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Collaborating to Improve Access to Primary Health Care for Vulnerable Populations

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Collaborating to improve access to primary health care for vulnerable populations

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Thesis for the Degree of Professional Doctorate in Applied Public Health (DrP**D**)

University of New South Wales

August 2012

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ORIGINALITY STATEMENT

'I hereby declare that this submission is my own work and to the best of my knowledge it contains no materials previously published or written by another person, or substantial proportions of material which have been accepted for the award of any other degree or diploma at UNSW or any other educational institution, except where due acknowledgement is made in the thesis. Any contribution made to the research by others, with whom I have worked at UNSW or elsewhere, is explicitly acknowledged in the thesis. I also declare that the intellectual content of this thesis is the product of my own work, except to the extent that assistance from others in the project's design and conception or in style, presentation and linguistic expression is acknowledged.'

Signed .....Susan Thomas.....

Date .....30/07/2012.....

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Preface

Published Papers

Sections of this thesis have been included in the following publications:

Characteristics of fall-related injuries attended by an ambulance in Sydney, Australia: a surveillance summary
NSW Public Health Bulletin, 2011, 22(4);49-54
http://www.publish.csiro.au/paper/NB09034.htm

Refugee Health
NSW Public Health Bulletin, 2010, 21(3-4);101-02
http://www.publish.csiro.au/index.cfm

Sexually transmissible infections and blood borne viruses in Aboriginal and Torres Strait Islander populations
NSW Public Health Bulletin, 2012, 23(3-4);92
http://www.publish.csiro.au/paper/NB11029

Improving participation by Aboriginal children in blood lead screening services in Broken Hill, NSW
For online publication end of November 2012, NSW Public Health Bulletin

Conference Presentations

Sections of this thesis have been presented at the following conferences:

Calls to Ambulance for Falls in Sydney for 2008, UNSW Post Graduate Research Symposium 2009

Paediatric Services Working in Partnership in La Perouse, UNSW Post Graduate Research Symposium 2010

Blood Lead Screening in Broken Hill; Improving Access for Aboriginal Children, Dubbo Rural Health Research Colloquium, 11-13 October 2011

Abbreviations

ACCHS	Aboriginal Community Controlled Health Service (also referred to as AMSs)
AH&MRC	Aboriginal Health and Medical Research Council of NSW
AMS	Aboriginal Medical Service (also referred to as ACCHSs)
AIDB	AIDS and Infectious Disease Branch, NSW Ministry of Health
BBV	Blood Borne Virus
CAH	Centre for Aboriginal Health, NSW Ministry of Health
CCH	Community Child Health
CDB	Communicable Disease Branch, NSW Ministry of Health
CHP	Centre for Health Protection, NSW Ministry of Health
MRSA	Methicillin-resistant *Staphylococcus aureus*
NSW Health	New South Wales Ministry of Health
PHC	Primary Health Care
PHOTP	Public Health Officer Training Program
PHU	Public Health Unit
STI	Sexually Transmissible Infection

Abstract: Collaborating to Improve Access to Primary Health Care for Vulnerable Populations

Primary health care (PHC) services in Australia are well placed to provide a range of health services. While most Australians have ready access to these services, more vulnerable groups may experience barriers. This thesis explores barriers and enablers to accessing PHC services for some vulnerable groups including children, Aboriginal people and the elderly and explores strategies to improve access. These five studies, undertaken as part of the NSW Public Health Officer Training Program, provide information useful to public health policy makers, service planners, managers and health workers.

The first study develops an evaluation framework for community child health services. The second study demonstrates application of the framework and focuses on how paediatric outreach services in an Aboriginal community in Sydney work in partnership with families, the community and other services. Recommendations were made to formalise collaboration in the planning of care for Aboriginal children. Early intervention for more children with resulting better outcomes is an anticipated benefit of this evaluation.

The third study was undertaken in Broken Hill, NSW and investigates the decline in participation at blood lead screening services, particularly by Aboriginal children. Strategies to improve screening rates include better communication between services, better use of public health data and more support for families whose children have elevated blood lead levels.

The fourth study examines public health partnerships between government health services and Aboriginal Community Controlled Health Services at the state and local level, with a focus on communicable disease control. Collaborations between services could be strengthened by the creation of organisational opportunities, strengthening the workforce and further developing cultural awareness.

The final study looks at fall-related injuries requiring an ambulance in Sydney in 2008. Falls are the second most common reason for the dispatch of an ambulance and paramedics are well placed to expand their role in assessing fall risk, treating injuries on the scene and referring patients to community based PHC services. Improvements in the collection and linking of ambulance data would allow further analysis of characteristics and outcomes of fall-related injury.

This thesis demonstrates how collaboration between services can strengthen access to PHC for some vulnerable populations.

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Chapter One

Introduction

Overview of the Public Health Officer Training Program

This thesis contains work completed while I was employed by the NSW Ministry of Health in the Public Health Officer Training Program (PHOTP). The NSW Ministry of Health is in a partnership arrangement with The University of New South Wales (UNSW), so that NSW Ministry of Health trainees are also concurrently enrolled in the Doctorate of Applied Public Health (DrPH). This professional doctorate is available only to those participating in the PHOTP. As part of the program, trainees are required to rotate through a variety of public health placements and work on a range of projects that are of public health interest. They are also required to complete a six month rural health placement. These projects must meet the needs of the workplace, the PHOTP's competency requirements and of the DrPH. Generally they are projects that demonstrate a breadth of public health knowledge. While generating new knowledge they also develop outcomes that are applicable in workplace settings and can influence local or state public health practice and policy. Learning contracts are developed by the trainee for each placement and describe the projects that will be undertaken and the outcomes that will be produced. These have been placed in the Appendix E with my certificate of completion of the PHOTP. For more information about the PHOTP see the NSW Ministry of Health website (http://www.health.nsw.gov.au/training/phot/).

I came to the PHOTP and the UNSW DrPH with a nursing background and a range of experience in PHC. Having worked as a community nurse in a variety of settings in Australia and as a nurse and project coordinator with Medicines Sans Frontieres in several African countries, I was keen to consolidate my knowledge and skills and further develop my career in PHC in Australia.

Primary Health Care

The importance of PHC was highlighted decades ago at an international conference on that topic in Alma-Ata, in the former USSR, in 1978. The Declaration of Alma-Ata called on governments around the world to introduce, develop and maintain PHC in order to protect and promote the health of all people. Primary Health Care was defined as;

> '...essential heath care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process.' (1)

In 2008, the World Health Organization's (WHO) annual report entitled *Primary Health Care, now more than ever,* reminded governments around the world of the core values of PHC; maximising equity and responsiveness to people's needs, ensuring that people have an influence on the way health services are provided and of the need to reorient health services and systems towards PHC(2). The report called for better public health policies that address the social determinants of health, aging and urbanisation. The WHO called for health services to demonstrate leadership and to collaborate with multiple stakeholders in policy development to ensure equitable access to PHC services for all.

In Australia, a generally accepted definition of PHC from the Australian Primary Health Care Research Institute is;

> 'Primary health care is socially appropriate, universally accessible, scientifically sound first level care provided by health services and systems with a suitably trained workforce comprised of multidisciplinary teams supported by integrated referral systems in a way that gives priority to those most in need and addresses health inequalities, maximises community and individual self-reliance, participation and control and involves collaboration and partnership with other sectors to promote public health. Comprehensive primary health care includes

> health promotion, illness prevention, treatment and care of the sick, community development, and advocacy and rehabilitation' (3).

At the Commonwealth level, health service planners have acknowledged the cost effectiveness of PHC. A national reform process, Primary Health Care in Australia, is underway in order to address the growing burden of chronic illness and workforce pressures. The reforms aim to reduce preventable hospitalisation by removing inequities in access to PHC services (4). This reform acknowledges a population health focus, advocates for the use of multidisciplinary teams, better accountability and improved access to quality services regardless of where people live or their ability to pay.

Access to healthcare

While Australians generally have access to a world class heath system and enjoy good health with many living well into old age, there are priority population groups that experience risk factors which contribute to poorer heath than the general population. These groups include, but are not limited to, Aboriginal and Torres Strait Islander people, socioeconomically disadvantaged people and those living in rural and remote areas (5). Complex, uncoordinated and fragmented PHC services often means that those with complex needs and those groups that are less easy to reach may fail to receive adequate care as a result (4).

Children are represented across recognised priority groups. The importance of the early years in establishing a foundation for future health and social and emotional wellbeing is irrefutable (6, 7). Experiences in early life help determine a child's cognitive, emotional and behavioural development which will affect them throughout their life (8). While most children in Australia experience good health and wellbeing, there are areas of concern. Overall, there are increasing rates of disability, inadequate nutrition, low levels of physical activity and increasing obesity, diabetes and dental decay (7). Specifically, children of Aboriginal and Torres Strait Islander background experience higher mortality rates, lower birthweight and have more dental carries than other Australian children (9). In 2005-2007, babies born to Aboriginal and Torres Strait

Islander mothers were twice as likely to be of low birthweight (less than 2,500 grams) than babies born to non-Indigenous mothers (9). In 2007-2009, mortality rates for Indigenous infants in their first year of life was almost double that of non-Indigenous infants (7.8 vs. 4.0 per 1,000 live births) (9). Children living in remote areas also have higher mortality rates, lower childhood cancer survival rates and are less likely to meet minimum reading and numeracy standards than those in urban settings, making them less 'school ready' (7). Evidence based child health policies that promote early childhood development and care, prevention and early intervention strategies, and where families are supported as providers of a nurturing environment, are more likely to produce good health outcomes for children.

Aboriginal and Torres Strait Islander peoples still suffer from the effects of colonisation, with many continuing to experience social and economic disadvantage (10). Aboriginal and Torres Strait Islander people experience higher rates of unemployment, lower educational attainment and more crowded living conditions with less access to public utilities (10). These social determinants of health contribute to higher rates of smoking, obesity, diabetes, cardiovascular disease and sexually transmissible infections (10). Aboriginal and Torres Strait Islander peoples experience higher rates of hospitalisation, higher mortality rates and a lower life expectancy than other Australians (9). Maternal risk factors such as young age of the mother, smoking during pregnancy and low rates of breast feeding contribute to poor health outcomes for babies including prematurity and low birth weight (9). In the *National Strategic Framework for Aboriginal and Torres Strait Islander Health 2003-2013*, access to culturally appropriate PHC, including mainstream general practitioners (GPs), is reported to be a priority area in addressing the health disparities experienced by Australia's Indigenous population (11). This includes strengthening the coordination and collaborative links between Aboriginal Community Controlled Health Services (ACCHS) and mainstream health services, which need to be better equipped to respond to the needs of Aboriginal and Torres Strait Islander people. Poor access to appropriate PHC services can be attributed to a range of factors including proximity, availability, cultural appropriateness of the service, transport, health insurance, affordability and language barriers (9).

Collaboration and responsibility

Both the Declaration of Alma-Ata and the Ottawa Charter on Health Promotion highlight the importance of collaboration and shared responsibility between health services in order to maximise access and effectiveness (1, 12). Partnerships between health services and also across other services such as housing, education and employment are important for comprehensive PHC services, which recognise the importance of the social determinants of health and are committed to effective and holistic interventions which may not always by led by health services. Partnerships have been defined as mutually beneficial, transparent relationships that are accountable and based on agreed ethical principles, mutual understanding, respect and trust (13). In Australia, partnership agreements between government health services and ACCHS have been developed at the national, state and local level. Partnerships are recognised as important in formalising the ways in which services work together with shared goals and with a common understanding of governance and processes.

In 2005 the Social Justice Report, released by the Aboriginal and Torres Strait Islander Social Justice Commissioner at the time, Tom Calma, called on government to commit to achieving equality for Indigenous people in health and life expectancy within 25 years(14). In response, the Close the Gap campaign was developed and launched in 2007. Targets were set to address the social determinants that influence health outcomes including early childhood, education, housing and health. Access to culturally appropriate comprehensive PHC was acknowledged as essential in closing the gap in childhood mortality and life expectancy (15). A series of partnership agreements between the Commonwealth of Australia and the states and territories were developed to enable the goals of the campaign to be met (16).

While progress has been made there is still a long way to go before the outcomes of such partnerships can be measured in terms of 'Closing the Gap' in life expectancy, educational achievement and employment outcomes (17). True partnerships acknowledge the power imbalances and the often limited capacity within the Aboriginal

health sector which affects the functioning of many partnership agreements. A genuine and effective partnership is one that prevails over time and ensures all parties are involved in defining the problems and the solutions at every step (15). These requirements are endorsed by the Declaration of Alma-Ata and the Ottawa Charter as essential components of PHC.

Health systems in Australia are often complex and fragmented, making access more difficult particularly for disadvantaged people who may have complex needs. Poor coordination and collaboration among services often puts the responsibility on the clients to negotiate their own way along a confusing and perhaps costly pathway (4). This 'service centred' system is the antithesis of a patient centred one, which recognises and prioritises issues of access, equity and advocacy, with better health outcomes as a result.

Contributions to public health through the PHOTP

Over the three years in the PHOTP, I completed five placements which have offered me tremendous opportunities to take a lead role in a range of public health projects. I have worked in the head office of NSW Ministry of Health, in community health centres, with refugees and with Aboriginal communities in Sydney and in Broken Hill. These projects are described below to provide an understanding of the overall context in which my learning has taken place.

First placement: Public Health Real-time Emergency Department Surveillance System (PHREDSS)

My first placement was in the NSW Ministry of Health's head office, within the Public Health Real-time Emergency Department Surveillance System (PHREDSS). Much of my six month placement was spent responding to the global pandemic (H1N1) 2009 influenza, which burst onto the world stage in late April 2009. Aside from assisting with the response, I was also able to complete the project that had been proposed by my workplace supervisors. This project involved describing the characteristics of ambulance call-outs for fall-related injuries in Sydney in 2008. As falls account for the second most common reason for an ambulance to be dispatched in Sydney (the first being 'person

feels unwell') and as falls prevention is a priority for NSW Ministry of Health, this study was recognised as important as the data could be used to inform NSW Ambulance policy as well as provide information for those working in the Centre for Health Protection. This quantitative analysis used NSW Ambulance data and met several competency areas for the PHOTP and has been published in the NSW Public Health Bulletin. I presented the findings in 2010 to NSW Ambulance Officers at their monthly education session and at the 2009 University of New South Wales Post Graduate Research Symposium.

Second placement: Community Child Health Services, Sydney Children Hospital, Randwick

I spent nine months in my second placement at the Community Child Health Services, Sydney Children Hospital in Randwick. I was the first trainee to fill this placement, which was an important one for me as it provided an opportunity to learn about child health issues, of which I had limited knowledge. This service is staffed predominately by paediatricians who provide outreach work in the community. They aim to address health inequalities experienced by Aboriginal children and families in La Perouse and by refugee children by improving access to paediatric services within a culturally appropriate service model. My first project was to develop an evaluation framework for community child health services from a public health perspective. The second project was the application of that framework in the evaluation of one aspect of the service. It was my first experience conducting qualitative research. The introductory paragraphs in chapters two and three reflect on these challenges in more detail. Perhaps more importantly this placement provided my first opportunity to work in an Aboriginal health setting, one which I would further develop in the years that followed.

Third placement: Aboriginal Health and Medical Research Council of NSW (AH&MRC)

My third placement was at the Aboriginal Health and Medical Research Council of NSW (AH&MRC). This was also a nine month placement and I worked on two projects. The first project involved designing and conducting a study to explore the public health partnerships between ACCHS and government health services, with a focus on communicable diseases. This work was important to the AH&MRC as the global

pandemic (H1N1) 2009 influenza highlighted gaps in the collaborative relationships between services. I had the opportunity to work alongside many inspirational people at the AH&MRC, both Aboriginal and non-Aboriginal. I learned much about the ACCHS model and how to communicate appropriately with community members. The study involved interviewing service providers and I was aware that I was building on my previous qualitative research skills. The second project involved updating the AH&MRC's '2007 Early Detection and Treatment of Sexually Transmissible Infections and Blood Borne Viruses' manual. This work involved establishing a steering committee, working with Aboriginal Medical Services, government sexual health services, other users of the manual and with epidemiologists from UNSW's Kirby Institute. For a variety of reasons I was not able to complete this work before the end of my placement and had to hand it over to the permanent staff for completion. Many of the members of the steering committee, who were to contribute, read and endorse sections of the revised manual had numerous other demands and priorities, as is often the case in Aboriginal Health, where the workforce is small and staff are working across many areas. The manual is near completion and I look forward to seeing it. I did gain extensive knowledge about the incidence and prevalence of sexually transmissible infections and blood borne viruses in the Aboriginal community, the contributing factors and priorities identified by the AH&MRC and state and national governments to address the problems (18). I chose this topic for my second NSW Ministry of Health's Bug Breakfast presentation and a summary of the main points was published in the NSW Public Health Bulletin which is included in Appendix A of this thesis.

Fourth placement: University Department of Rural Health, University of Sydney, Broken Hill, NSW

My fourth placement was at the University Department of Rural Health, University of Sydney, Broken Hill, NSW. In reflection, this six month placement was the pinnacle of my training program. Again I was working on a project of benefit to Aboriginal people, children in particular, but this time I had the opportunity to work directly with the community through the Aboriginal Community Working Party, Maari Ma Health Aboriginal Corporation (an ACCHS) and with local Aboriginal play groups and pre-

schools. I further consolidated my qualitative research skills and felt confident to really drive the entire project from start to finish. I was aware of how much I had learned from my previous placements, with children, with Aboriginal health services, with ethics committees, searching the literature, conducting interviews and focus groups, and employing a more systematic approach to all aspects of the research. From this placement I produced a workplace report, a manuscript that has been accepted for publication at the end of August 2012 and a conference presentation.

In addition to my project which focused on lead exposure, I gained awareness of the poorer health outcomes experienced generally by people in rural and remote communities in Australia. People living in rural and remote areas have poorer access to PHC services, which contributes to poorer health outcomes compared to their urban counterparts. Morbidity and mortality rates increase with distance from major cities. They have higher rates of hospitalisation, of injury and accidents, alcohol misuse, mental illness, hypertension and obesity (19). Previous research has shown that sustainable PHC services for people in rural and remote areas must be well funded, with an adequate, multidisciplinary workforce, infrastructure, governance and leadership and with community engagement (20) This placement in Broken Hill has led me to further work in the area of PHC in rural and remote areas and I will reflect further on this in my conclusion.

Fifth placement: Refugee health Services in Liverpool, South West Sydney Local Health District

My last placement on the PHOTP was at Refugee Health Services in Liverpool, South Western Sydney Local Health District. While I did not produce any products for my thesis in that placement, I felt I brought to my work there a much greater knowledge of issues that affect the refugee population in NSW and in Australia. I understood many of the barriers refugees experience in accessing appropriate PHC services in both metropolitan and rural areas where many refugees are settled according to government policy.

Thesis overview

This thesis explores some of the barriers in accessing PHC experienced by those vulnerable groups and by service providers as they attempt to provide comprehensive, well coordinated and effective care. It explores factors that enable more equitable access from both the community perspective and the service providers.

The chapters in this thesis contain workplace reports and published papers; the products of my three year PHOTP (see table one). I have focused largely on projects related to PHC. My placements were largely those of my choosing and the projects were designed to meet the needs of the workplace, the PHOTP and of the DrPH.

While I have described my journey chronologically, I have arranged my thesis chapters along the lifespan, starting with children, moving to adults and finishing with the elderly, as this seemed to provide a logical structure. Each chapter is prefaced by brief introductory paragraphs which outline the context of the placement, the challenges, ethical considerations and the limitations of the work produced. In the conclusion I will reflect in more detail on the value of the work, on what has been achieved as a result of the studies described in these chapters and on where it has led me both personally and professionally.

Table One Summary of workplace projects and outputs

Workplace	Primary Projects	Major Outputs	Thesis Outputs
Public Health Real-time Emergency Department Surveillance System (PHREDSS) 03/02/2009-21/09/2009	Daily syndromic surveillance Requests for data from internal and external sources Participation in public health emergency response for pandemic (H1N1) 2009 influenza	Public Health Situation Reports, surveillance reports and briefings Briefs and reports Surveillance reports, Weekly Epidemiological Reports, participated in field work related to the outbreak at Botany Public School and on arrival of the Pacific Dawn at King Street Wharf	
	Descriptive epidemiology of fall-related injuries attended by NSW Ambulance in Sydney 2008	Manuscript prepared and submitted Presented at UNSW Post Graduate Research Symposium	Peer reviewed journal article; Characteristics of fall-related injuries attended by an ambulance in Sydney, Australia: a surveillance summary Published; NSW Public Health Bulletin, 2011, 22(4);49-54 http://www.publish.csiro.au/paper/NB09034.htm
	Bug Breakfast seminar: Refugee Health	Organisation of, and presentation at, the monthly NSW Ministry of Health public health lecture	Journal article; Refugee Health Published; NSW Public Health Bulletin, 2010, 21(3-4);101-02 http://www.publish.csiro.au/index.cfm
Community Child Health, Sydney Children's Hospital, Randwick 22/09/2009-02/07/2010	Development of Evaluation Framework	Report; An Evaluation Framework for Community Child Health Services-a Public Health Perspective	Workplace Report; An Evaluation Framework for Community Child Health Services-a Public Health Perspective
	Application of the Evaluation Framework	Report; Community Child Health's Outreach Paediatric Services at La Perouse Community Health Centre: an Evaluation of Working in Partnerships, 'A Relationship Between Equals' Presented at UNSW Post Graduate Research Symposium	Workplace Report; Community Child Health's Outreach Paediatric Services at La Perouse Community Health Centre: an Evaluation of Working in Partnerships, 'A Relationship Between Equals'
Aboriginal Health and Medical Research Council NSW 05/07/2010-11/03/2011	Project to strengthen links between Aboriginal Community Controlled Health Organisations and government health services	Report; Improving the control of communicable diseases for Aboriginal people in NSW: strengthening public health partnerships	Workplace Report; Improving the control of communicable diseases for Aboriginal people in NSW: strengthening public health partnerships
	Revising the AH&MRC's '2007 Early Detection and Treatment of Sexually	Revised Manual (handed over to permanent staff for completion)	

Workplace	Primary Projects	Major Outputs	Thesis Outputs
	transmissible infections and Blood borne viruses' manual		
	Bug Breakfast Seminar: Sexually transmissible infections and blood borne viruses	Organisation of and presentation at this monthly NSW Ministry of Health public health lecture	Journal article; Sexually transmissible infections and blood borne viruses in Aboriginal and Torres Strait Islander populations Published; NSW Public Health Bulletin, 2012, 23(3-4);92 http://www.publish.csiro.au/paper/NB11029
University Department of Rural Health, Broken Hill 14/03/2011-09/09/2011	Project investigating downward trends in blood lead screening services by Aboriginal children aged 1-4 years, in Broken Hill, NSW	Report; Review of Blood Lead Screening for Aboriginal Children in Broken Hill; 'Aboriginal Health in Aboriginal Hands, Nothing Works Better' Manuscript prepared and submitted Conference Presentation; Rural Health Research Colloquium; sustaining rural health through research, 11-13 Oct 2011, Dubbo, NSW	Workplace Report; Review of Blood Lead Screening for Aboriginal Children in Broken Hill; 'Aboriginal Health in Aboriginal Hands, Nothing Works Better' Peer Reviewed Manuscript (accepted for publication); Improving participation by Aboriginal children in blood lead screening services in Broken Hill, NSW For online publication end of August 2012, NSW Public Health Bulletin Published abstract; Blood lead screening in Broken Hill; improving access for Aboriginal children
Refugee Health Services, NSW 12/09/2011-10/02/2012	Revision of the Australasian Society for Infectious Diseases (ASID) 'Diagnosis, management and prevention of infections in recently arrived refugees' Secretariat for Refugee Health Network of Australia (ReaNA) Assist in the implementation of the Refugee Health Plan 2011-2016	Chaired a national working party Evidence based recommendations completed Agendas, minutes, support for this national bi-monthly teleconference of members Developed new position descriptions with lines of supervision Assisted with outlining required infrastructure to expand service Obtained certificate in staff recruitment, selection and induction	

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Chapter Two

An Evaluation Framework for Community Child Health Services- a Public Health Perspective

In my second placement, at the Community Child Health Service, Sydney Children's Hospital, Randwick, I collaborated with workplace supervisors to develop a project that met the needs of their service as well as those of the PHOTP and my professional doctorate. We chose to work on an evaluation of their community child health services for children from disadvantaged backgrounds, from a public health perspective. I wondered if an appropriate evaluation framework existed and planned to search the literature. If I could not find one, then I would develop an evaluation framework and apply it in an evaluation of one aspect of their service.

