, analyse and report on workforce performance using agreed workforce indicators. It was evident from the study that many health services do not have the human or IT capacity to adequately and reliably collect and analyse data at regular intervals to monitor their workforce. Health services should be provided with the resources, including appropriate infrastructure to enable data collection and analysis that would allow managers and human resources to routinely analyse their workforce retention and recruitment costs.

Undertaking data compilation and analysis at the regional level to allow comparisons across similar services. At the same time, health authorities need to monitor the health services workforce by setting up databases for rigorous and consistent retention monitoring with agreed and relevant indicators of workforce retention, agreed benchmarks, data collection systems, data analysis and data linkage. Monitoring the workforce and establishing benchmarks through an agreed set of indicators would assist health services’ workforce planning by providing an evidence-base to underpin decisions to offer incentives or implement strategies to help retain allied health employees.

Formulating appropriate policies to facilitate improved retention and overcome systemic issues that may inhibit local responses, such as that of ensuring equity across the workforce while at the same time taking account of differing workforce needs.

Working closely with local health services to develop regional plans that ensure population coverage with appropriate allied health services.

Workforce retention strategies

Despite the paucity of evidence indicating the effectiveness (or otherwise) of retention incentives, most health service managers considered them to be an integral aspect of employment conditions, especially in those small, disadvantaged and isolated communities to which it is difficult to recruit allied staff. This study provides additional support to the conclusions emanating from related national studies of workforce retention (Humphreys et al., 2009), specifically:
There is a need for flexibility in the use of retention incentives in order to adapt retention responses to different contexts. It is unlikely that “one-coat-fits-all” retention measures will be effective given the differences in retention patterns of different allied health disciplines in different locations. Clearly, there is a need for different ‘benchmarks’ to be established to enable the evaluation of turnover and retention of health workers in different service settings.

Evidence indicates that the length of service of allied health professionals reflects a wide range of both professional and personal factors that impact upon job satisfaction. Given this complexity, it is unlikely that addressing a single factor is likely to have the desired effect. Instead, retention measures or incentives need to be incorporated within a strategy that ‘bundles’ together a collection of measures designed to address inter-related issues that might otherwise result in an increasing desire to leave prematurely. Figure 2 provides a framework indicating the elements that a ‘bundle’ might require.

This study provided both quantitative and qualitative evidence to suggest that specific attention should be paid to two professional and personal factors that were identified as specific triggers to leave places of employment. These were:

i. The need to maximise professional opportunities for allied health professionals, including scope for career advancement, alternative opportunities in management, time-out overseas’ and post-graduate research and clinical education; and

ii. The need to engage closely with community to maximise personal satisfaction of allied health professionals and families, including housing, social interaction and leave.

Workforce retention is only one (albeit important) part of a broad set of service requirements that need to be fulfilled in order for that service to deliver effective sustainable primary health care to its constituents (Wakerman et al., 2006). Paralleling any workforce retention strategies, local health services need to recognise the need for key health service requirements to be met, namely workforce organisation and supply; funding; governance, management and leadership; linkages, and infrastructure. Focusing solely on retention incentives without regard to broader health service considerations is likely to generate sub-optimal workforce outcomes. Specific measures to improve workforce retention are then identified and prioritised to ensure that those workplace factors that can be modified with a view to improving likely length of stay are addressed by management. In addition, Figure 2 indicates a framework for monitoring workforce performance as part of an overall workforce strategy.