Acknowledgements

I would like to acknowledge my workplace supervisor Professor Katrina Williams who helped me to scope out this project, guided me in my literature searches and provided feedback on the report. Dr Karen Zwi and Professor Mark Ferson, Director of the South Eastern Sydney Illawarra Public Health Unit, also provided feedback on the report.

Abstract

Background: Evaluation of community child health services needs to include a public health perspective, which addresses population impact and health promotion as well as appropriate clinical measures. This study aimed to review existing approaches to community child health service evaluation and develop an appropriate evaluation framework with a public health perspective that focuses on vulnerable groups.

Methods: A literature search was undertaken using Medline and Embase. Other relevant web-based literature was searched using Google and other search engines. Documents were read with the aim of exploring emerging theoretical underpinnings and common themes. Themes were grouped under 'domain' headings. These were then used to develop the evaluation framework.

Results: Thirty one documents were included in this study. An existing framework for evaluation of community child health services from a public health perspective was not found. Theoretical underpinnings in the literature included the importance of social determinants of health, the Ottawa Charter, human rights, and in Australia, the Indigenous historical and cultural perspectives of health. Themes that emerged from the literature as important to community child health services were grouped to form four evaluation domains; quality, partnerships, equity and sustainability.

Discussion: This evaluation framework provides a useful lens through which to evaluate community child health services. Domains may be evaluated individually or in combination to ensure the needs of vulnerable children including those from lower socio-economic backgrounds, Indigenous and refugee backgrounds are identified and addressed, that evidence based practice is followed and that opportunities to collaborate with other services, both within and outside of health, are developed and maintained.

Introduction

Recognition of the importance of effective health care for children has grown over the years. The link between good health and well being in the early years and later life is indisputable (16). Child health services have evolved and diversified as health care providers aim to meet the often complex needs of children. While most children in Australia do experience good health outcomes and access to child health services (7), there are some groups in the population who do not fare so well. In Australia, these groups include Aboriginal and Torres Strait Islander children (17), children from refugee backgrounds (18, 19) and those from lower socio-economic groups(20).

Community Child Health services are faced with the challenges of providing effective universal care while meeting the needs of our more vulnerable groups and with caring for individual children and families as well as communities. In addition, health services need to work across a wide range of settings and in concert with other government departments such as education, housing and community services, in order to meet the often disparate needs of children.

Evaluation of child health services in the community is an important part of ensuring quality service provision and continuous improvement. It can help us to monitor outcomes and adapt programs and strategies to better use scarce health dollars. Evaluation of community child health services needs to include a public health perspective which addresses population impact, health promotion, and illness prevention aspects of care, as well as appropriate clinical measures. But what exactly should we evaluate? What are the important public health domains in community based care for children? Should the evaluation be the same for all services or modified based on service and population characteristics? This review attempts to answer these questions and proposes a framework for evaluation planning.

Aim

To review existing approaches to community child health service evaluation and develop an appropriate evaluation framework for community child health services, from a public health perspective, with a focus on vulnerable groups.

Methods

A literature search was undertaken to review existing approaches to the evaluation of community child health services.

Literature search

I identified potentially eligible papers by searching the following databases with the OvidSP interface: Medline and Embase. There were no restrictions on the date of publication. The following keywords were used: framework, prevention, child health and evaluation. Papers were included if they addressed child health, broad public health concerns, focused on community child health services, were publicly available and were written in English. Papers were excluded if they focused on evaluation of specific clinical services, dealt with services in developing countries or described acute, hospital based services. This search strategy resulted in three papers (8, 21, 22).

Attempts to locate other relevant web-based material were made by using the same inclusion/exclusion criteria and searching Google Scholar, international public health sites and government health departments in the United Kingdom, the United States, Canada and the European Union, public health associations, university websites, non-government organisations, and national organisations such as the Australian Institute of Health and Welfare and the Australian Bureau of Statistics. If an Australian document of relevance was identified an attempt was made to find a similar document from an international source and vice versa. Individuals were consulted and documents, websites and institutions that were suggested were also searched electronically.

Information synthesis

Material was included or excluded based on title, abstract, executive summary or by reading the text. The main themes regarding the provision of quality community child health services were extracted from the text. As most papers were not scientific studies, it was not possible to weight them according to evidence based criteria. Papers were instead layered according to source with government/policy/strategic documents forming the first layer. Papers written by individuals or small groups, with or without

connection to universities or local health services, formed the second layer. The themes were tabulated according to source (see pg 36).

As common themes emerged they were further grouped into domains. For example, the themes of accessibility, acceptability, appropriateness and equity were grouped together under the domain of 'equity'. All themes identified in the literature were allocated to one of four main domains. The theoretical underpinnings that emerged from all materials were also extracted and are presented below.

Results

A total of 31 documents were included and consisted of 17 papers and 14 reports. No existing framework for evaluation of community child health services from a public health perspective was found. Literature about the theoretical underpinnings of the development of community child health services, and the discussions surrounding them, provides an important context for community child health service evaluation. Literature about key ingredients of quality community based child health services was also identified. The dominant themes from this literature were used to develop the proposed evaluation framework.

1. Theoretical Underpinnings

Community health services for children in Australia and internationally are underpinned by several contextual frameworks which guide current thinking and practice. These frameworks include the importance of social determinants of health, the Ottawa Charter, human rights, and in Australia, the Indigenous historical and cultural perspectives of health.

Social Determinants of Health

The importance of social determinants of health is perhaps the key underpinning for many community based child health services today, with acknowledgement of the role of factors outside of 'health' in the health and wellbeing of children. These factors include housing, education, employment, socioeconomic status, access to transport, food security and social support, early life experiences and social exclusion (16, 17). This recognition and subsequent attention to target children from lower socioeconomic

groups can be seen as central to providing quality community child health services, and should therefore be considered in any evaluation framework.

Ottawa Charter

The 1986 Ottawa Charter, the first international conference on health promotion, defines health broadly and encompasses social and emotional well being, not merely the absence of disease. It calls for a reorientation of health services from acute to community based, primary health care with a focus on health promotion, a multi-sectoral approach, advocacy, empowerment and working with communities to identify their needs (12). The Ottawa Charter also calls for building public health policies, creating supportive environments, strengthening community action, embracing research, teaching and training (23) The value of health promotion and the central values of the Ottawa Charter are key elements acknowledged by many community child health services.

Human Rights

Recognition of human rights is raised in the literature as a contributor to ensuring that adequate and effective health services are provided to children and to marginalised groups including Indigenous people (24). In Australia relevant documents include The Racial Discrimination Act of 1975, the UN Convention on the Rights of the Child 1989 (CRC) and the draft United Nations Declaration of the Rights of Indigenous Peoples (25). Specific issues of human rights for children include access to basic health services for Indigenous children and the negative effects of detention on children seeking asylum in Australia (23, 26, 27). These human rights documents and related reports provide a useful context with which to develop an evaluation framework for community child health services as they highlight the particular challenges encountered by children of Indigenous and refugee backgrounds in accessing appropriate, affordable PHC services.

Indigenous Cultural and Historical Perspectives

In Australia, cultural and historical perspectives are often acknowledged in the provision of health services and their evaluation (28). For Aboriginal and Torres Strait Islander peoples, health does not entail only the freedom of the individual from

sickness but also requires support for healthy and interdependent relationships between families, communities, land, sea and spirit. The focus must be on spiritual, cultural, emotional and social well-being as well as physical health, and on partnerships and strategies that impact on health including working with agencies outside of health such as housing, education and employment (17). Aboriginal and Torres Strait Islander peoples experience greater levels of social disadvantage including lower levels of education and employment with nearly half of all children living in jobless families in 2006 (29). A variety of social determinants contributes to higher rates of low birth weight, infant mortality and hospitalisation for some conditions, compared to non-Indigenous Australian children (9). The impact of colonisation is still experienced by Indigenous people. Social dislocation and economic disadvantage continue to contribute to poor health for many (10). Culturally appropriate, mainstream PHC services have often not been accessible to Indigenous people and efforts to ensure services are responsive to their needs is imperative (17). These perspectives and the acceptance of the holistic definition of heath also underpin the evaluation of community child health services.

2. Emerging Themes

Table Two shows the themes that emerged from the literature as important to community child health services. These themes were grouped to form four evaluation domains. The references for each domain are tabulated and appear on page 37.

Table Two: Domains for evaluation of community child health services for disadvantaged groups from a public health perspective

Quality	**Partnerships**
Efficient	Co-ordinated care
Effective	Continuity
Appropriate human resources	Capacity to work in partnership
Evidence based	Family centred
Improved health outcomes	Multidisciplinary
Safe	Participation of young people
High satisfaction	Collaborative
Equity	**Sustainability**
Advocacy	Cost benefit
Accessible	
Acceptable	
Culturally sensitive	
Appropriate	
Flexible settings	
Affordable	
Responsive to needs	

Quality

The themes of effectiveness, efficiency, safety, human resources, evidence based practice, improving health outcomes and satisfaction were all deemed to indicate quality and were grouped together under the heading of 'quality'. Services have been shown to achieve effective and efficient results at the individual, family and community level through use of appropriate standards, protocols, guidelines and tools with potential risks avoided or minimized in safe and accredited facilities (23, 27, 30). There was consensus amongst all authors and reports that service provision should be based on current evidence that improves health outcomes, incorporating what is known to be effective and avoiding what is known not to be effective (31) As evidence develops and recommendations change, services need to adapt (21). Having the right mix of human resources was noted as an essential component of quality service provision. This often referred to the multidisciplinary team with professional qualifications, experience and ongoing training (27, 32). Client and staff satisfaction was also suggested as one measure of a quality service (23).

Working in Partnerships

It was noted that no single health service can meet the often disparate needs of every child (27). Lawless (33) cites the importance of continuity and seamlessness in meeting the needs of children with community child health services ideally providing a variety of services from birth to school entry without gaps. The family is central to the idea of working in partnership (34), with parents involved in the planning of care for their child, and approaches that empower them to take control and maintain independence (6, 22). Closer partnerships with other child and family support services (including shared intake and case co-ordination) contribute to a more comprehensive and coordinated system for children (20, 22, 27, 35). Multidisciplinary Community Child Health teams (including speech pathologists, occupational therapists, psychologists, community nurses and others) contribute a range of skills and knowledge (33) and strengthen partnerships with their communities by defining priorities and strategies together (36). The European Union strategy for child health and development promotes intersectoral action through a public health approach which includes working collaboratively with

government education, housing and welfare departments, with non-government organisations (NGOs), the private sector, and with young people and their families. Direct involvement is recommended from the planning stages through to delivery and evaluation of interventions (32). "Good practice in early childhood implies provision of a comprehensive range of integrated services (from individual to population and from universal to targeted)"(33). These themes were grouped under the broad heading of 'working in partnerships'.

Equity

Components of equity that emerged included accessibility, acceptability, appropriateness, flexibility, responsiveness and advocacy. The literature addressed the principles of equity in various ways. For example Aboriginal community controlled PHC can offer a range of services in a culturally acceptable setting (29) addressing financial barriers such as expenses not covered by Medicare or the Pharmaceutical Benefits Scheme, and cultural barriers including language, literacy and gender (2, 20). It was agreed that services for Indigenous people may be best provided by Indigenous health care workers whenever possible (29). Refugee families also require services that are culturally sensitive, affordable and that are able to meet the special needs their children (37). Community Child Health services are appropriate when based on established standards which respond to the needs of children, families and communities (23, 30, 38) and are physically accessible in flexible settings such as playgroups, kindergartens and other child centres (8). Home visiting is also recommended (21, 27). Settings must be located according to need, accessible by public transport, safe and free of hazards (39). Equitable services for children facilitate participation by all families in programs and services regardless of cost or targeted eligibility requirements (6) and have the capacity to work with diverse population groups (39).

Sustainability

The most cost beneficial services for the population were seen to incorporate early detection, intervention and prevention in a community setting (38). Sustainability and cost benefit is enhanced by building on existing structures and resources, focusing on low cost interventions that have the greatest impact on child health and development

(32, 36), with expenditure according to need (17). The themes of cost benefit and sustainability were grouped together and summarised under the heading of 'sustainability'.

Discussion

The literature review revealed a small number of papers describing evaluation of community child health services from a public health perspective. The dominant themes identified were quality, working in partnerships, equity and sustainability. The main theoretical underpinnings in the literature included the social determinants of health, the Ottawa Charter, a human rights framework, and Indigenous and cultural perspectives.

The pyramid developed (Figure One) depicts a conceptual framework which can be used by community child health services to evaluate programs and services.

Figure One: Evaluation framework for community child health services with a focus on disadvantage groups from a public health perspective

The model prioritises the needs of the child and family and the importance of the connection to the community in which they live. It allows for identification of the broad public health domains, around which evaluation of individual services can be planned. The framework allows flexibility as more specific evaluation methods and approaches can be developed on its scaffolding. Domains may be evaluated individually or in combination to ensure the needs of vulnerable children including those from lower socio-economic backgrounds, Indigenous and refugee backgrounds are identified and addressed, that evidence based practice is followed and that opportunities to collaborate with other services both within and outside of health are developed and maintained. This framework may also be useful in the planning of child health services, allocation of resources, guiding child health policy and other relevant public health programs and strategies.

Community child health services may find the theoretical underpinnings which form the foundation of the pyramid a helpful lens through which to evaluate their services. Services grounded firmly in theories which acknowledge the social determinants of health, the importance of the Ottawa Charter, human rights and Indigenous cultural and historical perspectives are likely to be better able to address a range of challenges in working with all children, but particularly those from more vulnerable backgrounds.

Conclusion

This study has drawn on national and international literature to present a framework for evaluating community child health services from a public health perspective, particularly for disadvantaged groups. The theoretical perspectives, together with the dominant themes, support community child health services which embrace the principles of equity, and include health promotion, and greater partnerships across a wide range of services with attention to the social determinants of health.

References for components of key domains

Key domain	Components	Government/policy or strategic documents references cited (n)	Individuals/small groups/universities references cited (n)
Quality	Quality	6 (2, 11, 15, 20, 22, 31)	4 (24, 5, 14, 25)
	Efficient	4 (2, 3, 20, 31)	1 (7)
	Effective	5 (2, 3, 20, 23, 31)	2 (7, 24)
	Human resources	5 (3, 11, 17, 22, 23,)	4 (4, 5, 14, 24)
	Evidence based	4 (11, 22, 23, 27)	5 (5, 7, 21, 25, 30)
	Changes health outcomes	3 (3, 2, 31)	
	Safety	2 (15, 20)	2 (7, 30)
	satisfaction	2 (3, 23)	1 (24)
Working in Partnerships	Working in partnerships	6 (2,15, 22, 23, 27, 31)	6 (7, 8, 9, 21, 25, 26)
	Coordinated care	5 (2, 15, 20, 23, 27)	2 (8, 9)
	Continuity	2 (3, 20)	1 (8)
	Capacity	2 (3, 20)	1 (14)

	Family centred	4 (2, 11, 22, 23)	4 (8, 24, 25, 30)
	Multidisciplinary		3 (5, 9, 25)
	Participatory	1 (22)	
	Collaboration	4 (2, 11, 23, 27)	3 (7, 9, 21)
Equity	Equity	6 (15, 20, 22, 23, 27, 31)	4 (7, 21, 25, 29)
	Advocacy		5 (4, 5, 7, 14, 29)
	Accessible	5 (2, 3, 17, 20, 31)	4 (4, 5, 14, 24)
	Acceptable	2 (3, 17)	
	Culturally competent	1 (17)	4 (4, 5, 14, 29)
	Appropriate	5 (2, 3, 17, 20, 31)	1 (14)
	Flexible settings	2 (15, 23)	1 (5)
	Affordable	1 (17)	3 (4, 5, 14)
	Responsive	3 (3, 11, 17)	4 (5, 7, 14, 25)
Sustainable	Sustainable	5 (2, 17, 22, 23, 27)	1 (25)
	Cost benefit	5 (2, 17, 23, 27, 31)	1 (24)

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Chapter Three

Community Child Health's Outreach Paediatric Services- an Evaluation of Working in Partnerships

Chapter three consists of the evaluation report from the application of the framework developed in chapter two. In consultation with my supervisors we chose one component of the framework and focussed on how the Community Child Health service's paediatricians worked in partnership with families, the community and other services.

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I would particularly like to thank Associate Professor Jan Ritchie from the School of Public Health and Community Medicine, UNSW, who assisted me in developing the qualitative methods and the questions to be used in the interviews and focus groups. Associate Professor Ritchie also provided feedback in the analysis of the qualitative findings and on the final report.

Ethics approval

Ethics approval for a low impact, quality improvement study was obtained from the Human Research Ethics Committee-Northern Hospital Network (HREC 10/038), from the Aboriginal Health and Medical Research Council of NSW (AH&MRC 723/10) and was ratified by the University of New South Wales.

Abstract

Background: Community Child Health (CCH), Sydney Children's Hospital, Randwick, has offered outreach paediatric services through the La Perouse Community Health Centre since November 2006 with the aim of providing accessible, local paediatric services to address the health and development needs of Aboriginal children. To improve access, a flexible approach is adopted with 'walk-in' appointments accepted, longer appointment times allocated and more frequent follow-up appointments arranged than would normally occur in a hospital outpatient setting. An evaluation was undertaken to gain a greater understanding of how the paediatric outreach services work in partnership with families, the community and other services and how the capacity of the service partnerships could be improved to maximise health outcomes for children.

Methods: A mixed methods approach was used. Data were extracted from the CCH database to obtain the number and types of referrals to and from the paediatric outreach services since its opening in November 2006. A review of the files of all children who attended the clinic in 2010 was also conducted to document the number and types of collaborations through letters, phone calls and meetings attended.
Two focus groups and five individual interviews were conducted over eight weeks in 2010 with eight service providers and four managers from the paediatric outreach service and other relevant services including Child and Family and the Malabar Community Midwifery Link Service. Open ended questions were asked to gain a deeper understanding of the meaning of partnerships and the ways in which staff work collaboratively, the barriers and enablers encountered when working collaboratively and what they perceived as ways to improve the partnership processes.

Findings: For most participants the concept of partnerships involved collaboration to achieve common goals, improve efficiency and provide opportunity for families to access a range of services. Enablers included having services at the same location on the same day, a shared need, commitment and leadership. Barriers to partnerships included lack of time to formally consult with colleagues, lack of shared databases, no common meetings in which to

discuss patient care and concern for confidentiality (particularity when working in a small community).

The data collected from the CCH database from 2006 indicated that the relationship with the community and with families allowed flexibility as 66% of children were able to see a paediatrician without a general practitioners' referral or through family/carer referrals. Forty three percent of referrals made from the La Perouse CHC were for 'other health services' (audiology and speech therapy were most common), 35% were for 'medical/surgical' services (most of those were to Ear, Nose and Throat (ENT) services), 13% to general practitioners and 9% to 'support services'. A number of recommendations were developed from the contributions of study participants and from discussions at the dissemination of the findings that could strengthen the collaborative processes used in planning and implementing care for children.

Conclusion: Overall, the paediatric service works well in partnership with families, the community and other services. More time and greater flexibility is given to families than would otherwise be the case in the more usual hospital outpatient setting. Service providers are motivated to collaborate with other services with the aim of improving health outcomes for families and are interested in further developing their relationship with the Aboriginal community at La Perouse through cultural awareness training and involvement in community events. There is a flexible, non-judgmental workplace culture with leadership that guides staff in collaborative approaches. There is further potential for reaching more children in the La Perouse area by informing or reminding a range of service providers about the clinic and the specialist paediatric services that are available locally to Aboriginal children.

Evaluation Report

Background

The Aboriginal population in New South Wales (NSW) is generally younger, from a lower socioeconomic background and has higher unemployment rates when compared to the general population (10). For children, there have been higher rates of admission to hospital for some infectious illnesses, mental disorders, insulin dependent diabetes mellitus (IDDM) and genito-urinary disorders (29). There is an increased risk of factors known to adversely influence infant health outcomes and later child health; higher rates of teenage pregnancy, higher rates of prematurity and lower birth weight. Family characteristics often include young mothers, grandmothers as primary carers and larger families including multi-generational members living in the household (29).

This evaluation was undertaken after a literature review (see chapter 2) identified partnerships as being important in providing community based care to children from disadvantaged backgrounds. The family is central to the idea of working in partnership (34), with parents involved in the planning of care for their child, empowering them to take control and maintain independence (6, 22). No single health service can meet the often disparate needs of every child and so closer partnerships with other child and family support services can contribute to a more comprehensive and coordinated system for children (20, 22, 27). Child health services can strengthen partnerships with their communities, defining priorities and strategies together(6). " Good practice in early childhood implies provision of a comprehensive range of integrated services (from individual to population and from universal to targeted)"(33).

The La Perouse Community Health Centre (CHC) in Sydney officially opened in 2006. Community Child Health's (CCH) paediatric outreach services commenced there in November 2006 and now operate on a twice weekly basis. To promote access, the service is flexible and drop-in visits as well as appointments are accepted. While the CHC serves the Aboriginal community, any child aged 0-16 years in the South East Sydney Illawarra Area Health Service (SESIAHS) Northern Network may attend the paediatric outreach services. The Northern Network includes Botany, Randwick, Sydney, Waverley and Woollahra local government areas. The paediatric outreach services provide care to children with non-acute

medical problems, developmental or behavioral problems and operate in an atmosphere of teaching and learning with paediatric registrars and Fellows rotating through terms of varying length. The CCH team provides a *social inclusion through art* program at La Perouse CHC twice a week for teenage parents that encourage them to complete or further their education. They also provide monthly health screening at Gujaga Childcare Centre that is located adjacent to the CHC.