Increasingly in some circumstances, and consistent with the current national reform agenda’s recommendations to establish “medicare locals”, there may be a need to consider implementing regional ‘hub-and-spoke’ models to ensure the provision of appropriate allied health services in rural and remote regions where populations are widely dispersed and the difficulties of recruiting such staff are great. Such models may build upon existing arrangements adopted by some local services whereby they ‘contract in’ allied health workers rather than continue the struggle to recruit them.
**CONCLUSION**

The retention of allied health professionals in rural and remote Australia for reasonable lengths of time is an issue that policy makers, researchers, health service managers, communities, and members of the allied health disciplines themselves continue to grapple with. This study provides both the empirical evidence and a demonstration of a suitable data source and methodology which could be used to better inform health services and authorities of the value in implementing a strategic approach to monitoring workforce behaviour. This involves developing an agreed set of indicators to monitor workforce, establishing evidence-based benchmarks to guide workforce planning and retention strategies, providing health services with the capacity to collect and analyse appropriate data, ongoing rigorous monitoring of the workforce by health authorities, calculating the costs associated with turnover, and formulating appropriate retention strategies that bundle suitable incentives and support measures designed to increase length of stay and minimise avoidable turnover.
REFERENCES


“Rural allied health workforce retention in Victoria: Modelling the benefits of increased length of stay and reduced staff turnover”


“Rural allied health workforce retention in Victoria:
Modelling the benefits of increased length of stay and reduced staff turnover”


World Health Organisation, 2010: Increasing access to health workers in remote and rural areas through improved retention: Global policy recommendations, Geneva: WHO.

### APPENDIX 1: Definitions of Indicators

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Formula</th>
<th>What it measures</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
</table>
| **1. Turnover Rate** | Total: \( \frac{\text{Number of Leavers during a period}}{\text{Average Number employed during that period}} \times 100 \) | General level of labour turnover ie. this summary measure is the proportion of employees who are leaving an organisation in any given time period | • Simplicity  
• Widely used in Australia (and elsewhere) for comparative purposes (e.g., ABS annual labour turnover surveys)  
• More complex employee turnover indices can complement Crude Turnover Rates | • Overall measure which doesn’t identify subgroups  
• No conclusions can be drawn about the leaver’s length of service  
• Includes all leavers, even people who left involuntarily due to dismissal, redundancy or retirement, but does not distinguish between functional (i.e., beneficial) turnover and that which is dysfunctional. |
| **2. Stability** | Number of original entrants surviving at the end of a given period \( \times 100 \) | Provides a measure of the proportion of employees that have remained with an organisation for a given period | • Useful to relate labour turnover to length of service  
• Can provide a “running record” of workforce losses  
• Once cohort established it is easy to maintain  
• Indicates the retention rate of experienced employees | • Successive cohorts required to trace changes in stability over time  
• Increased complexity  
• Tend to concentrate on short-service employees  
• Can be difficult to make appropriate comparisons |
| **3. Median Length of Stay in Current Position** | The midpoint of the set of values (arranged in order of increasing magnitude) which are each employee’s length of service in their current position. | Provides a summary measure of the average length of time that current employees have been employed by an organisation | • Can be calculated from cross-sectional data  
• Is a more appropriate measure (than mean length of service in current position) if data are skewed | • Gives no indication of patterns of employment for ex-employees |
| **4. Survival Analysis Curve** | Kaplan-Meier estimate of the survivor function | Provides an estimate of the probability that an employee will remain employed beyond any given time. Time origin is defined as when each employee commences with an organisation. The event of interest (end-point) for workforce retention purposes is when the employee leaves the organisation. Median survival is the time at which half the workforce have left and half remain employed. | • Useful for making comparisons between subgroups  
• Facilitates assessment of whether apparent differences are significant  
• Appropriate account is taken of incomplete observation of the time till an employee leaves  
• Regression analysis may be used to model the data, enabling assessment of the impact of a single factor once adjustments are made for other factors. | • Higher level of complexity again  
• Utilises cohort data and therefore requires the collection of additional information identifying the time at which each employee leaves the organisation (or whether they are still employed)  
• Conceptually is more difficult to analyse and interpret (requires a statistical package and training in its use)  
• Makes assumptions including that employees leave their employment independently of each other |


APPENDIX 2: Reference Group Terms of Reference & Membership

“Rural allied health workforce retention in Victoria: Modelling the benefits of increased length of stay and reduced staff turnover”

Reference Group Terms of Reference

1. To discuss the issues associated with retention of allied health workforce in rural communities and strategies that can assist in addressing the problem of avoidable turnover.
2. To provide advice on the conceptualisation and methodology of the proposed workforce retention study for rural health services in Victoria.
3. To assist the research team in identifying, and providing access to, relevant workforce retention data and publications.
4. To provide a conduit for information sharing to enhance awareness of the study and of the potential uptake of its outcomes.
5. To comment on the outcomes and recommendations of the study.

Reference Group Membership

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graeme Allan</td>
<td>Australian Association of Occupational Therapists Victoria</td>
</tr>
<tr>
<td>Deanne Brogan</td>
<td>Department of Health, Loddon Mallee Region</td>
</tr>
<tr>
<td>Dr Adam Chalmers</td>
<td>Australian Podiatry Association</td>
</tr>
<tr>
<td>Nerissa Fry</td>
<td>Department of Health, Loddon Mallee Region</td>
</tr>
<tr>
<td>Therese Gerber</td>
<td>Department of Health, Barwon-South Western Region</td>
</tr>
<tr>
<td>Carol Parker</td>
<td>Australian Physiotherapy Association</td>
</tr>
<tr>
<td>Jane Sheats</td>
<td>Victorian Healthcare Association (VHA)</td>
</tr>
<tr>
<td>Dr Pamela Snow</td>
<td>The Australian Psychological Society, Speech Pathology Australia</td>
</tr>
<tr>
<td>Wendy Swan</td>
<td>Dietitians Association of Australia.</td>
</tr>
<tr>
<td>Dean Taylor</td>
<td>Department of Health, Grampians Region</td>
</tr>
<tr>
<td>Dr Robyn Vines</td>
<td>Allied Health Professionals Australia (APHA), The Australian Psychological Society</td>
</tr>
</tbody>
</table>
School of Rural Health

Rural Allied Health Workforce Retention in Victoria
Modelling the benefits of increased length of stay and reduced staff turnover

This survey is being carried out in order to identify how retention policies can improve the attractiveness of workplace environments and worker satisfaction so that allied health workforce retention is increased.

This research is being conducted by staff from Monash University School of Rural Health in Bendigo.

We are surveying a sample of rural and remote health services across Victoria. Your participation in this survey is entirely voluntary, and you may withdraw your participation at any time. This questionnaire will take 20–30 minutes to complete.

All information will remain entirely confidential. The responses to this survey will be analysed and presented so that it will not be possible to identify any individual responses or health services in the report. Please do not put your name or address on this questionnaire.

If you have any queries relating to this survey, please contact John Humphreys on mobile 0417 551 494 or Marita Chisholm on 0417 330 848.

Thank you for your time.
Section 1: Your health service

1. How many Allied Health Professionals providing direct patient care in this health service?

   Number of allied health workers

2. What is the population of your service catchment area

   Population of service catchment area

3. Which of the following Allied Health Professionals are employed within your Health Service? (Please tick)

   - Dietitian
   - Occupational Therapist
   - Physiotherapist
   - Podiatrist
   - Psychologist
   - Social Worker
   - Speech Pathologist

Section 2: Workforce retention

4. Thinking about the last five years, (based on your human resources records) what is the average length of vacancy in this health service for the following. (Please place a tick (✓) in the not applicable (n/a) box if your health service does not employ any of the following health workers.)

   - Dietitian
   - Occupational Therapist
   - Physiotherapist
   - Podiatrist
   - Psychologist
   - Social Worker
   - Speech Pathologist

5. What would you consider to be a reasonable length of stay in this health service for the following. (Please place a tick (✓) in the not applicable (n/a) box if your health service does not employ any of the following health workers.)