The broad objectives of the paediatric outreach services are to provide accessible, local paediatric services to address the health and development needs of Aboriginal children and to improve family and community connectedness through community education and liaison.

The short term aims of the CCH team include:

- Provide culturally respectful service;
- Establish trust through reliable and continuous care;
- Work in partnership with the community;
- Build capacity through groups and education sessions;
- Maintain flexibility.

The longer term aims of the CCH include:

- Reduced hospital admissions and ED presentations;
- Improved neonatal outcomes (mortality, low birth weight, prematurity);
- Improved attendance at Sydney Children's Hospital specialist appointments;
- Improved compliance with chronic care management plans ;
- Reduced child morbidity rates (injury, child protection notifications, hearing loss, developmental delay and late presentation to hospital for acute conditions).

Aim

To gain a greater understanding of how the paediatric outreach services at La Perouse CHC works in partnership with families, the community and other services and how the capacity of the service partnerships could be improved to maximise health outcomes for children.

Methods

The evaluation was planned in consultation with the CCH team and other experts, and followed a five step tool kit developed as part of the Guiding Principles for Program Evaluation in Ontario Public Health Units, Canada (40). The steps include focusing the

evaluation, choosing appropriate methods, developing data collection tools, gathering and analysing the data and using the results to influence program delivery. An outline of the evaluation plan including identifying key stakeholders and proposed data collection methods and tools was developed and a steering committee was established to elicit feedback on the methods and interpretation of results.

Quantitative data describing referrals to and from other services since its opening in November 2006 were extracted from the CCH database and analyzed using SPSS (PASW Statistics 18). Additional quantitative data related to collaboration with other health care workers and services were collected manually from the files of all children who attended the service in 2010 and analysed using Excel.

Qualitative methods were chosen in order to gain a deeper understanding of the meaning and relevance of partnerships to service managers and providers and how they used partnerships in their practice. It was felt that by using a less controlled, more open study design, participants would be encourage to explore issues and this would allow discussion, clarification and the development of recommendations from the service provider's perspective (41). The relevant stakeholders from CCH included paediatricians (working in the outreach services currently or in the recent past), managers and the project officer of the Ngala Nanga Mai Parent Group, which operates at the La Perouse CHC on the same day as the paediatric outreach service. Other stakeholders included two managers and one midwife from the Malabar Community Midwifery Link Service, an Aboriginal health worker (AHEO) and a child and family health nurse (CFHN) from the Child and Family team, and one community based paediatric speech pathologist from Sydney Children's Hospital. One community based health worker was invited but declined to participate.

All participants were asked open-ended questions in order to explore what working in partnership meant to them, how they worked in partnership with families, the community and other services, and what the barriers and enablers to working in partnerships were. Participants were also asked if they thought there were negative implications associated with working in partnership. The interviewees were asked for recommendations that they thought would improve the collaborative nature of their work. All were given the

opportunity to make any additional comments or observations before ending the interviews. Interviews took place during work hours in locations convenient to the participants and were recorded with informed consent. Records were transcribed, analysed manually and interpreted by this report's author, with ideas, comments, opinions and suggestions of participants grouped according to themes arising from the data. Preliminary findings were disseminated to the steering committee, staff of the community child health service and to study participants, who then reflected on the initial analysis to confirm emergent themes (42).

Ethics approval was sought and obtained from the Human Research Ethics Committee-Northern Hospital Network (HREC 10/038) and from the Aboriginal Health and Medical Research Council of NSW (AH&MRC 723/10).

Results

Quantitative

During the study period of Nov 2006-May 2010, 147 children attended the paediatric outreach services at La Perouse CHC.

A total of 199 referrals were made from the paediatric outreach services (Table 1). Of those, 85 (43%), were made to 'other health services'; including 21/85 being to the audiology service and 20 to the speech therapy service. There were 69 (35%) referrals to medical/surgical specialists. Sixteen of those were to ENT specialists. Twenty seven (14%) referrals were made to general practitioners (GPs). Eighteen (9%) were made to 'other services,' with eight of those to the Department of Ageing, Disability and Home Care /Early Intervention /Support.

Table 1 Number and percent of referrals made from Community Child Health paediatric outreach services at La Perouse to other services from Nov 2006-May 2010

Type of Service	Referral Destination	Referrals (n)	%
General practitioner		27	13
Medical/surgical specialist	Ear Nose & Throat	16	
	Ophthalmology	9	
	Dermatology	8	
	Other	36	
	subtotal	69	35
Other health services	Audiology	21	
	Speech Therapy	20	
	Other Allied Health	16	
	Community Child Health/Tumbatin[1]/Other	13	
	CAFE (Child and Family East) (adolescent service)	6	
	Child and Family Health Network	5	
	Child Protection Unit	2	
	Development Assessment	2	
	subtotal	85	43
Other services	Department of Aging, Disability and Home Care/Early Intervention/Support	8	
	Department of Education and Training	4	
	Autism Association	3	
	Parent Program	2	
	Support Class[2]	1	
	subtotal	18	9
Total referrals made		199	100

Community Child Heath database

[1]Tumbatin- service providing diagnosis and treatment for children with developmental delays

[2]Support Class- refers to parent support class

The majority of children (37%) were referred to just one service. Eleven percent were referred to two services and 8% were referred to three services. One child (1%) was referred to seven additional services. Thirty three percent of children were not referred to any other services (Table 2)

Table 2 Number and percentage of children referred from Community Child Health paediatric outreach services at La Perouse to other services between November 2006 and May 2010

Referrals Made (n)	Children(n)	%
0	49	33
1	55	37
2	16	11
3	12	8
4	6	4
5	3	2
6	5	3
7	1	1
total	147	99

Community Child Heath database

Forty percent of children did not have a referral to the paediatric clinic. Twenty six percent were referred by a parent, grandparent or by a carer. Seventeen percent were referred by GPs, Community Health or Aboriginal Medical Service doctors, paediatricians and emergency department doctors. An additional 7% were from Early Childhood services and 3% were from the Malabar Community Midwifery Link Service (Table 3).

Table 3 Referral source for children referred to the Community Child Health paediatric outreach services at La Perouse from Nov 2006-May 2010

Referral source	Children (n)	%
No referral	59	40
Parent	34	23
General practitioner	10	7
Early Childhood Clinic/Nurse	10	7
Community Health Service Doctor	7	5
Gujaga Child Care Centre	6	4
Malabar Community Midwifery Link Service	5	3
Aboriginal Medical Service	3	2
Grandparent	3	2
Paediatrician	3	2
Carer	2	1
Emergency Department	2	1
CAFE (Child and Family East) (adolescent service)	1	1
School	1	1
Speech Therapist	1	1
total	147	100

Community Child Heath database

A chart audit was completed for all the children who visited the paediatric service in 2010 (n=28) for the purpose of further describing the types of collaboration undertaken in the care of the children. The doctors' notes were read by the evaluator and information was collected regarding the presence of correspondence and whether that was copied to others, phone calls made to family and/or other services and care planning meetings attended. Evidence from the charts of all 28 children found a total of 78 pieces of correspondence, with 59 of these copied to other service providers or parents. There were nine phone calls to family, three phone calls to other services but no record of meetings attended.
The charts of 19 children recorded that correspondence had been sent, and for 13 children there was a record that this correspondence had been copied to at least one service provider or carer. For a further eight children there were records of correspondence that was copied to others with phone calls also made to family (n=5), to other services (n=2) and to both family and other services (n=1).

Qualitative Findings

Two focus groups and five individual interviews were conducted. One focus group consisted of three service providers who work closely with the paediatric outreach services. The second focus group consisted of four health care workers including two paediatric trainees and two health care workers both of whom work closely with the paediatric outreach service. The focus groups were approximately one hour in length. The individual interviews involved two CCH managers, one previous CCH Aboriginal Health Fellow and two Midwifery managers. Interviews lasted between 45 minutes and one hour. Four major themes emerged from the interviews: (i) the predominance of informal versus formal collaboration, (ii) effective relationships, (iii) the importance of cultural sensitivity, and (iv) leadership, management and funding.

Informal versus formal collaboration

There was agreement that services working in the same place on the same days facilitated informal collaboration, communication and partnership. Information was shared opportunistically and this was the predominant means of collaborating:

...a heck of a lot of collaboration and partnerships seemed to work terribly well if it's the people on the ground forming them but from time to time the hierarchy and the administration will get in the way of that happening (manager).

Service providers in the focus groups also noted that the Aboriginal mothers were comfortable with the informal setting:

'They know it's a drop-in clinic. They won't be turned away.'

Having other services working in the La Perouse CHC on the same day made it easy for the paediatricians to refer families directly:

'Having this link with allied services really helps us make referrals, keep in contact, whereas in a big tertiary institute, these families would get lost.'

While it was agreed that these informal methods were important and practical it was also agreed that some health care workers might be left out of the loop, particularly if they did not have access to the patient record or email relating to care planning:

'Maybe just people who are involved in care of the client should meet more often'.

Some participants agreed that having an identified case manager and formal meetings would be useful in sharing information and planning the care of children and that the Aboriginal health education officer and the early childhood health nurse should attend those meetings. These ways of working have been shown to promote effective partnerships (43). Similarly Bachmann *et al* (2009) found using key workers to co-ordinate children's care across multiple service providers was effective (44). The case manager is an indispensable facilitator, bringing services together to meet the child's needs in a timely manner (45, 46). For Aboriginal people, good service delivery includes integrated services that coordinate, share knowledge and refer clients between services, broadening access and ensuring the most appropriate service is available to the child (47). In the words of one manager:

'...they're [partnerships] often best without the structure but without the structure they become vulnerable.'

Effective Relationships

For most participants, partnerships meant teamwork, collaboration to achieve common goals and cultivating equal relationships by 'working alongside' families or 'facilitating the patient's journey'. There was agreement that this way of working 'cast a wider net' and improved access to early intervention services. By working collaboratively, more children who would benefit from a range of services were identified, with better outcomes as a result. Health care workers felt supported by their colleagues and that they could improve their own skills and knowledge by working collaboratively.

Partnerships with families were seen to be empowering to parents, flexible in nature and opportunistic in that needs could be identified and addressed as they arose. Personal traits that supported partnerships included willingness, persistence, commitment to problem solving, a non-judgmental attitude and listening skills:

....some people [naturally] seek to collaborate, form teams, network and develop understandings of others and their organizations and I also think it is probably innate, that some people are more problem focused and do want to just spent time bringing together whatever is needed to help a child and their family resolve the problem they are facing and I don't think that all clinicians come with those innate skills (manager).

Some participants commented that as working collaboratively requires time and commitment, opportunities might be missed. Furthermore, potentially dysfunctional team dynamics could mean there was: '*more pain than gain*' in the end. There was some lack of clarity about the inter-professional relationships between services including the roles and responsibilities held by different health care workers. Questions arose in one of the focus groups about whether anyone was the designated 'case manager' of a child, what information needed to be shared with which workers and what should remain confidential.

Most participants in the focus groups said that it was the person rather than the position that was important, particularly to Aboriginal families:

'I think it's often the person they refer to, rather than the title. It's not a specific clinic they're going to, it's the person that they connect with' (service provider).

McBain-Rigg and Veitch (2011) found that for Aboriginal patients, the interpersonal relationship between themselves and their health care provider was of paramount importance. If trusting relationships are not formed then other efforts such as creating a culturally welcoming waiting room, were seen as tokenistic gestures (48):

I don't think families would actually follow any of your advice if they didn't feel that you respected them and that it was a working together type of relationship and again, particularly in the Aboriginal community where I think there's sensitivity around patronizing or.... unequal relationships. I think it's not easy working in an unequal type of partnership when you have expertise and somebody else doesn't. But there seems to be some sort of trust in it and it's steadily improved over the years so I think I'm quite happy with that (manager).

Cultural Sensitivity

Partnerships with the community were described as adopting a culturally appropriate model which recognized a holistic approach to health and well being, allowed more time for consultations, more time for listening and more opportunity for follow up than would normally occur in the out-patient setting. Consultation with the community occurred through established meetings with community representatives and through links with the Aboriginal health education officer:

...and I think it's probably more important with the Aboriginal communities than any others, because of that long standing lack of trust in terms of working in partnership with the community and I think our main strategy there has been to use Aboriginal Health Workers to link with the community but I do believe that Aboriginal outreach services without some community partnership are a non-starter (manager).

Participants discussed additional strategies which helped ensure that staff worked in a sensitive, culturally acceptable and collaborative way with families and the community. These included a comprehensive orientation period which provided a range of information about the way the team 'does business', consistent supervision, support, modeling and mentoring. One manager described the importance of culturally sensitive consultation with the community in ensuring the acceptance of the service:

I think the consultation would be somewhat meaningless unless people [families] felt at least respected if not empowered by the process and similarly for communities, people wouldn't come to the centre unless as a community they felt a sense of trust, they felt you understood

them and they felt that you weren't blaming them for the kinds of issues that they were bringing to you as a community (manager).

Several participants raised the issue of working in a small, Aboriginal community and the importance of trust and confidentiality:

'Sometimes working with a small number of people, you hear back that you've been indiscreet and you kind of wonder how that happened but you have been' (service provider).

'*Young Aboriginal girls....they just need to trust you. They don't like to have too many questions. Sometimes even getting them in the door's a major achievement' (service provider*).

One manager reflected on her own developing cultural sensitivity:

I think we've grown a bit more sensitive and I try and teach the registrars about being very careful not to say there's something wrong with your child ...people are very sensitive about a diagnoses of even 'language delay' and people would rather not have a label in my experience of that particular community, which is very different to the other communities who actually really like labels sometimes (manager).

<u>Leadership, Management and Funding</u>

Leadership was identified by many participants as being important in consolidating these values or the 'culture of the department'. Leadership was defined by these interviewees as having not only the responsibility and the vision but also the authority and the resources to implement this vision in both short and long term plans. Support from higher authorities of managers and leaders was felt to be an enabling factor in the collaboration between services:

'*I'm thinking of some of the conflicts we've had along the way and I really think ...if we had a decent service director then a lot of that would never have happened' (manager).*

Another added:

'...we've had some workers not working as effectively as they could because others have sort of stymied their initiatives and stuff like that which if the service has good leadership I don't believe that would happen' (manager).

The value of this leadership characteristic is supported by Harris' three factors which influence the capacity of organizations to work together: the availability of organizational support, resources and skilful people (49). Several participants noted that partnerships are

very political and that problems between managers impact negatively on grassroots staff who can feel like the 'meat in the sandwich'. Different approaches or models of care, combined with fragmentation of services could make working together more difficult and could lead to competition with territorial and unprofessional behaviour:

Yes, yes very territorial and it's really only ignorance because it's possible to work together and the world not end. You know all of these things can just enhance and make the end result of better outcomes for mothers and babies come sooner rather later (service provider).

Funding arrangements that were short term, irregular, confusing, difficult and time consuming to secure, were perceived as a barrier to ongoing collaboration with other services and the community. Management structures that were cumbersome, with too many levels, too many managers and not enough clarity and support from the highest level down, were thought to contribute to less effective working relationships between services, power imbalances and vulnerability. These experiences were also expressed by Lewis (2004) who noted that service coordination and collaboration requires time, commitment and transparent problem solving. Partnerships that have been handed down and funded by government are prone to internal management challenges and external pressure to meet short term goals (50):

I do think that sometimes management just aren't on the same page as the workers....Not saying that in a nasty way but sometimes they're not even on the same page to each other. So that reflects on us a bit you know (service provider).

While managers described formal meetings between relevant services as a way of forging partnerships between services, there was a general feeling that meetings took up a lot of time and were often fraught with conflicting agendas, a lack of shared vision and long term objectives and inadequate leadership from the highest level:

'So, its structure, leadership, money and time. That's all you need...[laughs]' (manager).

Discussion

The data collected from the CCH database indicated that CCH's relationship with the community and with families was flexible as many children were able to see a paediatrician

without a referral or through family/carer referrals. Most referrals made from the service were for 'other health services', GPs and 'medical/surgical' services with a small proportion made to support services. Many of the referrals were made to ENT specialists, audiologist and speech therapist which suggest that the links with those services are robust. There is potential to explore the need to further develop partnerships with services both within and outside of health that may provide support services to children and families such as respite, home care or play groups.

The semi-structured interviews and focus groups provided information that confirms that working in partnerships is important to the majority of staff working in and with the paediatric outreach services at La Perouse CHC and that collaborative ways of working were agreed to be beneficial to families and communities and health care workers. More time and greater flexibility is given to families than would otherwise be the case in the more usual hospital outpatient setting. Staff are motivated to collaborate with other services with the aim of improving health outcomes for families and are interested in further developing their relationship with the Aboriginal community at La Perouse through cultural awareness training and involvement in community events. There is a flexible, non-judgmental workplace culture with leadership that guides staff in collaborative approaches.

Recommendations

A set of recommendations were developed from the findings of the focus groups and interviews and from the feedback generated from participants as the preliminary findings were disseminated. These recommendations are outlined below.

1. Implement formal communication such as case reviews or case conferences

In the interviews and focus groups there was much agreement that services working in the same place on the same days facilitated collaboration, communication and partnership. Most of the interviewees also agreed that their way of working with other services was largely informal. While these methods are important and practical, they may not be efficient and reliable as some health care workers will be left out of the informal loop. With formal clinical communication, such as case reviews or case conferences, all those involved in the

care of the child will have access to relevant information through multidisciplinary team meetings. Opportunity for sharing information, solving complex problems, clarifying roles and responsibilities and for professional support and development exists in such formal meetings. This may also compensate for the lack of a shared database.

2. Mapping of the services with roles and lines of responsibility

There were some questions raised about whom, if anyone was the 'case manager' of a child, what information needed to be shared and what should remain confidential. There was also some uncertainty about which health care workers sat in which departments and who their actual supervisor was. Mapping of the services with roles and lines of responsibilities would be helpful for all staff to understand the position of others within their professional networks. Having regular interdisciplinary clinical meetings can also help team members understand the roles of others, their abilities, contributions and skills. Mapping can clarify the management structure and may highlight areas where mutual benefits can be formalized.

3. Orientation of all staff to the Aboriginal Medical Service Redfern and other relevant sectors

The turnover of junior paediatric staff (Fellow and registrars) in the paediatric clinic was mentioned on several occasions but was not generally seen as a barrier. There could be hidden benefits as new staff can bring a fresh perspective and new approaches while those paediatric trainees who have benefited from the work experience in La Perouse can go on to influence more mainstream health services with their knowledge and skills. While new staff are provided with orientation and are well supported by their supervisors, there could be additional valuable opportunities in introducing new staff to the AMS Redfern and other relevant sectors where collaboration would be mutually beneficial. The AMS Redfern is an Aboriginal Community Controlled Health Service and there is potential opportunity for the paediatric trainees to learn about their collaborative processes. Developing this relationship would also provide greater cultural awareness, which was something some of the interviewees would have liked do.

4. Ensure that key positions of the AHEO and the CFHN are maintained and well supported

The roles of the AHEO and the CFHN emerged as vital links for the paediatric services; the AHEO with the community and the CFHN with the Malabar Midwives services. As the services evolve, with potential to expand, those two key roles may experience greater stress with more demands and increased commitments. It would be advisable to ensure that these key positions are maintained and well supported. A possible strategy would be to develop a mechanism for documenting their workload and the unique contribution they make to the paediatric outreach services.

5. Invest in developing stronger partnerships with other relevant services including CAFE and schools

Since the paediatric outreach service opened, 66% of children attended through informal channels (no referral or referred by family or carer). This is consistent with the qualitative results from the interviews with stakeholders and suggests an acceptance of and response to community needs by removal of barriers that may be in place when required to obtain referrals through formal channels. However, it is interesting to see that there were few referrals from services that would be expected to be more significant partners such as Gujaga (n=6), Malabar Community Midwifery Link Service (n=5) and Redfern Aboriginal Medical Service (n=3), CAFE (n=1) and schools (n=1). GPs referred only 10 children. It was not possible to tell how many different GPs made those referrals. CCH may wish to increase the number of referrals received from these relevant partners by increasing awareness of their service and of the benefits for Aboriginal children and their families.

6. Increased attention paid to documentation

The number of charts in the audit was small (n=28). However, in those that were assessed, there was little evidence of collaborative case management of clients. There may have been more work done that was not documented including phone calls and informal sharing of information used in planning care. This would seem likely when looking at the qualitative data where participants described their partnerships as largely informal. More attention needs to be paid to documentation of partnerships, collaboration and the outcomes. This is

important not only for medico-legal reasons but to ensure the history of care planned for children and families and the outcomes, are available to other health professionals.

Limitations

There were some limitations in the availability of data and it was not possible to link data in ways that could show age/gender/diagnosis and year of presentation. This would have provided an opportunity for further analysis over time. There may have been omissions in the documentation in the children's charts with more collaboration taking place than was documented. Interviewing parents and carers of children who attended the paediatric outreach services would have added another important perspective to this report. We did not include this in our methods as many parents had recently participated in an evaluation conducted by the midwifery service. We felt that an additional request may burden the small La Perouse community.

Conclusion

Overall, the paediatric outreach services work well in partnership with families, the community and other services. A number of recommendations were made to further develop the capacity of the paediatric clinic to work in partnerships including establishing formal case review meetings, mapping of the current services, orientation of staff to relevant services and improved documentation in the patient records of the collaborative process undertaken. There is potential to strengthen the collaborative processes used in planning and implementing care for children. There is further potential for reaching more children in the La Perouse area by informing or reminding a range of service providers about the clinic and the specialist paediatric services that are available locally to Aboriginal children.

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Chapter Four

Review of Blood Lead Screening for Aboriginal Children in Broken Hill- 'Aboriginal Health in Aboriginal Hands, Nothing Works Better'

Our work in Broken Hill focused on a public health screening program for blood lead levels in children aged less than five years. Working on this project in Broken Hill, where lead has been mined for many decades and poses an environment health risk for children, gave me an opportunity to further develop my research skills. I now had the opportunity to work with Maari Ma Health Aboriginal Corporation (an Aboriginal Community Controlled Health Service), with parents and carers of Aboriginal children, with an Aboriginal Community Working Party and with the government Child Health Services. Being new to the town and virtually unknown to the parents, the interviews presented me with some challenges. I had to find a way to make everyone feel comfortable in order for the interviews to be of sufficient depth and meaningful. Using a playgroup and preschool as a venue for informal interviews with parents was most helpful. I was able to chat to parents while playing with the children and participating in lunch and tidying up activities, taking notes and confirming their responses at regular intervals. It was still not easy to initiate the interviews but I embraced the challenge and parents and carers provided valuable insights. I think this was a significant event in developing my qualitative research skills as one must be flexible and able to function in a range of environments that are comfortable for the participants, if not for the researcher. I was able to draw on my previous experience working in La Perouse and at the Aboriginal Health and Medical Research Council in Sydney, where I had developed communication skills and respectful processes that are important when working with Aboriginal communities.