   - Dietitian
   - Occupational Therapist
   - Physiotherapist
   - Podiatrist
   - Psychologist
   - Social Worker
   - Speech Pathologist

Final Report: December 2010
“Rural allied health workforce retention in Victoria: Modelling the benefits of increased length of stay and reduced staff turnover”

Rural Allied Health Workforce Retention in Victoria

6. Please indicate the extent to which you agree or disagree with the following statements. (Please circle the number for your response)

   i. Allied health turnover is a major problem for this health service:
      
      | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
      |----------------|-------|---------|----------|------------------|
      | 1              | 2     | 3       | 4        | 5                |

   ii. Allied health retention is a more pressing problem than recruitment for this health service:

      | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
      |----------------|-------|---------|----------|------------------|
      | 1              | 2     | 3       | 4        | 5                |

   iii. Allied health turnover in the health service can be reduced by retention incentives:

      | Strongly agree | Agree | Neutral | Disagree | Strongly disagree |
      |----------------|-------|---------|----------|------------------|
      | 1              | 2     | 3       | 4        | 5                |

Section 3: Factors influencing desire to leave health service

1. Does this health service conduct an exit interview with all allied health professionals who cease employment with the organisation?
   
   □ YES □ NO

2. Rate the following factors in importance as “triggers” for allied health staff to leave this health service:

<table>
<thead>
<tr>
<th>Most Important</th>
<th>Not at all important</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of variety of work</td>
<td></td>
</tr>
<tr>
<td>Desire for further training</td>
<td></td>
</tr>
<tr>
<td>Lack of career opportunities</td>
<td></td>
</tr>
<tr>
<td>Lack of mentoring</td>
<td></td>
</tr>
<tr>
<td>Physical working conditions</td>
<td></td>
</tr>
<tr>
<td>Lack of opportunities to use their abilities</td>
<td></td>
</tr>
<tr>
<td>Hours of work</td>
<td></td>
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<tr>
<td>Working in isolation</td>
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<tr>
<td>Lack of recognition for work</td>
<td></td>
</tr>
<tr>
<td>Poor remuneration</td>
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<tr>
<td>Poor access to continuing professional development</td>
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<tr>
<td>Lack of schooling for children</td>
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<tr>
<td>Lack of jobs for spouses</td>
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<tr>
<td>Conflict with colleagues and/or management</td>
<td></td>
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<tr>
<td>Burnout and inadequate relief</td>
<td></td>
</tr>
<tr>
<td>Other factor (please specify)</td>
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</tbody>
</table>

3. Some triggers to leave may apply specifically to some allied health professions more than others. If this is the case for this health service, please comment on the nature of those factors.

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Section 4: Workforce retention measures

4. Which one workforce retention measure would you consider to be the most effective in influencing the length of stay in this health service?

5. Does this health service pay financial retention allowances for a minimum period of service to any of its allied health staff?
   - NO  
   - YES - provide details of the amounts and time period, and indicate the type of allied health staff

6. What measures has your health service adopted to encourage health workers to stay longer in this health service? Tick all that apply.

<table>
<thead>
<tr>
<th>Education and regulatory interventions</th>
<th>Physiotherapist</th>
<th>Occupational Therapist</th>
<th>Social Worker</th>
<th>Speech Pathologist</th>
<th>Dietician</th>
<th>Podiatrist</th>
<th>Psychologist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment of health workers from a rural/remote background</td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conditional licensing (license to practice in exchange for location in rural areas for overseas trained health workers)</td>
<td>✗</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Loan repayment schemes (paid studies in exchange for service in rural area for a minimum period of time)</td>
<td>✗</td>
<td></td>
<td></td>
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<tr>
<td>Improved workplace infrastructure (eg telehealth)</td>
<td>✗</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Flexible contracts and working arrangements</td>
<td>✗</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Salary packaging arrangements</td>
<td>✗</td>
<td></td>
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<tr>
<td>Funding for continuous professional development</td>
<td>✗</td>
<td></td>
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<tr>
<td>Support for career paths</td>
<td>✗</td>
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<table>
<thead>
<tr>
<th>Monetary compensation</th>
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<tbody>
<tr>
<td>Higher salaries for rural/remote practice</td>
</tr>
<tr>
<td>Retention incentives or allowances for minimum period of service</td>
</tr>
<tr>
<td>Annual fares for family to nearest capital city</td>
</tr>
<tr>
<td>Paid or subsidised housing</td>
</tr>
<tr>
<td>Paid vehicle</td>
</tr>
<tr>
<td>Grants for child schooling/education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Management support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive supervision/mentoring</td>
</tr>
<tr>
<td>Guaranteed locum relief</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environment and social support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunities for spouse employment</td>
</tr>
</tbody>
</table>