Acknowledgements

I would like to acknowledge my workplace supervisor Professor David Lyle for his assistance in scoping the study and developing the methods. He also assisted in interpreting the findings and provided feedback on the report and the academic manuscript. I would also like to thank Research Fellow and PhD candidate Ms Frances Boreland, who provided valuable feedback on the report and manuscript and also assisted in analysing the transcripts. Ms Margi Lesjak, epidemiologist with the far West Local Health District, assisted by providing the data from the lead database.

Ethics approval

Ethics approval, in the form of a NEAF, including a site specific assessment, was obtained from the Greater Western Area Health Service Human Research Ethics Committee (HREC /11/GWAHS/4), from the Aboriginal Health and Medical Research Council of NSW (AHMRC, 771/11) and from the University of NSW.

The authors recognize the traditional owners, the elders past and present, the Baarkintji people on whose land this investigation was conducted.

'To Aboriginal people the land is not just soil or rock or minerals, but the whole environment – the land, the water, the air and all the life they supported, including woman and man; all the elements, the sun, the moon, the stars and the sky – all related and linked by the Dreamtime. Humans are not separate from their environment, but indivisibly united with it. Aboriginal people are part of the land and it is part of them.'(Parbury, N 1986) *Survival: A history of Aboriginal Affairs, New South Wales*, Ministry of Aboriginal Affairs, Sydney, New South Wales.

Abstract

Background: The mining town of Broken Hill was built around one of the world's largest silver-lead-zinc ore bodies. In 1991, a survey of pre-school aged children found lead was a significant public health issue and a major government funded Lead Management Program was established in 1994. The National Health and Medical Research Council recommends all Australians have a blood lead level below 10 µg/dl. Blood lead levels ≥ 15 µg/dl are notifiable to NSW Health. Since 1998, in Broken Hill, there has been a decline in the attendance rates at screening services by all children aged 1-4 years. In 2009, the attendance rate for Aboriginal children dropped below the general population rate of 37% to just 27%. The aim of this investigation was to improve access to and the outcome of blood lead level screening for Aboriginal children in Broken Hill.

Methods: The investigation took place in two phases. The first phase involved reviewing de-identified data from the Lead Management database for Aboriginal and non-Aboriginal children from 2000-2010. Rates of annual screening attendance were calculated. Attendance rates for follow-up visits by children whose blood lead level were ≥ 15 µg/dl (notifiable to NSW Health) from 2004-2010 were also calculated.
The second phase of the investigation involved qualitative methods. In-depth, semi structured interviews and focus groups were conducted to gain a better understanding of community, service provider and public health staff perceptions of the health risks of lead for children, reasons for the downward trend in attendance at screening programs and what could be done to improve those rates.

Results: For Aboriginal children aged 1-4 years, attendance rates at blood lead screening services increased steadily from 55% in 2000 to 80% in 2004. From 2005 attendance rates declined, reaching just 27% in 2009. The screening rate increased in 2010 to 39%. In 2004, 79% of Aboriginal children attended follow-up testing, compared to just 55% of non-Aboriginal children. Since 2004, follow-up rates of all children aged 1-4 years whose blood lead levels were ≥ 15 ug/dl have also declined.

Barriers to screening included; a reduced focus on lead as a health issue, fewer resources for health promotion initiatives, families face competing health and non-

health priorities and that as there is little assistance that can be offered to families with children with high blood lead levels, there is no real reason to attend screening services.

Enabling factors including; using the 'finger prick' method, linking lead screening with immunisation and child development checks, having the service offered at Maari Ma, using special screening days at Maari Ma, using culturally appropriate health promotion strategies and using television and radio to deliver messages to the community. Having an Aboriginal health worker employed by Child and Family was also seen as an important enabler in supporting and encouraging Aboriginal families to engage with the lead screening services. Recommendations were developed from the findings of this investigation.

Conclusion: The findings of this investigation are encouraging. While attendance and follow-up rates have declined in recent years, there have been periods of very high attendance rates by Aboriginal children despite reductions in lead program funding. Interviews and focus groups confirmed a commitment by community members, staff and managers of child health services in Broken Hill to reduce blood lead levels. These findings can be used to inform the 2011 Strategic plan which is currently being revised. It is important to focus on the needs of Aboriginal children, families and communities, to support new workforce directions and to work collaboratively, in existing or new partnerships, to share information and develop health promotion strategies which are appropriate and acceptable to the community.

Overview of the Study

Background

The mining town of Broken Hill was built around one of the world's largest silver-lead-zinc ore bodies. The town has a population of 19,362 residents including 959 children aged 1-4 years, 144 (6.7%) of whom identified as Indigenous (1). In 1991, a survey of pre-school aged children found lead was a significant public health issue (2) and a major government funded Lead Management Program was established in 1994 to reduce blood lead levels in children. The program ran as a 'stand alone' service with dedicated resources until 2001, after which the health service began the process of integrating the program into existing child health services with dedicated funding coming to an end by the end of 2006. The program was implemented in three phases and included monitoring of blood lead levels in children aged 1-4 years of age (Table one).

The National Health and Medical Research Council recommends all Australians have a blood lead level below 10 µg/dl (3). Forty percent of Aboriginal children aged 1-4 years screened in 2010 had a blood lead level ≥ 10 µg/dl while only 8% of non-Aboriginal children were above that recommended level (4). In 2010, 20% of Aboriginal children in that age group had a notifiable blood lead level of 15 µg/dl or higher, compared to just 1% of non-Aboriginal children (4). Aboriginal people continue to experience relative socio-economic disadvantage which places them at greater risk of exposure to behavioural and environmental health risk factors (5). This has implications for the planning and provision of services for Aboriginal people now and in the future.

Since 1998, there has been a general decline in the attendance rates at screening services by all children aged 1-4 years with an attendance rate of just 40% in 2010. However, the pattern of attendance rates for Aboriginal children has differed with 85% of children aged 1-4 years screened in 2004, after which rates declined. In 2009, the attendance rate for Aboriginal children dropped below the general population rate of 37% to just 27% (4).

Table one History of the Broken Hill Lead Management Program 1994-2006

Lead Management Program 1994-2006	
Short Term Strategy (1994-1996)	Identifying the sources and pathways of lead ingestion Conducting a major door knock campaign to encourage blood lead testing Implementing home remediation Conducting a randomized control trial to test the effectiveness of the home remediation
Long Term Strategy (1996-2001)	Adopting a public health approach Focus on raising community awareness
Integration Strategy (2001-2006)	Integration of services into existing health and other non-health infrastructures Emphasis shifted from very high to moderate blood lead levels Investment reduced, health promotion declined Funding for integration ended in 2006

Blood lead screening services were integrated into the Child and Family Health Services in Broken Hill between 2001 and 2006. The blood lead screening team was reduced in numbers and the service, now known as the Lead Health Program, is currently operated by two nurses, who each work part time. There is some input from a health promotion officer who works across the Child and Family team. In 2008, venous sampling was replaced by the capillary method, often referred to as the 'finger-prick'. Currently the program offers testing to children aged less than five years by appointment two days per week and opportunistically when the nurses are available. The program follows a testing schedule according to the blood lead level (Appendix D). Venous sampling is recommended to confirm high blood lead levels and case management is offered. This

includes home assessments, soil sampling, education regarding strategies to reduce the risk of lead ingestion and follow-up to monitor blood lead levels. The program is holistic and referrals are made to other relevant health services. Children with very high blood lead levels are referred to their general practitioner (GP). The nurses also engage in some community awareness raising at preschools and other venues. The Lead Health Program offers services to all children less than five years and has conducted targeted screening services at Maari Ma to promote screening for Aboriginal children.

In 2010, Maari Ma acquired the equipment and training necessary to offer blood lead screening through capillary testing. Services are offered by appointment at a weekly clinic or opportunistically when qualified staff are available. The nurses from Child and Family assisted staff at Maari Ma by providing training and monitoring in the initial stages. At the time of this study, the staff at Maari Ma did not have the capacity to provide all aspects of case management for children with high blood lead levels. Aboriginal children with elevated levels are referred to Child and Family for case management and follow-up, as described previously.

The Lead Management database is maintained by the Lead Health Program nurses at Child and Family. Information entered into the database for all children who have ever had a lead test includes name, date of birth, gender, Aboriginal status, address, test collection date and results. Reminder letters are generated and sent to parents when their child is due for their next blood lead test. Annual reports are produced by the senior epidemiologist at the public health unit and are publically available.

A review of blood lead screening in Broken Hill pre-school aged children was undertaken in 2007-08 (6) and four of its five recommendations have been implemented; goals and targets for screening were set, a strategic approach was taken to improve service performance, a steering group was established to provide leadership for the Lead Health Program and health services participate in a high level inter-agency forum led by the Broken Hill City Council to develop and implement a coordinated plan to manage lead health issues. The fifth recommendation for allocated funding for health promotion activities and staff training and development has not been fully adopted. In follow-up to this review, the Broken Hill Lead Health Program Strategic

Plan 2011 was undertaken by Greater Western Area Health Service (GWAHS) and is currently in draft version. The Strategic Plan 2011 will be informed by the Lead Management database, consumer feedback and by the findings of this investigation.

There are partnership arrangements currently in place in GWAHS (in transition to the Far West Local Health District), which describe the commitments to collaborative work practices between services. One is the Centre for Remote Health Research, a formal collaboration between key stakeholders whose objective is to provide leadership and sustainability in health services in far west NSW. GWAHS, Maari Ma and Broken Hill University Department of Rural Health (University of Sydney) are members. The principles of partnerships, service co-ordination, integrated service planning, workforce development, flexible funding, research and innovative service models have been adopted and members agree to work collaboratively. In addition to this collaboration is the commitment to Aboriginal health by the Far West Local Health District. Priorities include improving access to health services and increasing the effectiveness of health promotion. Strategies identified include developing effective partnerships, improving cultural awareness and supporting the development of the Aboriginal workforce (7).

Previous studies have explored the factors associated with attendance rates at blood lead screening programs in Australia. A review of the literature has described these factors (8) (Table two).

Table two Factors associated with attendance at blood lead screening programs in Australia

Factors Associated with Attendance at Blood Lead Screening Programs	
Lower Attendance	Perceptions of not being at risk Having previous low blood lead test results Feeling there is nothing that can be done Fear about the test and the result Previous negative experiences Cultural barriers Stigma Access barriers to services Time constraints Forgetting the test was due Other priorities
Higher Attendance	Targeted outreach Intensive screening during short periods Personal invitations to screening with appointment times Encouraging attitudes of service providers Having had a previous blood lead test

Aim

The aim of this investigation was to improve access to, and the outcome of, blood lead level screening for Aboriginal children in Broken Hill.

Information obtained through the investigation will be used to strengthen existing services and develop more effective strategies to engage with, and to ensure blood lead screening is accessible and acceptable to, Aboriginal families.

Methods

The investigation took place in two phases. The first phase involved reviewing de-identified data from the Lead Management database from 2000-2010. Records for all children aged 1-4 years of age were extracted. Duplicates and those with missing values were excluded. Rates of annual screening attendance for both groups were calculated, where children were recorded as having attended blood lead screening at least once in a calendar year. Australian Bureau of Statistics census data for 2001 and 2006 were used to calculate population rates according to Aboriginal and non-Aboriginal status (1). Attendance rates for follow-up visits by children whose blood lead level were ≥ 15 µg/dl (notifiable to NSW Health) from 2004-2010 were also calculated. Attendance at follow-up appointments was measured against the protocol outlined in the Lead Health Program Testing Schedule and Interventions (Appendix D). Children were grouped according to whether or not their follow-up visits were in accord with recommendations in the protocol. Comparisons are shown between Aboriginal and non-Aboriginal children and are expressed as rates. Analysis was conducted using Microsoft Office Excel 2007.

The second phase of the study involved qualitative methods to allow an open and flexible approach that would permit us to explore emerging themes (9). In-depth, semi-structured interviews and focus groups were used to gain a better understanding of community perceptions of the health risks of lead for children, why there might be a downward trend in attendance at screening programs and what could be done to improve attendance rates. Selected participants with a range of relevant experience, skills and knowledge were invited to interviews and focus groups to allow a wide range of relevant concepts to emerge. Community members, who were parents/carers of young children, were invited to be interviewed informally at an Aboriginal preschool and an Aboriginal playgroup. Interviews were conducted using an informal approach, while participating in the functions of the centre (playing with children, helping with morning tea, etc). Service providers and public health staff were invited to join focus groups to facilitate discussion, exchange of ideas and depth of reflection on their professional practice. Service managers were invited to individual interviews in order to explore planning and management strategies. Interviews and focus groups were

conducted with informed consent at locations and times convenient to participants. Confidentiality and privacy was ensured for all participants. Interviews were recorded (with the exception of community members where notes were taken), transcribed, analysed manually and grouped according to themes by S Thomas and verified by the report's co-authors.

Ethics approval was sought and obtained from the Greater Western Area Health Service Human Research Ethics Committee (HREC /11/GWAHS/4) and from the Aboriginal Health and Medical Research Council of NSW (AHMRC, 771/11).

Results/Findings

Trends in Screening Rates

The number and rates of children in Broken Hill aged 1-4 years attending blood lead screening is shown in Table three. The number of Aboriginal children in that age group increased between the 2001 and 2006 censuses from 137 to 144 while the number of non-Aboriginal children decreased from 941 to 826. For Aboriginal children aged 1-4 years, attendance rates at blood lead screening services increased steadily from 55% in 2000 to 80% in 2004. From 2005 they experienced a general decline and reached a low of 27% in 2009. The screening rate increased in 2010 to 39%. For non-Aboriginal children attendance rates also declined from 55% in 2000 to 35% in 2008. Rates increased to 38% in 2009 and 41% in 2010. There was a difference of 11 percentage points in screening rates in 2009 between Aboriginal and non-Aboriginal children ($p < 0.05$). Between 2000 and 2005 screening rates steadily increased for Aboriginal children while rates for non-Aboriginal children experienced a general decline (Figure one).

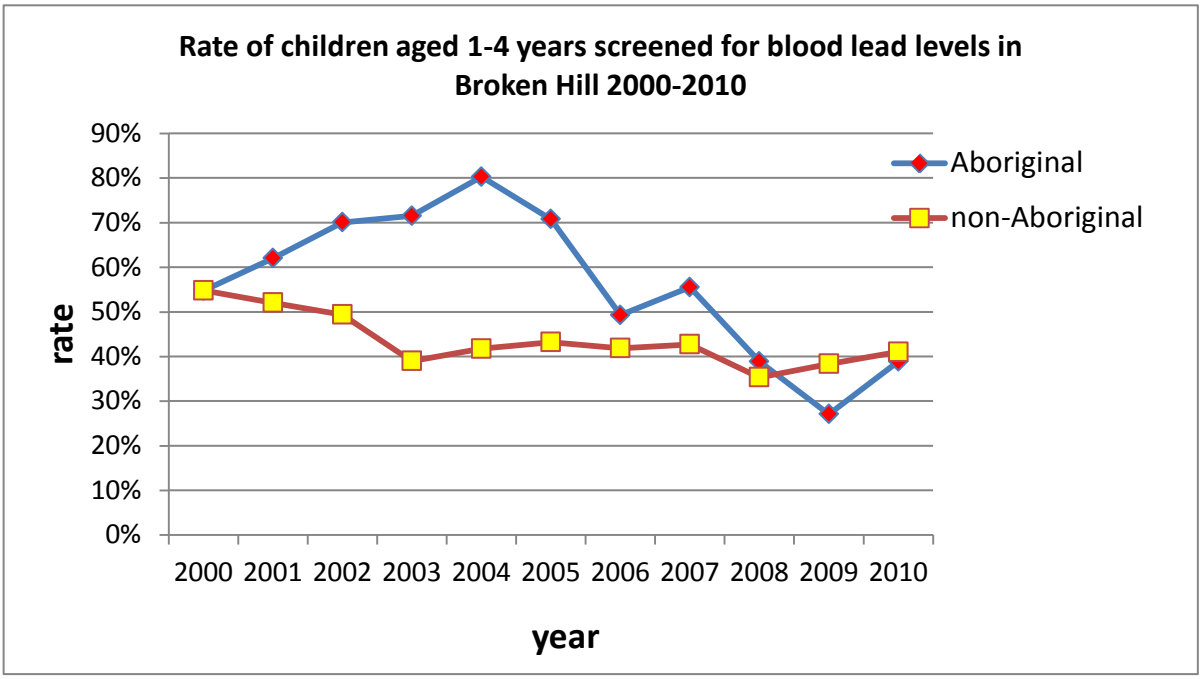
Table three Number and rate of Aboriginal and non-Aboriginal children aged 1-4 years screened at least once for blood lead levels in Broken Hill 2000-2010*

Year	Aboriginal children	Aboriginal population	Percent screened	Non-Aboriginal children	Non-Aboriginal population	Percent screened
	n	n	%	n	n	%
2000	75	137	55	516	941	55
2001	85	137	62	490	941	52
2002	96	137	70	465	941	49
2003	98	137	72	367	941	39
2004	110	137	80	393	941	42
2005	97	137	71	407	941	43
2006	71	144	49	346	826	42
2007	80	144	56	353	826	43
2008	56	144	39	292	826	35
2009	39	144	27	317	826	38
2010	56	144	39	339	826	41

Lead Management database

*2001 and 2006 ABS census data for Indigenous and non-Indigenous population used with the number non-identified added to non-Indigenous population

Figure One



Lead Management database

Trends in Follow-up Attendance

Since 2004, follow-up rates of children aged 1-4 years whose blood lead levels were ≥ 15 µg/dl have declined. Seventy nine percent of Aboriginal children attended follow-up testing in 2004, compared to just 55% of non-Aboriginal children. From 2005, follow-up rates were similar for Aboriginal and non-Aboriginal children, with an exception in 2009 when only 29% of Aboriginal children returned for follow-up compared to 47% of non-Aboriginal children. In 2010, follow-up rates were the same for Aboriginal and non-Aboriginal children (33%) (Figure two). Only two Aboriginal children attended follow-up screening in 2009 and just three non-Aboriginal children in 2010 (Table four).

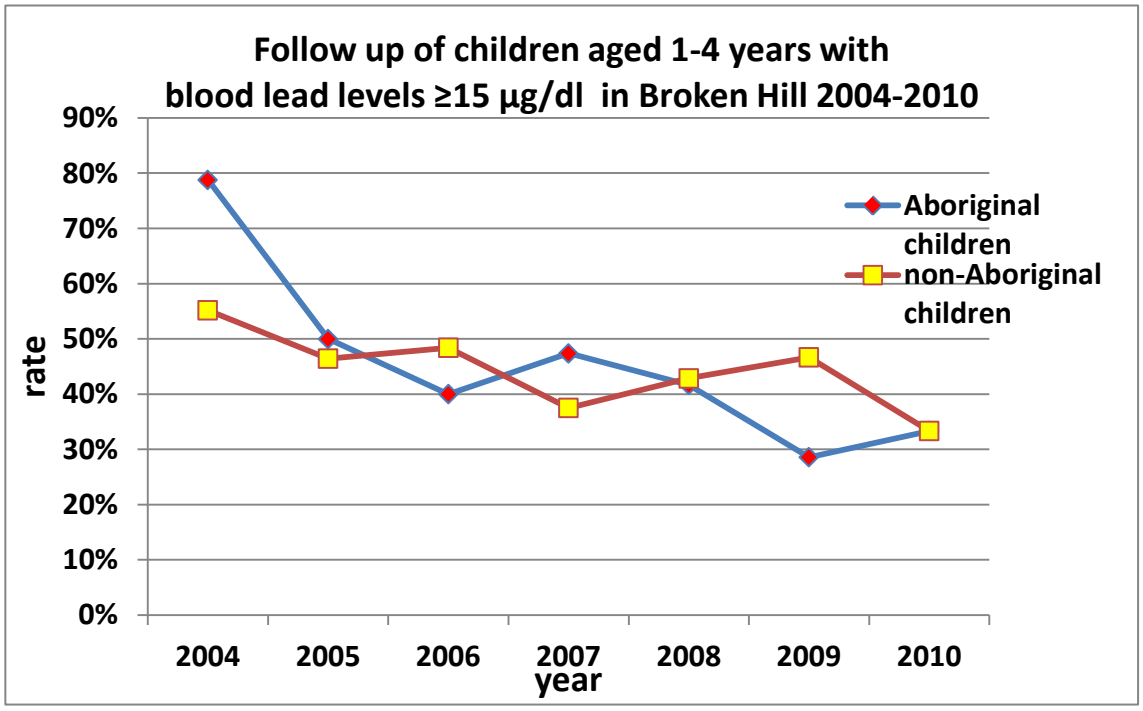
Table four Number and rate of attendance at follow-up appointments by children with blood lead levels ≥ 15 µg/dl, aged 1-4 years in Broken Hill 2004- 2010*

	Aboriginal children			Non-Aboriginal children		
year	Lead level ≥ 15 µg/dl n	Attended follow-up n	Attended follow-up %	Lead level ≥ 15 µg/dl n	Attended follow-up n	Attended follow-up %
2004	33	26	79	29	16	55
2005	22	11	50	28	13	46
2006	20	8	40	31	15	48
2007	19	9	47	24	9	38
2008	12	5	42	14	6	43
2009	7	2	29	15	7	47
2010	12	4	33	9	3	33

Lead Management database

* 2010 data are incomplete as some of the children with high blood lead levels were not due to be followed up until 2011

Figure Two



Lead Management database

* 2010 data are incomplete as some of the children with high blood lead levels were not due to be followed up until 2011

Findings from Interviews and Focus Groups

Interviews and focus groups were conducted with community members, service providers and public health staff over an eight week period in 2011. Thirteen community members were interviewed over a four day period including two days at the Healthy Start Playgroups run by Maari Ma and two days at Alma Bugdlie preschool. At Child and Family, one focus group with four service providers and one individual interview with the manager took place. At Maari Ma, one focus group with four service providers and two individual interviews with managers took place. One focus group with three public health staff took place at the University Department of Rural Health. Focus groups lasted approximately one hour while individual interviews with service providers lasted 30-45 minutes. Interviews with community members lasted between 10-15 minutes each. The findings were grouped according to barriers, enablers and suggestions to improve screening rates (Table five).

Table five Summary of findings from interviews and focus groups		
Barriers	**Enablers**	**Suggestions**
Community Members		
Lack of promotion in the community There is no help for families affected There are many other priorities Too distressing for children Process of proving Aboriginality Concerns about confidentiality	Having special screening days Having lead screening service at Maari Ma Using the 'finger prick' method Providing help with transport Offering home remediation	Raise community awareness Put pamphlets in prominent places, like the plaza Bring back 'Lead Ted' Use reminder letters and sms Go back to special screening days
Service Providers		
Service capacity Affected by lack of funding Staff turnover Not having an appropriate physical space to conduct tests Community perceptions	Service capacity Having the right people with the right training Having a paediatrician Having an Aboriginal health worker at Child and Family in 2004-05	More funds to raise the lead profile Re-engage with the community Return to special days with incentives Use TV, radio, magazine Continue to increase service capacity Complete expansion with new building at Maari

Lead is not an important issue anymore There are other more important priorities Some families feel they know how to live safely with lead There is no help available There is lack of awareness of the health risks and of the 'finger prick' method Some families may feel fear and lack of trust of government services Socio-economic barriers Some families cannot afford to implement changes recommended by health services Families may move and be hard to locate There may be many other children making it hard to organize appointments Inter-organizational Lack of effective communication between services Lead management database is not used effectively Lack of effective representation on existing committees	Less staff turnover Service Model Culturally acceptable model at Maari Ma Flexible screening times Sending out reminders Face to face communication Being proactive with home visits Culturally appropriate flyers and brochures Other successful strategies Linking with immunisation, ANC and healthy development checks Utilizing partnerships with Mission Australia Using the 'finger prick' method Having special, targeted screening days	Ma Develop an Indigenous lead program Train Early Childhood Health Nurses to do the tests Other Better access to and use of the lead management database More clinical representation on existing committees, not only executive Involve other organizations such as Housing and Education More resources to help families take up recommendations

Public Health Staff		
Decline in the promotion of the service Community perceptions Less need as lead levels were reducing No assistance for families Venous testing was traumatic Service capacity Screening times may be inconvenient Transport difficulties Special lead screening days were not regular Other As lead is specific to Broken Hill, there may be less focus on it in the wider health services	Special screening days at Maari Ma Using the 'finger prick' method Promoting lead as a health risk in the community	Re-engage with families using multifaceted strategies Consult with the Aboriginal Community for appropriate content and format Letters, sms, radio, TV, print media, talks at kindergarten/preschools Bring back 'Lead Ted' Attend the Community Working Party more often Strengthen links with Housing, Water and other services Consider high intensity, specific programs run periodically in addition to or in place of regular and opportunistic screening Provide more frequent feedback from the Lead Management database to monitor what is working well and what is not Attend steering committee meetings regularly

There was general agreement amongst community members that although lead was an important health issue, health risks and the importance of screening were not well promoted. Many participants remembered that there were risks related to learning and intellectual development but had forgotten the details. Some had forgotten the health messages about ways to reduce the risk of lead ingestion. Many participants wanted to see the messages promoted in the community. Most spoke fondly of the lead mascot 'Lead Ted' and wanted to see a return of the lead specific days held at Maari Ma.

Service providers described barriers to lead screening. Some of those barriers were related to service capacity and funding for key positions;

'There was an Aboriginal health worker that worked with our program. That was a fantastic way to identify and communicate the lead problem with the Aboriginal community. Unfortunately that position no longer exists' (focus group).

Most agreed that community perceptions were a significant factor;

'People *don't see lead as a health issue anymore because we're not telling them it's a health issue' (focus group). 'Lead testing hasn't been advertised in Broken Hill for a long time. The whole service just faded into the dust bowl' (focus group).*

There was wide agreement that socio-economic barriers needed to be acknowledged and were key factors contributing to the decline in attendance at screening services, with many families unable to take up recommendations made by health services regarding home remediation;

'…..[families with limited resources are] living in rental houses, landlords are not going to plant lawn, they're not going to clean the ceilings out, they're not going to help them so there is a ...this is the best I can do...I can keep my kids hands clean, I can keep my house clean, but when you're living in a house and the dust is coming through the roof, the dust storms are coming through the house, how do you do it?' (focus group).

Service providers also discussed gaps in communication between health services including no formal meetings to share information or discuss issues related to declining attendance rates and strategies. Some service providers were not aware of information available from

the Lead Management database. Services did not share case management of Aboriginal children with high lead levels or do joint home visits, which was raised as a significant issue for Aboriginal families who may feel judged;

'It is so important that the services are provided from a place that they feel comfortable going to….We need to run an Indigenous lead program here because some of the problems are very unique to the people here' (focus group).

Factors associated with increased screening rates included service capacity;

'One of the best things we did was organise the intake of 11 trainee health workers for the certificate 4. So the engagement of people around the community has been far, far greater. And the workforce is very mobile; they're very community based as well' (focus group).

Another key factor was providing the lead screening service within a service model that was culturally acceptable to the Aboriginal community;

'The first people they see are Aboriginal people, the next line of people they see are Aboriginal people and so, Aboriginal Health in Aboriginal Hands, there's nothing works better, nothing works better' (service manager).

Verbal information with face to face communication and culturally appropriate resource materials were listed as enablers within the culturally appropriate service model;

'Well the face to face contact is the main form of contact you have with Indigenous people' (focus group).

There was wide agreement amongst service providers that linking screening opportunistically with other services such as immunisation, child development checks and antenatal care was proving to be successful in increasing attendance, although this strategy is in its early days. Service providers agreed that more funding, even if not to health directly, would be helpful in re-engaging with the community in a variety of ways including specific lead screening days and getting the messages back out to families as well as assisting families who were limited by socio-economic barriers.

Public health staff agreed about barriers and enablers to lead screening. Key messages that emerged regarding strategies to improve attendance rates included re-engaging with the community and families to increase their confidence that if there was a problem, something could be done. Consulting the Community Working Party was seen as one way to do this. Using a multi-faceted approach was seen as essential and other strategies included strengthening links with Housing NSW, Essential Water and other services. Changes to the Lead Management Group were also suggested and included re-vitalising membership and producing quarterly reports from the Lead Management database, which could be used to monitor attendance rates more frequently than the current annual report and allow a more rapid response.

Discussion/Implications

While this investigation has shown a decline in lead screening attendance rates in non-Aboriginal children from 2000-2010 and in follow-up rates from 2004-2010, the trends have differed for Aboriginal children. The steady increase in the rate of screening from 2000-2004 occurred during the long term and integration strategy of the Lead Management Program when investment in lead management was declining and lead screening was integrated into existing health services. The follow-up rate for Aboriginal children was much higher than for non-Aboriginal children in 2004 after which it declined rapidly.

Factors that explain the high attendance rates may include the 'special days' for lead screening that were taking place at Maari Ma . These 'special days' were promoted as family days, with a BBQ, face painting and other incentives, such as, toys for the children. In 2004, when the attendance rate was at its highest at 80%, an Aboriginal health worker was employed by Child and Family whose role included identifying Aboriginal children who were due for a blood lead test and encouraging/assisting families to bring those children in to the centre. These two strategies have been successful in increasing the attendance rates for testing and for follow-up as more children were identified and families were encouraged and supported by the Aboriginal health worker. After 2004, the position of Aboriginal health worker was no longer funded and attendance rates declined in general screening and follow-up. The rates of testing and follow-up were at an all-time low in 2009 when Maari Ma experienced a decline in workforce capacity and there were no targeted, special lead

screening days at the service. The low rates of follow-up show that even children with high blood lead levels were not engaging with the services' case management which included education, home visiting soil sampling and further monitoring of blood lead levels. Rates in attendance and follow-up for Aboriginal children have increased in 2010, since Maari Ma has begun offering 'finger prick' testing. This suggests that using a culturally appropriate service model, combined with other strategies, will be successful in improving blood lead screening rates for Aboriginal children, although it is too early to say if the upward trend will be sustained.

Findings from the interviews and focus groups have shown both similarities and differences in the perceptions of barriers, enablers and suggestions to increase the lead screening rates. Regarding barriers, most participants agreed that as there is less focus on lead as a health issue, there are less resources for health promotion initiatives, families face competing health and non-health priorities and that as there is little assistance that can be offered to families with children with high blood lead levels, there is no real reason to attend screening services.

Health services agreed that lead is more than simply a health issue and that a concerted effort is needed to address the problem. Most agreed that there were enabling factors including using the 'finger prick' method, linking lead screening with immunisation and child development checks, having the service offered at Maari Ma, using special screening days at Maari Ma, using culturally appropriate health promotion strategies and using television and radio to deliver messages to the community. 'Lead Ted' was popular with everyone and was seen to symbolize the messages that lead is a significant health issue and that screening is important.

The findings also revealed some significant differences in perceptions of the barriers and enablers between services. Maari Ma described logistical barriers related to the physical space currently available and the difficulty ensuring the correct environment to conduct the test (temperature, dust-free). These logistical barriers limited their ability to provide an efficient and streamlined lead screening service to families, although a new facility is being built which will address these barriers. Maari Ma also raised the concern that some Aboriginal families have felt judged by government health services, particularly if a home

visit is recommended and that this may be associated with fear of having their children removed. This fear was placed in an historical context from a time when Aboriginal children were forcibly taken from their parents. These families felt more comfortable in the presence of the Aboriginal health worker. Removing this position from Child and Family Health Services left some families with limited choices for lead screening for their children. Maari Ma was experiencing limited capacity in terms of workforce and the infrastructure necessary to undertake quality blood lead testing and without the Aboriginal health worker at Child and Family, screening rates fell as Aboriginal families were left with few acceptable options. Better collaboration between health services in planning lead screening programs and advocating for the retention of the Aboriginal health worker position may have prevented the drop in participation and contributed to ensuring Aboriginal had the best start in their early years.

Some community members mentioned that it could be difficult or inconvenient for some people to prove their Aboriginal status in order to access Maari Ma health services and that there was some concern about confidentiality as the community is small and patients may have a personal relationship with service providers which discouraged them from using the service. Access to an Aboriginal community controlled heath service is important and provides a culturally appropriate and safe environment for families however it is also important for people to have a choice of services.

In relation to enablers, Maari Ma focused on issues related to service capacity such as having the right people in the right positions with the right training and issues related to their service model such as having a focus on face-to-face communication, home visiting to follow-up those who did not attend appointments and providing transport to assist families. Maari Ma also described a partnership with Mission Australia's Brighter Futures which provided an opportunity to promote their lead screening service and also helped to address barriers related to socio-economic status.

Child and Family services are encouraged by their recent success of SMS reminders and are developing a webpage as part of a larger child and family site, which will contain information about lead including the health risks and the things that parents can to do minimize those health risks.

Recommendations

Recommendations were developed from the findings of this investigation and from discussions with key stakeholders involved in lead management services in Broken Hill, including the Lead Reference Group, the Lead Management Group and the Community Working Party.

1. Invest in an ongoing social marketing campaign that increases community awareness of lead as a health issue and engages the Aboriginal community as partners in its management.

Community members interviewed recalled some of the problems associated with lead but had forgotten the details including what could be done to minimize risk. Social marketing involves planning, implementing and evaluating programs where the aim is behaviour change of a target population. For programs to be successful, it is important to work collaboratively with the Aboriginal community at every stage of the campaign. Working with the Community Working Party is one way of engaging with the Aboriginal community.

2. Increase participation in blood lead screening by young children by incorporating it as part of routine child assessment schedules offered at Maari Ma and Child and Family.

This process is already underway at both Maari Ma and Child and Family and further incorporates lead screening into recognized public health programs including immunisation, healthy child development checks and antenatal care. Staff at both services are encouraged by the early success of this strategy which further integrates lead screening into existing child health services. There is further potential here for a wider range of health care workers to be trained in conducting the lead screening test using the 'finger prick' method, including early child health nurses and midwives.

3. Establish joint planning, professional development and management processes for lead screening between Maari Ma Health Aboriginal Corporation and the Far West Local Health District, to ensure Aboriginal families have access to culturally appropriate lead health services, supported by a Memorandum of Agreement.

Findings from the interviews and focus groups and discussion with stakeholders have shown that there is not consistent, formal collaboration between services at the regional level in

the planning and delivery of lead screening services. While some processes are in place they are largely informal and would benefit from a well defined agreement. A Memorandum of Agreement would clearly state the roles and responsibilities of each service and would provide an agreed framework for service managers to work collaboratively in addressing common interests and achieving shared goals. Information from the Lead Management database can be used more effectively to monitor trends in a timely manner and plan strategically to address declines in attendance rates.

4. Establish more formal links between blood lead screening at Maari Ma and case management services at Child and Family to ensure appropriate options are offered to all Aboriginal families.

As services currently operate, Aboriginal children screened at Maari Ma with high blood lead levels are referred to Child and Family for ongoing case management. Case management may include confirmation by venous sampling, home visiting for risk assessment, education and further testing for monitoring of lead levels and even referral to hospital. It is important that Maari Ma participate in all aspects of case management through shared care planning and joint home visits. Establishing formal links between services through regular clinical meetings and agreed upon processes can ensure the exchange of relevant information. It would also provide a more culturally safe and acceptable environment for Aboriginal families whose children have elevated lead levels. This can lead to better outcomes for Aboriginal children including improved attendance for follow-up testing.

5. Seek funding to support socio-economically disadvantaged families implement evidence based lead safe practices in response to a child's elevated blood lead level.

Socio-economic factors emerged as key factors in the downward trend in attendance at lead screening services. As many participants in interviews and focus groups observed, there was no practical help or support for families to make the recommended changes to their home environment. For those with limited income and/or living in rental accommodation this was a significant barrier to screening as some parents felt there was nothing that could be done to minimize the risk. Supporting these families can improve their confidence in the lead screening services and encourage their re-engagement with this important public health

monitoring program. Funds can be sought through NSW Health or other government services including Housing NSW and through the non-government sector.

6. Employ an Aboriginal Health Worker at Child and Family to assist in the provision of services to Aboriginal clients.

Attendance rates for screening and follow-up were highest when Child and Family employed an Aboriginal health worker. After funding for this position ended, attendance rates fell significantly. Many participants in the interviews and focus groups agreed that this key position contributed considerably by supporting and encouraging Aboriginal families to participate in the screening services including follow-up and case management. As it is important for Aboriginal families to have a choice of services, it is recommended that the position of Aboriginal health worker be reinstated at Child and Family.

Conclusion

The findings of this investigation are encouraging. While attendance and follow-up rates have declined in recent years, there have been periods of very high attendance rates by Aboriginal children despite reductions in lead program funding. Interviews and focus groups have confirmed a commitment to lead as an important health issue by staff and managers of child health services in Broken Hill. Aboriginal community members have expressed a desire to see lead health messages promoted again in the community. These finding can be used to inform the 2011 Strategic plan which is currently being revised and aims to re-engage with families to increase screening rates, access to case management and to reductions in the lead levels in all children. It is important to focus on the needs of Aboriginal children, families and communities, to support new workforce directions and to work collaboratively, in existing or new partnerships, to share information and develop health promotion strategies which are appropriate and acceptable to the Aboriginal community in Broken Hill.

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Chapter Five

Improving the Control of Communicable Diseases for Aboriginal People in NSW-Strengthening Public Health Partnerships

Access to the contents of Chapter Five is restricted. Approval for this restriction was granted by the Graduate School of Research.

Chapter Six

Characteristics of Fall-Related Injuries Attended by an Ambulance in Sydney, Australia-a Surveillance Summary

This last chapter contains work done in my first placement in the PHOTP. This was a six month placement with the Public Health Real-time Emergency Department Surveillance System (PHREDSS) at the Centre for Research and Epidemiology at the NSW Ministry of Health. I undertook a project which described the epidemiology of fall-related injury to which an ambulance was called, in Sydney in 2008. This topic was pre-determined by my workplace supervisors but the study was developed and undertaken primarily by me with some assistance from my supervisors, Mr David Muscatello and Ms Wei Zhang. They specifically assisted with the SAS programming and extraction of data from the NSW Health database. Dr Paul Middleton from the Ambulance Research Institute, Ambulance Service of NSW, assisted by providing information about ambulance reporting processes, feedback on the manuscript and in interpreting the results. Mr Scott Deeth, Manager of Medical Dispatch Standards, Ambulance Service of NSW assisted with descriptions and clarifications of ambulance call processing. I would also like to acknowledge Mr Andrew McNamara, Object Craft Pty Ltd, for assistance in developing the ambulance surveillance database.

This work has been published in the NSW Public Health Bulletin. I include this work as a published paper, which is a requirement of this doctorate and of the PHOTP. It is a work that used quantitative methods. I place it at the end of my age related chronology as 25% of fall-related injuries, requiring an ambulance, were experienced by women aged 80 years and over. The chapter is presented as a Word version of the PDF.

We did not apply for ethics approval for this study which contained only de-identified data.

Characteristics of fall-related injuries attended by an ambulance in Sydney, Australia: a surveillance summary

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Abstract: In NSW, fall-related injury costs the health system more than any other single cause of injury. A public health surveillance database containing information routinely recorded by the Ambulance Service of NSW was used to define the epidemiology and characteristics of fall-related calls in the Sydney metropolitan area in 2008. The dataset contained 37 488 fall-related calls, representing a crude rate of ambulance call-outs for falls of 843 per 100 000 population. Females accounted for 57% of all fall-related calls, and the female rate of injury to the 'hip to foot' region increased with age. Males in all age groups reported 'head and neck' injury most often. In an analysis of a random sample of 1200 calls, 70% of ambulance dispatches were to a home or residential institution. The findings of this study on the risks for fall-related injury can be used to guide policy for ambulance service delivery. Expansion of data linkage to emergency department and admitted patient databases would provide information to further describe the epidemiology of falls in NSW.

Falls account for approximately one-third of all injury-related hospitalisations and one-fifth of all fatal injuries[1] and contribute substantially to the burden on health services in Australia. Each year, one in three older people will experience a fall and will then be at risk of experiencing further falls.[2] In the period 2003–2004, falls in older Australians that

required hospitalisation were estimated to cost $566 million. Indirect costs such as lost productivity and costs borne by the patient, family and community were estimated to exceed $1 billion annually.[1]

In 2005–2006, the number of new cases of fall injuries in people aged 65 years and over that resulted in hospitalisation was more than 66 800, which represents a 10% increase since 2003–2004. Age-standardised rates of fall injuries for older people have also risen since 2003–2004, despite screening and prevention programs.[3]

In New South Wales (NSW), fall-related injury costs the health system more than any other single cause of injury.[4] Falls accounted for 38% of injury-related hospitalisations in NSW in the period 2004–2005 to 2006–2007. In 2006–2007, there were 43 762 hospitalisations and an age-standardised rate of 587 per 100 000 population. More than half of those hospitalised were aged over 65 years (a rate of 2747 per 100 000). In this age group, the rate of hospitalisation was higher for females (3073 per 100 000) than males (2275 per 100 000).[4]

Falls are the second most common reason for emergency ambulance calls in Sydney[5] however there is limited published information on ambulance call-outs for falls in NSW. We used a public health surveillance database containing information routinely recorded by the Ambulance Service of NSW to describe the epidemiology and characteristics of fall-related ambulance calls in the Sydney metropolitan area in 2008.

Methods

Data source

The Ambulance Service of NSW uses Medical Priority Dispatch System™ (MPDS) software to gather data systematically from 000 callers to prioritise responses. Details of computer-aided ambulance dispatches are recorded in a database at the regional ambulance headquarters. The NSW Department of Health receives hourly updates of these data from

the Sydney Ambulance Operations Region, which are used to supplement near-real-time emergency department surveillance of communicable and non-communicable conditions.[6]

For this study, we extracted the records of all emergency ambulance calls assigned a problem category of 'fall' in 2008. After 1218 exclusions for cancellations, transfers to other regions, duplicates and hoaxes, we were left with a dataset of 37 488 calls for which an ambulance was dispatched. Age and gender were known for 93% of calls.

The variables used in the analysis were: age, gender, time of call, local government area, call priority (1 or 2), the person's consciousness and breathing status at the time of the call and the description of the location of the patient. The comment text field, which contains a description of the problem by the caller, was also included to permit analysis of the body region of the injury. The time of the call was categorised as 'daytime' (0800–1800 inclusively) or 'out of hours'.

Manual categorisation of a random sample of records

To categorise the place of the fall and reported injuries sustained, a random sample of 1200 (3.2%) call records was selected from the complete data set with the SAS RANUNI function. Descriptions of the patients' location and comment texts were reviewed and manually categorised. To be consistent with reports on hospitalisations for falls injuries,[3] we based our categorisation of place of fall on the external cause of morbidity and mortality rubrics of the International Classification of Diseases, Revision 10, Australian Modification (ICD-10-AM).[7] We grouped the body locations of injury into 'head and neck', 'hip to foot', 'shoulder to hand', 'trunk/back/pelvis', 'multiple body regions', 'no injury' or 'unspecified'. 'No injury' was based on comments that the person had no injuries. We also classified whether the call was to request a 'lift only', where assistance was required only for getting up after a fall. Information on the type of fall was missing for approximately 40% of calls.

Counts from the random sample were scaled to estimate counts for the Sydney region, and confidence intervals for proportions were calculated by exact binomial methods.

Data analysis

Analysis was performed with SAS statistical software (version 9.2, SAS Institute, Cary, NC, USA). Age-specific rates were calculated from the total age-specific populations of the local government areas included in the Sydney Ambulance Operations region, which includes areas from the Hawkesbury River in the north, to Bowral in the south and Mount Victoria in the west. To compare overall rates in males and females independently of age, direct age-standardised rates were calculated for each gender from the Australian standard population in the 2001 census.[8]

Results

The crude rate of call-outs for falls was 843 per 100 000 population. The lowest rates were for people aged 25–34 years, with higher rates for children aged under 5 years. The rates increased dramatically from age 50, from around 585 to 11 551 per 100 000 in people aged 85 years and over (Table 1).

Table 1. Age and gender of patients who had a fall-related ambulance call in the Sydney metropolitan area, 2008

Age group (years)	Male			Female			Total		
	n	%	Crude rate per 100 000	*n*	%	Crude rate per 100 000	*n*	%	Crude rate per 100 000
0–4	783	2.2	543	590	1.7	432	1373	3.9	489
5–9	473	1.4	367	254	0.7	207	727	2.1	289
10–14	547	1.6	416	325	0.9	259	872	2.5	339
15–19	390	1.1	283	318	0.9	241	708	2.0	263
20–24	413	1.2	258	405	1.2	257	818	2.3	257
25–29	412	1.2	251	379	1.1	229	791	2.3	239
30–34	419	1.2	260	364	1.0	221	783	2.2	240
35–39	442	1.3	274	430	1.2	261	872	2.5	267
40–44	521	1.5	347	549	1.6	361	1070	3.1	354
45–49	580	1.7	399	519	1.5	353	1099	3.2	376
50–54	711	2.0	554	832	2.4	625	1543	4.4	590
55–59	608	1.7	535	729	2.1	623	1337	3.8	580
60–64	915	2.6	931	986	2.8	996	1901	5.5	964
65–69	789	2.3	1148	920	2.6	1305	1709	4.9	1228
70–74	1246	3.6	2347	1576	4.5	2674	2822	8.1	2519
75–79	1411	4.1	3382	1955	5.6	3853	3366	9.7	3640
80–84	1978	5.7	6435	3344	9.6	7482	5322	15.3	7055
85+	2477	7.1	11 570	5221	15.0	11 542	7698	22.1	11 551
Total	**15 115**	**43.4%**	**741**	**19 696**	**56.6%**	**943**	**34 811**	**100.0%**	**843**
	Age standardised rate for males		**821**	**Age standardised rate for females**		**839**	**Age standardised rate for total population**		**833**

Of a total 37 488 calls, 2677 (7.1%) were excluded from this analysis because of missing age or sex.
Australian standard population Census 2001 used to calculate population rates.
Confidence intervals were not calculated because this analysis used fully enumerated ambulance calls and because of the very large counts.