| Other (Please specify) |                      |
7. Please comment on any other retention strategies or incentives that this health service has adopted to encourage health workers to stay longer.

8. How do you monitor the effects of your workforce retention policies/incentives on length of stay?

THANK YOU FOR YOUR PARTICIPATION IN THIS SURVEY

Please return to either:

Professor John Humphreys or Marita Chisholm
Monash University School of Rural Health
PO Box 666,
BENDIGO VIC 3552

Email: john.humphreys@med.monash.edu.au or marita.chisholm@med.monash.edu.au
Fax: 03 5440 9080
APPENDIX 4: Employment Length of Stay Template

LISTING OF ALL ALLIED HEALTH PROFESSIONALS PROVIDING DIRECT HEALTH CARE IN THIS HEALTH SERVICE AT ANY TIME DURING 2004-2009

INCLUDE ALL CURRENT EMPLOYEES AND THOSE WHO MAY HAVE LEFT WITHIN THIS PERIOD

<table>
<thead>
<tr>
<th>Type of Allied Health Professional</th>
<th>Classification level - at time of appointment (Grade)</th>
<th>Start date (Date when allied health professional was first employed)</th>
<th>Classification level - now or at time of exit (Grade)</th>
<th>Exit date (Leave blank if still employed)</th>
<th>Gender</th>
<th>Year/Date of Birth</th>
<th>EFT (1.0=Full-time)</th>
<th>Locum or agency staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physiotherapist</td>
<td>1</td>
<td>9/07/2001</td>
<td>2</td>
<td>5/02/2003</td>
<td>♂</td>
<td>30/06/1980</td>
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<tr>
<td>Physiotherapist</td>
<td>1</td>
<td>8/02/2003</td>
<td>1</td>
<td>8/05/2003</td>
<td>♂</td>
<td>20/02/1984</td>
<td>1.0</td>
<td>Yes</td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>2</td>
<td>26/07/2004</td>
<td>2</td>
<td>6/01/2006</td>
<td>♂</td>
<td>17/03/1973</td>
<td>0.8</td>
<td>No</td>
</tr>
<tr>
<td>Physiotherapist</td>
<td>2</td>
<td>13/02/2006</td>
<td>2</td>
<td></td>
<td>♂</td>
<td>5/11/1984</td>
<td>1.0</td>
<td>No</td>
</tr>
</tbody>
</table>

Please photocopy as many of the following blank sheets as you need
APPENDIX 5: Cost of Recruitment Survey

CURRENT COST OF RECRUITMENT
ALLIED HEALTH PROFESSIONAL

Calculating the costs of recruitment is difficult. Please complete the attached template to the best of your ability, indicating the costs associated with recruiting an Allied Health Professional to your health service.

While some direct costs can be measured easily, others are much more difficult to calculate (such as loss of productivity associated with the vacancy or start-up period of new staff). For example, some organisations fund potential employees to visit their service and community, and host them during their visit. In such situations you may only be able to estimate these costs associated with the time spent hosting the potential employee.

When completing the boxes below, please indicate if the figure you enter represents actual costs or your best estimate of costs. If estimate, please mark with an asterisk (*) alongside the figure.

THANK YOU FOR COMPLETING THIS COMPONENT OF THE SURVEY

Please return to either:

Professor John Humphreys or Ms Marita Chisholm
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BENDIGO VIC 3552

Email: john.humphreys@med.monash.edu.au or marita.chisholm@med.monash.edu.au
Fax: 03 5440 9080
### ALLIED HEALTH PROFESSIONAL - CURRENT COST OF RECRUITMENT

<table>
<thead>
<tr>
<th>Staff replacement costs</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DIRECT COSTS OF RECRUITMENT OF NEW EMPLOYEE</strong></td>
<td></td>
</tr>
<tr>
<td>1. Vacancy costs per week per allied health position:</td>
<td></td>
</tr>
<tr>
<td>• Cost of temporary staffing per vacant position per week (ie: agency fees/locums)</td>
<td>$</td>
</tr>
<tr>
<td>• Overtime or time in lieu costs for existing staff during period of staff vacancy</td>
<td>$</td>
</tr>
<tr>
<td>• Cost to health service of patient transfer incurred as a direct result of staff vacancy</td>
<td>$</td>
</tr>
<tr>
<td>• Loss of contractual work</td>
<td>$</td>
</tr>
<tr>
<td>2. Recruitment costs per position</td>
<td></td>
</tr>
<tr>
<td>• Advertising</td>
<td>$</td>
</tr>
<tr>
<td>• Search firm costs</td>
<td>$</td>
</tr>
<tr>
<td>• Screening costs - Reviewing resumes &amp; responding to inquiries</td>
<td>$</td>
</tr>
<tr>
<td>• Interviewing costs</td>
<td>$</td>
</tr>
<tr>
<td>• Staff time &amp; salaries</td>
<td>$</td>
</tr>
<tr>
<td>• Preparation and conducting of interview</td>
<td>$</td>
</tr>
<tr>
<td>• Evaluating &amp; negotiating with selected candidate</td>
<td>$</td>
</tr>
<tr>
<td>• Background checks</td>
<td>$</td>
</tr>
<tr>
<td>• Relocation expenses</td>
<td>$</td>
</tr>
<tr>
<td>• Transportation &amp; removal/storage</td>
<td>$</td>
</tr>
<tr>
<td>• Temporary accommodation costs</td>
<td>$</td>
</tr>
<tr>
<td>• Welcoming/Hosting costs</td>
<td>$</td>
</tr>
<tr>
<td>3. Orientation and training costs per new recruit</td>
<td></td>
</tr>
<tr>
<td>• Staff time and salaries</td>
<td>$</td>
</tr>
<tr>
<td>• Equipment</td>
<td>$</td>
</tr>
<tr>
<td>• Up-skilling programs</td>
<td>$</td>
</tr>
<tr>
<td>• Supervising/mentoring</td>
<td>$</td>
</tr>
<tr>
<td><strong>INDIRECT COSTS ASSOCIATED WITH RECRUITMENT OF NEW EMPLOYEE</strong></td>
<td></td>
</tr>
<tr>
<td>4. Decreased productivity resulting from loss of a staff member</td>
<td></td>
</tr>
<tr>
<td>• Such as lost knowledge and training, loss of morale amongst remaining staff and increased workload leading to burnout which are not easily quantifiable (Please provide estimate if possible).</td>
<td>*$</td>
</tr>
<tr>
<td>5. Cost of initial reduced productivity</td>
<td></td>
</tr>
<tr>
<td>• Such as lower initial productivity of new employee, decreased supervisor/co-worker productivity which are not easily quantifiable (Please provide an estimate if possible. For example, you may be able to estimate the new worker case-load as a fraction of what you would expect from an established staff member, and any time associated with additional supervision of the new health worker).</td>
<td>*$</td>
</tr>
<tr>
<td><strong>TOTAL COSTS:</strong></td>
<td>$</td>
</tr>
</tbody>
</table>