Females accounted for 57% of fall-related calls, and 25% of all calls were for women aged 80 years and over. For people aged under 50 years, the rates were generally higher for males, but women over this age had higher rates, until over 85 years when the rates in the two sexes were similar. The crude rates for females were higher than for males (943 and 741 per 100 000, respectively). After direct age standardisation, the rates were similar, with 839 and 821 per 100 000 for females and males, respectively (Table 1).

Fifty-six percent (21 048) of calls were assigned a priority code 1, requiring an immediate response. The patient was reported as conscious in 92% (34 601) and breathing in 94% (35 116) of calls. Sixty percent (22 420) of calls were received during 'daytime hours'.

In the random sample, 58% (95% confidence interval (CI), 55–61) of ambulance dispatches were to a home, 14% (95% CI, 12–16) to a trade or service area and 12% (95% CI, 10–13) to a residential institution (Table 2).

Table 2. Estimated incidence of falls by location of patient from a random sample of 1200 fall-related ambulance calls in the Sydney metropolitan area, 2008

Location of patient	*n*	% (95% CI)
Home	21 694	58 (55–61)
Residential institution	4308	12 (10–13)
School/public administrative area	1654	4 (3–6)
Sports/athletic area	312	1 (0–2)
Street/highway	3246	9 (7–10)
Trade/service area	5306	14 (12–16)
Industrial/construction area	125	0 (0–1)
Other specified	593	2 (1–2)
Unspecified place	250	1 (0–1)
Total	**37 488**	

Twenty-nine percent (95% CI, 26–32) of callers reported 'head and neck' injuries; 20% (95% CI, 18–23) reported injuries to the 'hip to foot' region; and 9% (95% CI, 7–10) reported 'no injury' (Table 3). Six percent (2247; 95% CI, 5–7) were calls for a 'lift only'.

Table 3. Estimated incidence of injury by body region from a random sample of 1200 fall-related ambulance calls in the Sydney metropolitan area, 2008

Body location of injury		*n*	% (95% CI)
Head and neck	Head	10 675	99 (97–100)
	Neck	156	1 (0–3)
	Sub-total	10 831	29 (26–32)
Trunk, back and pelvis	Thorax	468	17 (10–26)
	Abdomen, lower back, lumbar spine and pelvis	2310	83 (74–90)
	Sub-total	2778	7 (6–9)
Shoulder to hand	Shoulder and upper arm	936	30 (21–40)
	Elbow and forearm	312	10 (5–17)
	Wrist and hand	780	25 (17–34)
	Arm unspecified	1124	36 (26–46)
	Sub-total	3153	8 (7–10)
Hip to foot	Hip and thigh	2247	29 (24–36)
	Knee and lower leg	1873	22 (17–28)
	Ankle and foot	1498	20 (15–25)
	Leg unspecified	2029	29 (23–35)
	Sub-total	7647	20 (18–23)
Multiple body regions		2872	8 (6–9)
Reported no injury		3280	9 (7–10)
Unspecified		6904	18 (16–21)

For males, calls reporting injuries to the 'head and neck' region dominated all age groups. In females, injuries to the 'hip to foot' region were just as common as injuries to the 'head and neck' region. Among children aged under 5 years, calls for 'head and neck' injuries comprised a far greater proportion than for other age groups, with 68% (95% CI, 45–86) of calls for boys and 90% (95% CI, 68–99) of those for girls relating to the head or neck (Table 4).

Table 4. Comparison by age and gender of body region of injury reported by callers, from a random sample of 1200 fall-related ambulance calls in the Sydney metropolitan area, 2008

Sex	Body region	0–4 years		5–16 years		17–64 years		65+ years		Total	
		n	% (95% CI)	*n*	% (95% CI)	*n*	% (95% CI)	*n*	% (95% CI)	*n*	% (95% CI)
Male	Head and neck	469	68 (45–86)	437	37 (22–54)	2093	40 (32–47)	1781	24 (19–30)	4873	33 (29–37)
	Hip to foot	0	0.0	219	18 (8–34)	968	18 (13–25)	1343	18 (13–23)	2530	17 (14–21)
	Multiple body regions	0	0.0	125	11 (3–25)	406	8 (4–13)	469	6 (4–10)	1031	7 (5–10)
	No injury	0	0.0	0	0	312	6 (3–11)	1437	19 (14–25)	1749	12 (9–15)
	Shoulder to hand	125	18 (5–40)	219	18 (8–34)	531	10 (6–16)	469	6 (4–10)	1343	9 (7–12)
	Trunk, back and pelvis	31	5 (0–23)	31	3 (0–14)	469	9 (5–14)	406	5 (3–9)	937	6 (4–9)
	Unspecified	62	9 (1–29)	156	13 (4–28)	500	9 (6–15)	1593	21 (16–27)	2437	16 (13–20)
	Sub-total	687	52 (36–68)	1187	56 (43–68)	5280	47 (42–53)	7498	36 (32–40)	14 901	42 (39–44)
Female	Head and neck	562	90 (68–99)	250	28 (13–47)	1468	25 (19–32)	2968	22 (19–27)	5405	26 (23–29)
	Hip to foot	0	0.0	219	24 (10–44)	1562	27 (21–34)	3030	23 (19–27)	4811	23 (20–26)
	Multiple body regions	31	5 (0–25)	125	14 (4–32)	437	7 (4–12)	1156	9 (6–12)	1749	8 (6–11)
	No injury	0	0.0	0	0	312	5 (3–10)	1187	9 (6–12)	1500	7 (5–9)
	Shoulder to hand	0	0.0	156	17 (6–36)	437	7 (4–12)	1093	8 (6–11)	1749	8 (6–11)
	Trunk, back and pelvis	0	0.0	94	10 (2–27)	656	11 (7–17)	906	7 (5–10)	1718	8 (6–11)
	Unspecified	31	5 (0–25)	62	7 (1–23)	968	17 (12–23)	2874	22 (18–26)	3999	19 (16–22)
	Sub-total	625	48 (32–64)	906	43 (31–55)	5842	53 (47–58)	13 215	64 (60–67)	20 931	58 (56–61)
Total		**1312**	**4 (3–5)**	**2093**	**6 (4–7)**	**11 121**	**30 (27–32)**	**20 712**	**55 (52–58)**	**35 832**	**100**

Total does not include 2677 missing values for age and sex.

Discussion

We found a high rate of fall-related ambulance calls in the Sydney region, particularly for the elderly population, which confirms the high burden of falls injury. The rate of fall-related calls increased from age 50 years onwards. Older women experienced falls requiring an ambulance at a higher rate than men and had higher rates of reported injuries to the 'hip to foot' region. Hip injury or hip fracture may account for many of these injuries, and the greater risk of older women may reflect their higher prevalence of osteoporosis.[9]

The high rate of fall-related ambulance calls for older persons, particularly older women, is consistent with the epidemiology of fall-related hospital admissions in NSW.[4]

Our finding that 70% of fall-related calls among people of all ages occurred at home or in a residential institution is similar to the national figure of 71% of falls by older persons requiring hospitalisation taking place in the home or in an aged-care facility.[3]

The high priority assigned to most falls reinforces the fact that falls can be responsible for serious injury and that rapid assistance is often required; nevertheless, many people may experience little or no injury. Some calls were to request a 'lift only'. The use of ambulance services by people who only require assistance to get up warrants further consideration owing to its resource implications.

Ambulance services are well placed to explore a variety of service options related to falls, such as assessment, screening and treatment, and to direct referrals to general practitioners or community health services. Such strategies may meet the needs of patients and prevent unnecessary trips to an emergency department. An ambulance dispatch database could expand the range of information available for public health surveillance of fall-related injuries in the population, and could provide valuable information for guiding the development of a fall-related ambulance service delivery policy.

Once paramedics arrive on the scene, a 'patient health care record' is completed which documents the assessment, findings and treatment. This information is transcribed into a database by Ambulance Service of NSW data coders. These records contain information that could add to the understanding of falls in the community, the response of ambulance services and the overall picture of the burden of falls. Linking these two databases would greatly expand the range of information available to study the characteristics and outcomes of fall injuries. An electronic version of the patient health care record is being developed, which will improve its timeliness. Further linkage to emergency department and admitted patient databases would clearly provide the optimal information for further describing the epidemiology of falls in NSW.

This study has some limitations. The dataset we used had some missing values, perhaps due to the nature of 000 calls, as the callers may be injured, stressed or confused. As a substantial proportion of records lacked information on the circumstance of the fall and whether the patient was transported to hospital, we could not analyse these factors. The time-critical nature of 000 calls may obviate the collection of more detailed information,

but consideration should be given to incorporating a simple cause-of-injury classification into call-taking. The lack of information on patient transport may improve with advances in database technology for collecting the information.

Conclusion

As the population ages and both the number and the age-standardised rate of fall injuries increases, falls and fall-related injuries will account for an increasing number of ambulance calls. The findings of this study could be used to guide policy for ambulance service delivery.

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Chapter Seven

Discussion and Conclusion

The projects which form the chapters of my thesis have focussed on PHC services for vulnerable populations. In each placement I observed the hard work and goodwill of the health workforce. I also observed that services often worked in isolation and that many health professionals were unaware of the full range of other health services that may provide important services to their patients. As the health needs of vulnerable groups are often complex and cannot be met by just one, or even two services, it is in our interest to collaborate with other health and related services to share resources and information and to provide an integrated referral system. In this way access to a range of services for those most in need can be increased and health outcomes improved.

Health services are in the position to demonstrate leadership and collaboration with stakeholders in the development of public health policy that addresses the social determinants of health and ensures equity in access to PHC services.

Some health services have embraced these challenges while others seem to struggle with the concepts. Even those well intentioned were sometimes unsure of what they, as individuals or as services, could do to improve collaboration with their community and with their counterparts in other services. I observed those services making progress were often the ones whose managers showed leadership and vision, whose managers supported staff in their efforts to reach out, to extend their scope and provide access to those vulnerable groups who may otherwise miss out on the range of PHC services available in Australia.

The outcomes from the research which make up this thesis have had an impact on public health practice and service delivery. They provide new knowledge which has been used to improve service provision, strengthen collaboration between public health services, influence decision making and strategic planning at the local and regional level. It has also influenced health behaviour of community members in Broken Hill. The impact of my thesis outputs are summarised in Table One and in the paragraphs below.

Impact of thesis outputs

Chapter two: an Evaluation Framework for Community Child Health Services- a Public Health Perspective

The evaluation framework provides an overarching tool and, as no other was found in the literature, may be the first of its kind. It allows community child health services to focus on broad public health measures and prioritise these for evaluation. This is of value to services that are working to address inequities and the social determinants of health. While the framework was not developed for service planning, it could be used in the early stage of planning or in redesign of existing services to ensure issues such as equity, partnerships, quality and sustainability are considered and that the service is underpinned by the theoretical frameworks of the Ottawa Charter, human rights, the social determinants and cultural perspectives. This framework has been embraced by my workplace supervisors who have applied it and directed others to its use.

Chapter three: Community Child Health's Outreach Paediatric Services at La Perouse Community Health Centre- an Evaluation of Working in Partnerships

Applying the framework in the evaluation of how the paediatric outreach service worked in partnerships with families, communities and other services led to a range of strategies to improve child health services. These strategies were adopted by Community Child Health and have led to service improvements. For example, collaborating in more formal ways with other relevant services (through case reviews and shared care planning) has meant that information is now shared with others involved in a child's care. Complex problems are more likely to be solved and services are more effective and efficient. This contributes to better outcomes for children and families. Prior to this evaluation, many of the paediatricians working in the Aboriginal community at La Perouse did not have links with the nearby Redfern Aboriginal Medical Service and were not aware of the collaborative grass roots model embraced by Aboriginal Community Controlled Health Services. This is now incorporated into the orientation process for new staff, along with cultural awareness training. The paediatric outreach services did not have well established links with other sectors outside of

health such as education, housing or employment, where there is potential to impact on those social determinants of health that contribute to poor health outcomes for Aboriginal children. Recommendations included developing these links in order to 'spread the net wider', increasing the potential for a range of services to refer children to the specialist paediatric services that are available locally to Aboriginal children. Community Child Health managers now attend council network meetings as often as possible.

Chapter four: Review of Blood Lead Screening for Aboriginal Children in Broken Hill- 'Aboriginal Health in Aboriginal Hands, Nothing Works Better'

The findings of this investigation have been useful in operational planning and evaluation of the lead health program. We found that with the low level of participation in blood lead screening came an even lower level of follow up for those children who had elevated blood lead levels and this was of concern. As families were not engaging with the screening services, children were missing out on the range of strategies designed to assist in lowering blood lead levels, which are provided through case management. This was new information. We found that Aboriginal families were not engaging with government child health services and that they often felt judged, particularly if a home visit was recommended. We also found that collaboration between government and Aboriginal Community Controlled Health Services was irregular and informal, and that some managers were not aware of the valuable information contained in the annual report, "*Blood Lead Trends in Children Aged Less Than 5 Years in Broken Hill, 2010"*. This report describes blood lead levels and attendance rates by all children under five years of age and can alert services to downward trends. As a result of our study (and other factors described in our report), greater attention was paid to blood lead screening services in Broken Hill. Our findings have been used by the Far West Local Health District to inform their 2011 strategic plan. After I left Broken Hill in September 2011, the Chief Health Officer of the NSW Ministry of Health visited the University Department of Rural Health in Broken Hill. Discussions were held with key stakeholders about the lead screening rates for Aboriginal children and the findings of our study contributed to decisions to provide

assistance to some families of children with elevated lead levels who were known to be experiencing financial barriers. This project also initiated a collaborative process with the Aboriginal Community Working Party, where the views of Aboriginal people were sought and findings were shared at several meetings. This relationship is ongoing today and provides the first opportunity for many government health workers to collaborate directly with the Aboriginal community on health issues.

I was invited back to Broken Hill in November 2011 to take part in an information sharing workshop with service managers, district planners and environmental health experts from the NSW Ministry of Health. Also in attendance was Professor Alison Jones, a renowned toxicologist and the Dean of the School of Medicine, University of Wollongong. I was asked to present the finding of our study to this group and to participate in strategic planning for the Far West Local Health District. Subsequent to our study, blood lead screening for Aboriginal children has improved from the low of 29% in 2009, to 40% in 2010 and 70% in 2011. The annual report, "*Blood Lead Trends in Children Aged Less Than 5 Years in Broken Hill 2011*", reported that recommendations of our lead study contributed to this increase including the alignment of lead testing with the childhood immunisation and providing initial testing at Maari Ma Primary Health Service with subsequent case management of Aboriginal children with high lead levels shared between government and Aboriginal health services (1).

Chapter five: Improving the Control of Communicable Diseases for Aboriginal People in NSW-Strengthening Public Health Partnerships

The study undertaken at the AH&MRC highlighted many barriers to collaboration experienced by staff in both ACCHS's and government health services. While the report exposed many areas where services were not working well together, it also highlighted a great deal of good will and some exemplars, where collaboration was very effective. The participants of this study have remained committed to working on strengthening public health partnerships by replicating the processes that are working well at the state level (the Aboriginal Sexual Health Advisory Committee) and at the local level (the Immunisation Task Force). This research has provided knowledge that is helping

managers and health care workers to build the capacity of the health services by strengthening public health partnerships for better care for Aboriginal people affected by communicable diseases in NSW. Although this work focussed on communicable diseases, there is potential to apply this knowledge to other areas of public health such as maternal and child health, drug and alcohol services, mental health and health promotion. This report also provides an important reminder to government health services of their responsibility to provide effective, culturally safe and appropriate care for all Aboriginal people. As such it advocates for strengthening public heath partnerships, for better access to services and better health outcomes for Aboriginal people in NSW.

While working at the AH&MRC, I co-ordinated and presented a session at the NSW Ministry of Health's Bug Breakfast. The topic was Aboriginal Health, Sexually Transmissible Diseases and Blood Borne Viruses. Two other presenters participated in this Bug Breakfast; Harpreet Kalsi from the AH&MRC and Simon Graham from the Kirby Institute. A summary of this session has been published in the NSW Public Health Bulletin and appears on the widely used internet resource, the Australian Indigenous HealthInfoNet, under publications on sexual health (http://www.healthinfonet.ecu.edu.au/other-health-conditions/sexual/publications/general). In efforts to 'close the gap' in health inequities this website informs practice and policy by making research readily available.

Chapter Six: Characteristics of Fall-Related Injuries Attended by an Ambulance in Sydney, Australia; a Surveillance Summary

Fall-related injury costs the health system more than any other cause of injury and contributes to the burden on health services. The population is aging and the number and rate of fall-related injury is increasing, despite prevention programs. Our study was one of a very small number of published papers that described ambulance call outs for fall-related injury and so has added new knowledge to this field which can be used to guide policy for ambulance service delivery. We found that while most falls were assigned a high priority, ambulance officers were sometimes called to offer a 'lift only' for those who had fallen and were not able to get up, but were otherwise uninjured. As

most falls occurred in a residential setting, ambulance officers are well placed to explore a range of extended practice options such as conducting falls risk assessments, treatment on site and referral to community based PHC services (general practitioners or community health services). Some of these options are already underway as pilot projects and this study has provided evidence that can be used to further advocate for this extended role. This study has also confirmed some of what is known about falls and fall-related injury. This information is useful in the ongoing evaluation of the Public Health Real-time Emergency Department Surveillance System, where ambulance data were accessed. We also observed that improvements in the collection and linking of ambulance data with hospitalisation data would increase the range of data available to study the characteristics and outcomes of fall-related injuries and that this would be beneficial to a range of health service managers and policy advisors.

Refugee Health-Final placement (no thesis outputs)

As I continued to build my knowledge base and develop my academic skills over the three year training program and through enrolment in the DrPH, I felt well equipped work on a range of projects at NSW Refugee Health Service in Liverpool, particularly the revision of the 2008 Australasian Society for Infectious Disease Guidelines for the Treatment and Prevention of Infectious Diseases in Newly Arrived Refugees. The original manual was written with African refugees in mind, as most refugees were arriving from that region. The approach was broad and doctors were advised to 'screen all refugees for everything'. Our revisions adopted a more targeted evidence based approach which screened refugees according to country of origin and transit, disease prevalence and public health risk. We used international and national literature including unpublished data available from members of our national advisory group. I received a lot of positive feedback from this group and my supervisor, Dr Mitchell Smith, on the recommendations. This work was handed over to Dr Smith and does not form part of my thesis as it is not original work and was not fully completed at the time I left Refugee Health Services and the PHOTP in February 2011. I certainly enjoyed working with this vulnerable population who experience financial, cultural and language barriers in accessing PHC.

Table One Public Health Impacts of Thesis Outputs

Chapter	Study	Impacts
Chapter Two Community Child Health	An Evaluation Framework for Community Child Health Services-a Public Health Perspective	Provides an evidence base for evaluation from a public health perspective Can be used for service planning to improve access and equity and to address social determinants of health
Chapter Three Community Child Health	Community Child Health's Outreach Paediatric Services at La Perouse Community Health Centre: an Evaluation of Working in Partnerships, 'A Relationship Between Equals'	Service impact with recommendations adopted; regular case review meetings established, improved orientation for new staff, managers attending regular meetings at council where there is the possibility of impacting on social determinants of health for vulnerable children. Findings presented at UNSW Post Graduate Research Symposium
Chapter Four University Department of Rural Health	Review of Blood Lead Screening for Aboriginal Children in Broken Hill; 'Aboriginal Health in Aboriginal Hands, Nothing Works Better'	Contributed to changes in health behaviour as attendance rates for Aboriginal children have risen significantly since this study was done Provided community consultation with the Aboriginal Community Working Party Provided new knowledge about poor follow up rates and the thoughts and feelings of Aboriginal families Provided information for decision making and contributed to informing the Far West Local Health District 2011 Strategic Plan and the evaluation of the lead health program Impacted on service delivery by underpinning changes to the way blood lead screening is offered (linking with immunisation for example) Informed Chief Health Officer and other experts Published paper to inform peers nationally and internationally, see Appendix A Disseminated information at regional conference

Chapter Five Aboriginal Health and Medical Research Council of NSW	Improving the control of communicable diseases for Aboriginal people in NSW: strengthening public health partnerships	Provided knowledge to build capacity of health services Advocates for better access to appropriate services for Aboriginal people
Chapter Six NSW Ministry of Health	Characteristics of fall-related injuries attended by an ambulance in Sydney, Australia: a surveillance summary	Provides new knowledge which can be used to guide ambulance policy and inform decision making for better use of resources Provides evidence that can be used to advocate for an extended role for Ambulance Officers (on site falls risk assessment, referrals to PHC services, preventing a trip to the Emergency Department) Highlights the benefits of linking ambulance and hospital data Confirmed quality of ambulance data collected by PHREDSS, thereby contributing to evaluation of this public health surveillance system Findings presented at UNSW Post Graduate Research Symposium and to NSW Ambulance at their monthly education service for staff
Appendix A	Journal articles Refugee Health Sexually Transmissible Infections and Blood Borne Viruses in Aboriginal and Torres Strait Islander Populations Improving participation by Aboriginal children in blood lead screening services in Broken Hill, NSW (peer reviewed)	Current information presented to key stakeholders from around NSW via state-wide video link which contributes to policy development Current information presented to key stakeholders from around NSW, state-wide video link which contributes to policy development Posted on Australian Indigenous HealthInfoNet Disseminating findings to target audience of public health and environmental health fields within NSW and broader

Limitations

Chapter two: An Evaluation Framework for Community Child Health Services- a Public Health Perspective

While I employed systematic methods for searching the library databases, my searches of grey literature including websites of a range of institutions and following the tips given to me by a range of experts, was not as well documented. I have reflected upon this as part of my learning and ensured a more systematic and well documented approach for searching the grey literature in future work. As time was a factor, this evaluation framework does not include specific indicators that would best measure processes and outcomes and this is a limitation of the work.

Chapter three: Community Child Health's Outreach Paediatric Services at La Perouse Community Health Centre- an Evaluation of Working in Partnerships

There was some missing data from the child health database which meant it was not possible to link data in ways that could demonstrate age/gender/diagnosis and year of presentation. This would have provided an opportunity for further analysis over time. There may have been omissions in the documentation in the children's charts with more collaboration taking place than was documented.

Valuable insights could have been gained by interviewing parents of children who used the Community Child Health paediatric outreach service. This option was declined by workplace supervisors as many parents had recently participated in an evaluation conducted for the community midwifery service. This is a limitation of the study, however, the community in La Perouse is small and there is a potential to burden them with requests by health workers.

Chapter four: Review of Blood Lead Screening for Aboriginal Children in Broken Hill- 'Aboriginal Health in Aboriginal Hands, Nothing Works Better'

A limitation of this study can be found in the data from the lead heath database, which is old and rarely received maintenance or updating. There are some missing values and some values which could not be explained and so were removed. The Aboriginal status

of every child was documented which was unusual as this is an area where there is often missing values. Staff were confident that they 'knew the status of all their patients', which may or may not be true. These and other comments regarding the surveillance provided by the database were documented and reported.

Chapter five: Improving the Control of Communicable Diseases for Aboriginal People in NSW-Strengthening Public Health Partnerships

Our study invited participation by several ACCHSs but only one agreed to participate. This limits the findings of the study and generalisations cannot be made. We would have liked to include more ACCHSs and Public Health Units (PHUs) in both urban and rural settings but I had only a few months left to conduct the study and we agreed to choose health services close to Sydney for practical reasons. Despite this, we believe the rigour of our study was sufficient and that the views expressed by a range of participants were informative. It would be useful to expand this study and seek the views of more ACCHSs and PHUs in order to explore more diverse views.

Chapter Six: Characteristics of Fall-Related Injuries Attended by an Ambulance in Sydney, Australia; a Surveillance Summary

Some missing data prevented us from describing the circumstances of fall-related injuries and whether a patient was transported to hospital. We were not able to ascertain the rate of falls down stairs, off ladders, slip/trip/stumbles on the footpath etc, which would have allowed us to link that information with type of injury, age, gender and if the injury warranted a trip to the Emergency Department. Due to the urgent nature of '000' calls it may be understandable that some data are missing.

Future Directions

Chapter two: An Evaluation Framework for Community Child Health Services- a Public Health Perspective

There is potential to continue to develop this framework by adding indicators as a guide for evaluation. One aspect of the framework has been applied, as described in chapter three, and further application would strengthen the validity of the framework. As the

literature did not reveal other frameworks of this kind, there is potential to develop work in this area. This would contribute to both the planning and evaluation of community child health services from a public health perspective.

Chapter three: Community Child Health's Outreach Paediatric Services at La Perouse Community Health Centre- an Evaluation of Working in Partnerships

The recommendations of this evaluation were adopted by Community Child Health Services. There is potential to further strengthen the collaborative relationships between the variety of services available to children and between other services such as housing, education, community services and local councils. This would certainly 'cast a wider net' with more children benefiting from the paediatric outreach services in La Perouse and more referrals made from the paediatric services to a wider range of other relevant services. This would increase the possibility of early intervention and better health outcomes as a result. There are a large number of health and other related services for children in Sydney's eastern suburbs and increased collaboration can only be of benefit to children and families.

Chapter four: Review of Blood Lead Screening for Aboriginal Children in Broken Hill- 'Aboriginal Health in Aboriginal Hands, Nothing Works Better'

This work highlighted the importance of focusing on the needs of Aboriginal children, families and communities, to support new workforce directions and to work collaboratively, in existing or new partnerships, to share information and develop health promotion strategies which are appropriate and acceptable to the community. I hope that the connections made with the Aboriginal Community Working Party, chaired by a Baarkintji elder, will be maintained as that provided a unique opportunity for service providers and public health staff to collaborate in a meaningful way. There was potential to improve the relationship between the government child health services and the Aboriginal Community Controlled Health Service in Broken Hill. While there was a range of factors that contributed to fragile relationships between services, I felt that commitment and strong leadership from both services could guide team members towards respectful, productive and effective health care for Aboriginal children and

families. This way of working would certainly have beneficial applications beyond the lead health program.

There is great potential to improve the use of the lead health database, which is currently managed by the nurses from the government child health services. Including staff from Maari Ma Health Aboriginal Corporation in the ownership of the database and in decisions about which reports, generated at what frequency, would be empowering and would assist them in the planning and evaluation of their lead screening service.

Chapter five: Improving the Control of Communicable Diseases for Aboriginal People in NSW-Strengthening Public Health Partnerships

More work needs to be done to identify ways to improve collaboration between services at both the local and state level as most participants indicated they would like to work more closely together but didn't really know how to go about doing that. There is a need for leadership and the creation of a workplace culture that embraces collaboration and partnerships and allows time for staff to develop formal and informal links with their counterparts. Perhaps it is a visionary and courageous leader that is needed to 'break free of the silos' that limit their staff's ability to develop partnerships with other relevant services.

Chapter Six: Characteristics of Fall-Related Injuries Attended by an Ambulance in Sydney, Australia; a Surveillance Summary

This surveillance study supports an expanded role for paramedics who are well placed to work more collaboratively with other PHC services. Many elderly patients with fall-related injuries would certainly benefit from a falls risk assessment and referral to a community health centre. A holistic assessment conducted by a community nurse, physiotherapist or an occupational therapist, with education and appropriate intervention (such as exercise, bathroom rails, ramps) may prevent further falls. There is potential for paramedics and community health staff to work together to minimize the risk of fall-related injury, reducing costs to health services and to patients. However work needs to be done to create new opportunities for this collaboration to occur.

Conclusion

While moving from one placement to the next, I continued to observe the fragmentation of many health services, how professionals were 'working in silos' and were often unaware of the roles and responsibilities of other relevant services at the local, regional and state level. I saw that competitive workplaces, different health service models, lack of cultural awareness, complicated funding arrangements and workforce shortages created barriers to collaborative processes. Many health care workers did express an interest or desire to strengthen the partnerships between services and agreed that this would contribute to better access for more people who would benefit from a range of services and that health outcomes would improve as a result.

The findings and recommendations of the workplace reports and academic manuscripts can be used to improve access to PHC services for vulnerable groups, particularly Aboriginal people. They have been used to inform public health policy and in the development of local, regional or state wide strategies. I used current evidence and mixed methods, with a leaning towards qualitative research, to gain a deeper understanding of the meaning of collaborative processes, the barriers and enablers to working in partnership and suggestions and recommendations to strengthen collaboration for the purpose of improving health outcomes for the population concerned.

As I prepared my thesis, I have journeyed back to my early days in 2009 and have reflected on the progression of skills, knowledge and experience and how much I have gained in these three years. I recognise the unique opportunities I have been afforded, from working daily throughout the pandemic (H1N1) 2009 influenza, to living and working in Broken Hill, truly the *jewel of the outback*. I have participated in traditional public health projects related to infectious diseases and broader population health initiatives involving advocacy, equity and the social determinants of health. I have worked in a variety of settings from the Ministry of Health in North Sydney, a community health centre in Randwick, an Aboriginal medical non-government organisation, in Sydney's south west and in a rural setting. My work has involved

children and adults in Aboriginal and refugee populations as well as the general community, providing me with a rewarding mix of experience. While these experiences have led me to the completion of the PHOTP and of my thesis, I know it is also the beginning of a new and challenging career in public health, where the learning process will be ongoing, where there will be the opportunity to share knowledge with others and participate in further research for the betterment of the health for all. I have emerged a more confident researcher with a broad understanding of public health issues for all Australians, particularly those from disadvantaged backgrounds. I have developed collegial networks with a range of inspiring health professionals and academics. My awareness has certainly been raised regarding issues of access to PHC for people in rural and remote areas. This topic continues to resonate with me and after leaving the PHOTP I saw a position advertised for a senior research fellow to work with Flinders University at their Centre for Remote Health in Alice Springs, as part of a Centre for Research Excellence, funded by the Australian Primary Health Care Research Institute. The main aim of the three year funded project was to improve equity in access to PHC for people in rural and remote areas across Australia. I applied and was successful in obtaining this exciting position and have now settled in Alice Springs. While it was a big decision and a big life change, my mother said, 'you must apply for it Susan; it is everything you have been working for.' She was right of course!

1. Far Western Local Health District. Blood Lead Trends in Children Aged Less Than 5 Years in Broken Hill 2011. [15 July 2012]; Available from: http://www.fwlhd.health.nsw.gov.au/UserFiles/files/FAR%20WEST%20Lead%20Health%20Data%20Report%202011.pdf.

Appendix A: Publications arising from this thesis

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Refugee health

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At the end of 2008 there were approximately 42 million people around the world who had been forcibly displaced from their homeland.[1] As a signatory to the United Nations Refugee Convention, Australia resettles over 13 000 refugees each year,[2] with 4000 settling in New South Wales (NSW). In 2007–2008, most of these people originated from Burma, Iraq, Afghanistan, Sudan and Liberia. The majority coming to NSW settled in the greater west of Sydney, with smaller numbers settling in Wollongong, Newcastle, Coffs Harbour, Wagga Wagga and Goulburn.

Many refugees and asylum seekers have experienced physical and psychological trauma as a result of human rights abuses and protracted conflict. Their displacement can result in loss of family, friends, land and other possessions, disruption of education, employment and erosion of community structures and traditions. Their experiences, combined with anxiety, uncertainty and the lengthy resettlement process, can have long-lasting, detrimental effects on their physical, emotional and mental health.

Public health issues

The Migration Regulation Act stipulates that all people entering Australia must be free of active tuberculosis and refers generally to diseases that pose a threat to public health. Human immunodeficiency virus (HIV) infection and hepatitis B and C are not considered to be a public health risk and do not preclude migration to Australia from a public health perspective. Cases of active tuberculosis must be treated before migrating to Australia. Once treatment is considered complete, people can travel to Australia, having signed a Health Undertaking which is an agreement by the person migrating to report to the relevant state chest clinic for ongoing monitoring and further treatment if required.

Departure checks and arrival checks

Pre-departure medical screening is a voluntary check offered to refugee and humanitarian applicants around 72 hours before departure to Australia. The aim of the screening is to identify health concerns which may affect the individual's fitness to travel to Australia and to ensure follow up of those health needs upon arrival. A full pre-departure medical screen includes a physical examination, tuberculosis evaluation for those at risk, malaria test and treatment if required, treatment for intestinal parasites and measles, mumps and rubella (MMR) immunisation for refugees aged nine months to thirty years. Information is documented on a Health Manifest form which is sent to the Department of Immigration and Citizenship. Health issues that need follow-up are flagged on the manifest. In 2008–09, 3800 humanitarian entrants to NSW, 80% of all refugee entrants to NSW that year, underwent a pre-departure medical screen.

Common health problems

Screening of 220 refugee children settling in NSW has detected vitamin D deficiency, schistosomiasis, positive Mantoux tests, anaemia, parasitic diseases, malaria and chronic hepatitis B.[3] Poor oral health, chronic conditions including diabetes and hypertension, injuries from war and torture that have been inadequately treated, psychological disorders and delayed growth and development in children are not uncommon. Guidelines published by the Australasian Society for Infectious Diseases entitled *Diagnosis, management and prevention of infections in recently arrived refugees* can assist practitioners in their management of refugee health care.[4] Catch-up immunisation may be required. Specialised services in NSW exist for trauma counselling (STARTTS and the Transcultural Mental Health Centre) as well as the Multicultural HIV/Hep C service and an obstetric service at Auburn Hospital for women affected by female genital mutilation.

Services

Refugees, and asylum seekers who are successful in their claim for refugee status, are eligible for Medicare. Health services are provided by mainstream general practitioners and a number of specialised clinics. Barriers in accessing health services include language, cultural differences, knowledge of available services, transport, and financial costs (particularly for specialist assessments, allied health, dental care and some medications). Many health-care providers in Australia may lack the knowledge and cultural awareness required when providing health care to people from backgrounds of war and trauma.

Policy directions

In the recent past, many asylum seekers were not eligible for Medicare. National policy initiatives in 2009 included

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BUG BREAKFAST IN THE *BULLETIN*

Sexually transmissible infections and bloodborne viruses in Aboriginal and Torres Strait Islander populations

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Nationally there are higher rates of sexually transmissible infections (STIs) and bloodborne viruses diagnosed in Aboriginal and Torres Strait Islander people than in other Australians. These infections are a major source of morbidity:[1] untreated chlamydia, gonorrhoea and syphilis can cause infertility, pelvic inflammatory disease, premature delivery and neonatal and post-partum infections, while hepatitis B and C can lead to liver cirrhosis and liver cancer. Untreated STIs can facilitate the transmission of human immunodeficiency virus (HIV), a lifelong infection with numerous health consequences. These infections are largely preventable and easily diagnosed; many STIs are easily cured.

Epidemiology

In the period 2005–2009, the age-standardised rates of chlamydia and syphilis notifications in Aboriginal and Torres Strait Islander people were 3.5 and 4 times higher, respectively, than rates in the non-Aboriginal population (excluding NSW and ACT where Aboriginal status was reported for 50% or less of diagnoses). In Aboriginal and Torres Strait Islander people, rates of STIs were significantly higher in rural and remote areas, which may reflect targeted STI screening programs in discrete Aboriginal communities. While rates of HIV diagnosis were similar in Aboriginal and non-Aboriginal populations, a higher proportion of the infections in Aboriginal Australians was a result of injecting drug use (21.3% compared to 2.8%). Rates of diagnosis of hepatitis B and C were three times higher in Aboriginal and Torres Strait Islander people than in other Australians. Rates of HIV and hepatitis B and C were higher in urban areas, which may reflect where people were tested.[2]

There is a need to improve the completeness and accuracy of reporting Aboriginal status in national data sets. With data missing from both regional and urban areas, there is the potential to underestimate the prevalence and morbidity associated with STIs and bloodborne viruses.[1]

Challenges

Aboriginal and Torres Strait Islander people may be more vulnerable to STIs and bloodborne viruses because they: live in high prevalence populations; are over-represented in custodial settings (with increased risk of contracting hepatitis C); and have a higher proportion of young people than in the general population (the median age in NSW is 21 years compared to 37 in the non-Aboriginal population).[3] Many STIs and bloodborne viruses are asymptomatic so many of those with the infection may not seek medical care and consequently can pose a potential risk to others. Stigma and shame are associated with these infections further reducing the desire to seek medical care. Gaps in the workforce mean that some communities may lack access to culturally appropriate primary health-care services.[1]

Strategies

The objectives of the *Third National Aboriginal and Torres Strait Islander Blood Borne Viruses and Sexually Transmissible Infections Strategy 2010–2013* include: decreasing the proportion of hepatitis C and HIV infections attributed to injecting drug use; increasing systematic testing and treatment of sexually active people aged 15–30 years; and improving young people's knowledge of STIs and bloodborne viruses. Needle and syringe programs and drug treatment services are recommended as well as the use of peer educators in delaying or preventing the onset of drug use and encouraging injecting drug users to be tested and treated for bloodborne viruses. Hepatitis B vaccination is recommended for all Aboriginal and Torres Strait Islander children at birth as well as a dose of immune globulin for infants whose mothers are hepatitis B positive.[1] Collaboration between Aboriginal and Torres Strait Islander communities and a range of government and non-government services including sexual health, mental health, drug and alcohol and Justice Health can improve the path to prevention, detection and referral for treatment and support.

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Characteristics of fall-related injuries attended by an ambulance in Sydney, Australia: a surveillance summary

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Abstract: In NSW, fall-related injury costs the health system more than any other single cause of injury. A public health surveillance database containing information routinely recorded by the Ambulance Service of NSW was used to define the epidemiology and characteristics of fall-related calls in the Sydney metropolitan area in 2008. The dataset contained 37 488 fall-related calls, representing a crude rate of ambulance call-outs for falls of 843 per 100 000 population. Females accounted for 57% of all fall-related calls, and the female rate of injury to the 'hip to foot' region increased with age. Males in all age groups reported 'head and neck' injury most often. In an analysis of a random sample of 1200 calls, 70% of ambulance dispatches were to a home or residential institution. The findings of this study on the risks for fall-related injury can be used to guide policy for ambulance service delivery. Expansion of data linkage to emergency department and admitted patient databases would provide information to further describe the epidemiology of falls in NSW.

Falls account for approximately one-third of all injury-related hospitalisations and one-fifth of all fatal injuries[1] and contribute substantially to the burden on health services in Australia. Each year, one in three older people will experience a fall and will then be at risk of experiencing further falls.[2] In the period 2003–2004, falls in older Australians that required hospitalisation were estimated to cost $566 million. Indirect costs such as lost productivity and costs borne by the patient, family and community were estimated to exceed $1 billion annually.[1]

In 2005–2006, the number of new cases of fall injuries in people aged 65 years and over that resulted in hospitalisation was more than 66 800, which represents a 10% increase since 2003–2004. Age-standardised rates of fall injuries for older people have also risen since 2003–2004, despite screening and prevention programs.[3]

In New South Wales (NSW), fall-related injury costs the health system more than any other single cause of injury.[4] Falls accounted for 38% of injury-related hospitalisations in NSW in the period 2004–2005 to 2006–2007. In 2006–2007, there were 43 762 hospitalisations and an age-standardised rate of 587 per 100 000 population. More than half of those hospitalised were aged over 65 years (a rate of 2747 per 100 000). In this age group, the rate of hospitalisation was higher for females (3073 per 100 000) than males (2275 per 100 000).[4]

Falls are the second most common reason for emergency ambulance calls in Sydney[5] however there is limited published information on ambulance call-outs for falls in NSW. We used a public health surveillance database containing information routinely recorded by the Ambulance Service of NSW to describe the epidemiology and characteristics of fall-related ambulance calls in the Sydney metropolitan area in 2008.

Methods

Data source

The Ambulance Service of NSW uses Medical Priority Dispatch System™ (MPDS) software to gather data systematically from 000 callers to prioritise responses. Details of computer-aided ambulance dispatches are recorded in a database at the regional ambulance headquarters. The NSW Department of Health receives hourly updates of these data from the Sydney Ambulance Operations Region, which are used to supplement near-real-time emergency department surveillance of communicable and non-communicable conditions.[6]

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For this study, we extracted the records of all emergency ambulance calls assigned a problem category of 'fall' in 2008. After 1218 exclusions for cancellations, transfers to other regions, duplicates and hoaxes, we were left with a dataset of 37 488 calls for which an ambulance was dispatched. Age and gender were known for 93% of calls.

The variables used in the analysis were: age, gender, time of call, local government area, call priority (1 or 2), the person's consciousness and breathing status at the time of the call and the description of the location of the patient. The comment text field, which contains a description of the problem by the caller, was also included to permit analysis of the body region of the injury. The time of the call was categorised as 'daytime' (0800–1800 inclusively) or 'out of hours'.

Manual categorisation of a random sample of records

To categorise the place of the fall and reported injuries sustained, a random sample of 1200 (3.2%) call records was selected from the complete data set with the SAS RANUNI function. Descriptions of the patients' location and comment texts were reviewed and manually categorised. To be consistent with reports on hospitalisations for falls injuries,[3] we based our categorisation of place of fall on the external cause of morbidity and mortality rubrics of the International Classification of Diseases, Revision 10, Australian Modification (ICD-10-AM).[7] We grouped the body locations of injury into 'head and neck', 'hip to foot', 'shoulder to hand', 'trunk/back/pelvis', 'multiple body regions', 'no injury' or 'unspecified'. 'No injury' was based on comments that the person had no injuries. We also classified whether the call was to request a 'lift only', where assistance was required only for getting up after a fall. Information on the type of fall was missing for approximately 40% of calls.

Counts from the random sample were scaled to estimate counts for the Sydney region, and confidence intervals for proportions were calculated by exact binomial methods.

Data analysis

Analysis was performed with SAS statistical software (version 9.2, SAS Institute, Cary, NC, USA). Age-specific

Table 1. Age and gender of patients who had a fall-related ambulance call in the Sydney metropolitan area, 2008

Age group (years)	Male			Female			Total		
	n	%	Crude rate per 100 000	*n*	%	Crude rate per 100 000	*n*	%	Crude rate per 100 000
0–4	783	2.2	543	590	1.7	432	1373	3.9	489
5–9	473	1.4	367	254	0.7	207	727	2.1	289
10–14	547	1.6	416	325	0.9	259	872	2.5	339
15–19	390	1.1	283	318	0.9	241	708	2.0	263
20–24	413	1.2	258	405	1.2	257	818	2.3	257
25–29	412	1.2	251	379	1.1	229	791	2.3	239
30–34	419	1.2	260	364	1.0	221	783	2.2	240
35–39	442	1.3	274	430	1.2	261	872	2.5	267
40–44	521	1.5	347	549	1.6	361	1070	3.1	354
45–49	580	1.7	399	519	1.5	353	1099	3.2	376
50–54	711	2.0	554	832	2.4	625	1543	4.4	590
55–59	608	1.7	535	729	2.1	623	1337	3.8	580
60–64	915	2.6	931	986	2.8	996	1901	5.5	964
65–69	789	2.3	1148	920	2.6	1305	1709	4.9	1228
70–74	1246	3.6	2347	1576	4.5	2674	2822	8.1	2519
75–79	1411	4.1	3382	1955	5.6	3853	3366	9.7	3640
80–84	1978	5.7	6435	3344	9.6	7482	5322	15.3	7055
85+	2477	7.1	11 570	5221	15.0	11 542	7698	22.1	11 551
Total	**15 115**	**43.4%**	**741**	**19 696**	**56.6%**	**943**	**34 811**	**100.0%**	**843**
	Age standardised rate for males		**821**	**Age standardised rate for females**		**839**	**Age standardised rate for total population**		**833**

Of a total 37 488 calls, 2677 (7.1%) were excluded from this analysis because of missing age or sex.
Australian standard population Census 2001 used to calculate population rates.
Confidence intervals were not calculated because this analysis used fully enumerated ambulance calls and because of the very large counts.

rates were calculated from the total age-specific populations of the local government areas included in the Sydney Ambulance Operations region, which includes areas from the Hawkesbury River in the north, to Bowral in the south and Mount Victoria in the west. To compare overall rates in males and females independently of age, direct age-standardised rates were calculated for each gender from the Australian standard population in the 2001 census.[8]

Results

The crude rate of call-outs for falls was 843 per 100 000 population. The lowest rates were for people aged 25–34 years, with higher rates for children aged under 5 years. The rates increased dramatically from age 50, from around 585 to 11 551 per 100 000 in people aged 85 years and over (Table 1).

Females accounted for 57% of fall-related calls, and 25% of all calls were for women aged 80 years and over. For people aged under 50 years, the rates were generally higher for males, but women over this age had higher rates, until over 85 years when the rates in the two sexes were similar. The crude rates for females were higher than for males (943 and 741 per 100 000, respectively). After direct age standardisation, the rates were similar, with 839 and 821 per 100 000 for females and males, respectively (Table 1).

Fifty-six percent (21 048) of calls were assigned a priority code 1, requiring an immediate response. The patient was reported as conscious in 92% (34 601) and breathing in 94% (35 116) of calls. Sixty percent (22 420) of calls were received during 'daytime hours'.

In the random sample, 58% (95% confidence interval (CI), 55–61) of ambulance dispatches were to a home, 14% (95% CI, 12–16) to a trade or service area and 12% (95% CI, 10–13) to a residential institution (Table 2).

Twenty-nine percent (95% CI, 26–32) of callers reported 'head and neck' injuries; 20% (95% CI, 18–23) reported injuries to the 'hip to foot' region; and 9% (95% CI, 7–10)

Table 2. Estimated incidence of falls by location of patient from a random sample of 1200 fall-related ambulance calls in the Sydney metropolitan area, 2008

Location of patient	*n*	% (95% CI)
Home	21 694	58 (55–61)
Residential institution	4308	12 (10–13)
School/public administrative area	1654	4 (3–6)
Sports/athletic area	312	1 (0–2)
Street/highway	3246	9 (7–10)
Trade/service area	5306	14 (12–16)
Industrial/construction area	125	0 (0–1)
Other specified	593	2 (1–2)
Unspecified place	250	1 (0–1)
Total	**37 488**	

Table 3. Estimated incidence of injury by body region from a random sample of 1200 fall-related ambulance calls in the Sydney metropolitan area, 2008

Body location of injury		*n*	% (95% CI)
Head and neck	Head	10 675	99 (97–100)
	Neck	156	1 (0–3)
	Sub-total	10 831	29 (26–32)
Trunk, back and pelvis	Thorax	468	17 (10–26)
	Abdomen, lower back, lumbar spine and pelvis	2310	83 (74–90)
	Sub-total	2778	7 (6–9)
Shoulder to hand	Shoulder and upper arm	936	30 (21–40)
	Elbow and forearm	312	10 (5–17)
	Wrist and hand	780	25 (17–34)
	Arm unspecified	1124	36 (26–46)
	Sub-total	3153	8 (7–10)
Hip to foot	Hip and thigh	2247	29 (24–36)
	Knee and lower leg	1873	22 (17–28)
	Ankle and foot	1498	20 (15–25)
	Leg unspecified	2029	29 (23–35)
	Sub-total	7647	20 (18–23)
Multiple body regions		2872	8 (6–9)
Reported no injury		3280	9 (7–10)
Unspecified		6904	18 (16–21)

Table 4. Comparison by age and gender of body region of injury reported by callers, from a random sample of 1200 fall-related ambulance calls in the Sydney metropolitan area, 2008

Sex	Body region	0–4 years		5–16 years		17–64 years		65+ years		Total	
		n	% (95% CI)	*n*	% (95% CI)	*n*	% (95% CI)	*n*	% (95% CI)	*n*	% (95% CI)
Male	Head and neck	469	68 (45–86)	437	37 (22–54)	2093	40 (32–47)	1781	24 (19–30)	4873	33 (29–37)
	Hip to foot	0	0.0	219	18 (8–34)	968	18 (13–25)	1343	18 (13–23)	2530	17 (14–21)
	Multiple body regions	0	0.0	125	11 (3–25)	406	8 (4–13)	469	6 (4–10)	1031	7 (5–10)
	No injury	0	0.0	0	0	312	6 (3–11)	1437	19 (14–25)	1749	12 (9–15)
	Shoulder to hand	125	18 (5–40)	219	18 (8–34)	531	10 (6–16)	469	6 (4–10)	1343	9 (7–12)
	Trunk, back and pelvis	31	5 (0–23)	31	3 (0–14)	469	9 (5–14)	406	5 (3–9)	937	6 (4–9)
	Unspecified	62	9 (1–29)	156	13 (4–28)	500	9 (6–15)	1593	21 (16–27)	2437	16 (13–20)
	Sub-total	687	52 (36–68)	1187	56 (43–68)	5280	47 (42–53)	7498	36 (32–40)	14 901	42 (39–44)
Female	Head and neck	562	90 (68–99)	250	28 (13–47)	1468	25 (19–32)	2968	22 (19–27)	5405	26 (23–29)
	Hip to foot	0	0.0	219	24 (10–44)	1562	27 (21–34)	3030	23 (19–27)	4811	23 (20–26)
	Multiple body regions	31	5 (0–25)	125	14 (4–32)	437	7 (4–12)	1156	9 (6–12)	1749	8 (6–11)
	No injury	0	0.0	0	0	312	5 (3–10)	1187	9 (6–12)	1500	7 (5–9)
	Shoulder to hand	0	0.0	156	17 (6–36)	437	7 (4–12)	1093	8 (6–11)	1749	8 (6–11)
	Trunk, back and pelvis	0	0.0	94	10 (2–27)	656	11 (7–17)	906	7 (5–10)	1718	8 (6–11)
	Unspecified	31	5 (0–25)	62	7 (1–23)	968	17 (12–23)	2874	22 (18–26)	3999	19 (16–22)
	Sub-total	625	48 (32–64)	906	43 (31–55)	5842	53 (47–58)	13 215	64 (60–67)	20 931	58 (56–61)
Total		**1312**	**4 (3–5)**	**2093**	**6 (4–7)**	**11 121**	**30 (27–32)**	**20 712**	**55 (52–58)**	**35 832**	**100**

Total does not include 2677 missing values for age and sex.

reported 'no injury' (Table 3). Six percent (2247; 95% CI, 5–7) were calls for a 'lift only'.

For males, calls reporting injuries to the 'head and neck' region dominated all age groups. In females, injuries to the 'hip to foot' region were just as common as injuries to the 'head and neck' region. Among children aged under 5 years, calls for 'head and neck' injuries comprised a far greater proportion than for other age groups, with 68% (95% CI, 45–86) of calls for boys and 90% (95% CI, 68–99) of those for girls relating to the head or neck (Table 4).

Discussion

We found a high rate of fall-related ambulance calls in the Sydney region, particularly for the elderly population, which confirms the high burden of falls injury. The rate of fall-related calls increased from age 50 years onwards. Older women experienced falls requiring an ambulance at a higher rate than men and had higher rates of reported injuries to the 'hip to foot' region. Hip injury or hip fracture may account for many of these injuries, and the greater risk of older women may reflect their higher prevalence of osteoporosis.[9]

The high rate of fall-related ambulance calls for older persons, particularly older women, is consistent with the epidemiology of fall-related hospital admissions in NSW.[4]

Our finding that 70% of fall-related calls among people of all ages occurred at home or in a residential institution is similar to the national figure of 71% of falls by older persons requiring hospitalisation taking place in the home or in an aged-care facility.[3]

The high priority assigned to most falls reinforces the fact that falls can be responsible for serious injury and that rapid assistance is often required; nevertheless, many people may experience little or no injury. Some calls were to request a 'lift only'. The use of ambulance services by people who only require assistance to get up warrants further consideration owing to its resource implications.

Ambulance services are well placed to explore a variety of service options related to falls, such as assessment, screening and treatment, and to direct referrals to general practitioners or community health services. Such strategies may meet the needs of patients and prevent unnecessary trips to an emergency department. An ambulance dispatch database could expand the range of information available for public health surveillance of fall-related injuries in the population, and could provide valuable information for guiding the development of a fall-related ambulance service delivery policy.

Once paramedics arrive on the scene, a 'patient health care record' is completed which documents the assessment, findings and treatment. This information is transcribed into a database by Ambulance Service of NSW data coders. These records contain information that could add to the understanding of falls in the community, the response of ambulance services and the overall picture of the burden of falls. Linking these two databases would greatly expand the range of information available to study the characteristics and outcomes of fall injuries. An electronic version of the patient health care record is being developed, which will improve its timeliness. Further linkage to emergency department and admitted patient databases would clearly provide the optimal information for further describing the epidemiology of falls in NSW.

This study has some limitations. The dataset we used had some missing values, perhaps due to the nature of 000 calls, as the callers may be injured, stressed or confused. As a substantial proportion of records lacked information on the circumstance of the fall and whether the patient was transported to hospital, we could not analyse these factors. The time-critical nature of 000 calls may obviate the collection of more detailed information, but consideration should be given to incorporating a simple cause-of-injury classification into call-taking. The lack of information on patient transport may improve with advances in database technology for collecting the information.

Conclusion

As the population ages and both the number and the age-standardised rate of fall injuries increases, falls and fall-related injuries will account for an increasing number of ambulance calls. The findings of this study could be used to guide policy for ambulance service delivery.

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Improving participation by Aboriginal children in blood lead screening services in Broken Hill, NSW

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Abstract: Lead poses a health risk to young children with detrimental effects on their intellectual development. Attendance rates for Aboriginal children at routine blood lead screening and at follow-up appointments in Broken Hill, NSW, have declined in recent years. This study sought to identify strategies to improve the participation of Aboriginal children aged 1–4 years in blood lead screening services in Broken Hill. **Methods:** Attendance rates during the period 2000–2010 were determined using the Broken Hill Lead Management database. From June to August 2011, Aboriginal community members, service providers and public health staff were invited to interviews and focus groups to explore barriers, enablers and suggestions for improving participation. **Results:** In 2009, 27% of Aboriginal children aged 1–4 years attended blood lead screening and 29% of these children with blood lead levels over 15 µg/dL attended follow-up appointments. Barriers to participation in lead screening services included community perceptions, reduced service capacity, socio-economic and interorganisational factors. Enablers included using a culturally acceptable model, linking lead screening with routine health checks and using the finger-prick method of testing. **Conclusions:** The final report for the study included recommendations to improve participation rates of Aboriginal children including using social marketing, formalising collaboration between health services, supporting disadvantaged families and employing an Aboriginal Health Worker.

Exposure to lead poses a health risk particularly to young children with detrimental effects on their intellectual development.[1] The mining town of Broken Hill, New South Wales (NSW), was built around one of the world's largest silver-lead-zinc ore deposits and has been mined continuously since 1884. In 1991 a survey of pre-school aged children in Broken Hill found lead was a significant public health issue; a state government-funded Lead Management Program was established in 1994 to reduce blood lead levels in children aged 1–4 years.[2] The program which included blood lead screening began as an adequately resourced, stand-alone service until 2001, when it was integrated into existing child health services and its dedicated funding finished at the end of 2006. Services are currently offered by the Broken Hill Child and Family Health Services and Maari Ma Health Aboriginal Corporation (Maari Ma). In 2004, 80% of Aboriginal children attended screening services. After 2004 attendance rates for Aboriginal children began declining and reached a low of 27% in 2009, below that of the general population (37%).[3]

There is no known threshold defining 'safe' levels of exposure to lead, but the National Health and Medical Research Council currently recommends interventions at a community level when appreciable numbers of children have blood lead levels exceeding 10 µg/dL.[1] Forty percent of Aboriginal children aged 1–4 years screened in 2010 were above 10 µg/dL.[3] Blood lead levels 15 µg/dL and above are notifiable to NSW Health. In 2010, 21% of Aboriginal children screened had blood lead levels requiring notification.[3] Aboriginal people continue to experience socio-economic disadvantage which places them at greater risk of exposure to behavioural and environmental health risk factors,[4] and this should be taken into consideration in the planning and provision of relevant services.

In 2010, we undertook a study to gain a better understanding of the decline in screening rates in Aboriginal children aged 1–4 years and to identify strategies to improve their participation in blood lead screening services in Broken Hill. The study was undertaken on behalf of the Far West Local Health District.

Methods

The study took place in two phases. The first involved reviewing de-identified data from 2000–2010 from the

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Table 1. Number and type of participants in interviews and focus groups undertaken in Broken Hill, NSW, 2011

	Interviews *n*	Focus groups *n*	Focus group participants *n*
Community members	15	0	0
Broken Hill Child and Family Health Services	1	1	4
Maari Ma Health Aboriginal Corporation	2	1	4
Broken Hill University Department of Rural Health	0	1	3
Total	18	3	11

Broken Hill Lead Management Program administrative database which was set up as part of the original lead program to record children's test results. The second phase used qualitative methods to explore emerging themes.[5] Semi-structured interviews and focus groups with Aboriginal parents and carers of young children, service providers and public health staff were used to gain a better understanding of:

- the perceptions of the health risks of lead for children
- the reason for the downward trend in Aboriginal children's attendance at screening programs
- how these declining attendance rates might be improved.

Broken Hill Lead Management database

De-identified data from the Broken Hill Lead Management database from 2000–2010 were reviewed. Records for Aboriginal children aged 1–4 years of age were extracted. Duplicates and those with missing blood lead values were excluded, leaving a data set of 864. Attendance rates for annual screening were calculated for children recorded as having attended blood lead screening at least once in a calendar year. Australian Bureau of Statistics census data for 2001 and 2006 were used to calculate screening rates.[6] Attendance rates for follow-up visits by children whose blood lead levels were 15 µg/dL and above from 2004–2010 were also calculated.

Lead Health Program Testing Schedule

Attendance at follow-up appointments was measured against the protocol outlined in the Lead Health Program Testing Schedule and Interventions (available on request from Broken Hill Child and Family Health Services). Children were grouped according to whether or not their follow-up visits complied with recommendations in the protocol. Children with a blood lead level between 11 and 20 µg/dL are requested to return at 6-month intervals for follow-up testing. Children with levels between 21 and 39 µg/dL are requested to return at 3-month intervals and those with levels 40–49 µg/dL at 1-month intervals. Case management including education and home assessment to identify the pathway of lead ingestion is offered to all families of children with blood lead levels over 10 µg/dL.

Interviews and focus groups

Participants with a range of relevant experience, skills and knowledge were invited to interviews and focus groups (Table 1). Aboriginal parents or carers of young children were invited to informal interviews at an Aboriginal preschool and an Aboriginal playgroup. Interviews were conducted while participants were involved in the routine functions of the centre (e.g. playing with children, helping with morning tea). Service managers were invited to individual interviews in order to explore planning and management strategies. Two interviews were conducted at their place of work and one was by telephone. Three focus groups were conducted with health professionals to facilitate discussion and the exchange of ideas and to reflect on blood lead screening services for Aboriginal families. Participants included lead screening staff, a health promotion officer, an early childhood health nurse, a practice nurse, research staff and an epidemiologist.

Interviews with community members lasted approximately 10 minutes while other interviews and focus groups were 40–60 minutes. Informed consent was obtained from all participants. Confidentiality and privacy were ensured as contributions used in the report were de-identified. Interviews were sound recorded (with the exception of interviews with community members where written records were taken), transcribed, and analysed manually to identify barriers and enablers. The study investigators verified the resultant material.

Ethics approval was obtained from the former Greater Western Area Health Service Human Research Ethics Committee (HREC /11/GWAHS/4) and from the Aboriginal Health and Medical Research Council of NSW (AHMRC, 771/11).

Results

Attendance rates at blood lead screening services for Aboriginal children aged 1–4 years increased steadily from 55% in 2000 to 80% in 2004. From 2005 attendance rates gradually declined and reached a low of 27% in 2009. The screening rate began to improve in 2010, increasing to 39% (Table 2).

Table 2. Number of Aboriginal children aged 1–4 years, and as an estimated percentage of the total Aboriginal population, screened at least once for blood lead levels in Broken Hill, NSW, 2000–2010

Year	Aboriginal children *n*	Estimated Aboriginal population *n*	%
2000	75	137	55
2001	85	137	62
2002	96	137	70
2003	98	137	72
2004	110	137	80
2005	97	137	71
2006	71	144	49
2007	81	144	56
2008	56	144	39
2009	39	144	27
2010	56	144	39

Sources: Broken Hill Lead Management database; 2001 and 2006 Australian Bureau of Statistics census data.

Table 3. Number and percentage of attendance at follow-up appointments by Aboriginal children aged 1–4 years with blood lead levels 15 µg/dL or more in Broken Hill, NSW, 2004–2010

Year	Blood lead level ≥15 µg/dL *n*	Follow-up attendance *n*	Percentage followed-up %
2004	33	26	79
2005	22	11	50
2006	20	8	40
2007	19	9	47
2008	12	5	42
2009	7	2	29
2010*	12	4	33

*2010 contains some missing data for follow-up due in 2011
Source: Broken Hill Lead Management database.

Follow-up rates for Aboriginal children aged 1–4 years whose blood lead levels were 15 µg/dL and above have declined from 2004 when 79% attended follow-up appointments. In 2009, 29% returned for follow-up and in 2010, 33% returned (Table 3).

The findings from the interviews and focus groups were grouped into common themes to identify why Aboriginal children's attendance at screening programs was declining and how they might be improved: barriers, enablers and suggestions for improvements.

Barriers

Community members generally agreed that health risks and the importance of screening are not well promoted. Many participants recalled risks related to learning and intellectual development but had forgotten health messages about ways to reduce the risk of lead ingestion. Many referred to the fact that there is no practical or financial help for affected families to act on recommendations by health staff (e.g. fixing cracks in ceilings, planting grass over dirt yards) and that this lack of support was a significant barrier to attending screening services. Some community members commented that there were other more important priorities for many families.

Service providers described barriers related to service capacity and funding for key positions. Most agreed that community perceptions were a significant factor in preventing uptake of health services for Aboriginal children:

> *People don't see lead as a health issue anymore because we're not telling them it's a health issue.* (Focus group)

> *There was an Aboriginal health worker that worked with our program. That was a fantastic way to identify and communicate the lead problem with the Aboriginal community. Unfortunately that position no longer exists.* (Focus group)

There was wide agreement among service providers that socio-economic barriers needed to be acknowledged and were factors contributing to the decline in attendance at screening services. Service providers commented that families felt there was nothing that could be done to help them if their child had elevated blood lead levels:

> *…..[families with limited resources are] living in rental houses, landlords are not going to plant lawn, they're not going to clean the ceilings out, they're not going to help them so there is a …this is the best I can do…I can keep my kids' hands clean, I can keep my house clean, but when you're living in a house and the dust is coming through the roof, the dust storms are coming through the house, how do you do it?* (Focus group)

Service providers also discussed gaps in communication between health services, including no formal meetings to share information or discuss issues related to declining attendance rates and strategies. Some service providers and managers were not aware of information available from the Lead Management database. The fact that services did not share case management of Aboriginal children with high lead levels or do joint home visits was raised as a significant issue for Aboriginal families who may feel judged by government health services.

Enablers

Many community members recalled the special lead screening days held at Maari Ma and felt that these encouraged families to come for their children's screening. They also felt that using the finger prick testing method and assisting with transport to the centre encouraged the community to bring their children for screening.

Service providers described enabling factors related to service capacity: providing the lead screening service within a model of care that was culturally acceptable to the Aboriginal community and providing verbal information, as opposed to telephone reminders or letters, with face-to-face communication, home visiting, flexible screening times and culturally appropriate resource materials.

> *One of the best things we did was organise the intake of 11 trainee health workers for the Certificate IV [in Aboriginal and/or Torres Strait Islander Primary Health Care]. So the engagement of people around the community has been far, far greater. And the workforce is very mobile; they're very community based as well.* (Focus group)

> *The first people they see are Aboriginal people, the next line of people they see are Aboriginal people and so, Aboriginal Health in Aboriginal Hands, there's nothing works better.* (Service manager)

There was wide agreement among service providers and public health staff that linking lead screening with other services such as immunisation and child development checks was proving to be successful in increasing attendance.

Suggestions for action

Many community members wanted to see health messages relating to lead promoted in the community. Most spoke fondly of the old lead mascot 'Lead Ted' and would like to see a return of the specific lead screening days held at Maari Ma.

Service providers agreed that more funding, even if not to health directly, would be helpful in re-engaging with the community in a variety of ways including assisting those in financial need. Further expansion of services at Maari Ma was also important, including ongoing or additional training so that staff could provide case management as well as screening services. Some felt that better use of the Lead Management database would help service providers identify and respond to declining attendance rates for screening of lead in Aboriginal children.

Public health staff were in agreement with the other service providers in terms of barriers and enablers to lead screening. They felt it was important to re-engage with the community, perhaps through the Aboriginal Community Working Party in Broken Hill, to increase confidence that help was available for children with high lead levels.

Discussion

This study shows a steady increase in screening rates for Aboriginal children from 2000–2004 despite declining investment in lead awareness and the Lead Management Program's integration into existing health services. The screening rate for Aboriginal children was high in 2004 (80%) after which it declined. Two factors that may explain the high attendance rates at this time were the special days for lead screening that were taking place at Maari Ma and the role of an Aboriginal Health Worker employed by Child and Family Health Services to identify Aboriginal children who were due for a blood lead test and to encourage and assist families to bring those children to the centre. After 2004 dedicated resources ceased and as a consequence both the position of Aboriginal Health Worker and the special lead screening days at Maari Ma ended. Attendance rates began to decline in annual screening and follow-up. The rates of testing and follow-up were lowest in 2009 when Maari Ma experienced a decline in workforce capacity. The low rates of follow-up are of concern as they indicate that even children with elevated blood lead levels are not engaging with the available services offered through case management, including education, home visiting, soil sampling and further monitoring of blood lead levels. Attendance and follow-up rates for Aboriginal children increased slightly in 2010, since Maari Ma has begun offering finger prick testing.

Maari Ma, which now screens the majority of Aboriginal children in Broken Hill, identified logistical barriers to the participation by Aboriginal children in lead screening services related to workforce capacity, the physical space currently available and the difficulty of ensuring the correct environment to conduct the test (e.g. room temperature, dust-free). A new facility is being built and Maari Ma has recently supported a cohort of Certificate IV Aboriginal and Torres Strait Islander Primary Health students, which will help to address these barriers. Some Aboriginal families were not comfortable engaging with government services, an important barrier to health screening as it is the government services which currently provide comprehensive case management of children with elevated blood lead levels. Staff at Maari Ma were concerned that some Aboriginal families have felt judged by government health services and feared having their children removed, particularly when a home visit was recommended.

In terms of improving current participation rates, Maari Ma health workers described issues related to service capacity such as having the right people in the right positions with the right training, and issues related to their service model such as face-to-face communication, home visiting to follow-up those who did not attend appointments and to provide transport to assist families. This approach suggests that using a culturally appropriate model, combined with other strategies aimed at community engagement are likely to be successful in improving blood lead screening rates for Aboriginal children aged 1–4 years.

Community members expressed concern over the difficulty or inconvenience for some people to prove their Aboriginal status to access Maari Ma health services. There was also some concern that as the Aboriginal community in Broken Hill is small some patients may have a personal relationship with service providers, which may discourage them from using the service. While access to an Aboriginal Community Controlled Heath Service (ACCHS) is important and provides a culturally appropriate and safe environment for families, it is also important for people to have a choice of services.

Recommendations were developed from the findings and from discussions with stakeholders involved in lead management services in Broken Hill and are included in a report prepared for the Far West Local Health District. These recommendations focus on re-engaging with the Aboriginal community to develop and implement programs to promote lead screening, formalising relationships between government and ACCHSs at both the local and regional level, seeking funding to assist disadvantaged families, linking lead screening with routine health visits and re-instating the dedicated position of an Aboriginal Health Worker.

The findings of this study are encouraging. While attendance and follow-up rates have declined in recent years, there have been periods of very high attendance rates by Aboriginal children despite reductions in lead program funding. Aboriginal community members have expressed a desire to see lead health promoted again in the community. Interviews and focus groups have confirmed a commitment to lead as an important health issue by staff and managers of child health services in Broken Hill. Using a culturally appropriate model, supporting disadvantaged families and developing collaborative partnerships are needed to increase participation in lead screening services. These findings can be used to inform policy and planning.

Acknowledgments

The authors would like to thank the community members, service providers and public health staff in Broken Hill for their generous participation in this study. We also thank the Aboriginal Community Working Party and members of the study's Advisory Group for their valuable assistance and advice, and Margie Lesjak, senior epidemiologist, Broken Hill Public Health Unit, Far West Local Health District who assisted by providing data from the Lead Management database. This work was completed while Susan Thomas was an employee of the NSW Public Health Officer Training Program, funded by the NSW Ministry of Health. She undertook this work whilst based at the University Department of Rural Health, Sydney University.

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Appendix B: Conference abstracts arising from this thesis

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Calls to Ambulance for Falls in Sydney for 2008, UNSW Post Graduate Research Symposium 2009	141
Paediatric Services Working in Partnership in La Perouse, UNSW Post Graduate Research Symposium 2010	142
Blood Lead Screening in Broken Hill; Improving Access for Aboriginal Children, Dubbo Rural Health Research Colloquium, 11-13 October 2011	143

Calls to ambulance for falls in Sydney for 2008

SUSAN THOMAS

Degree: NSW Public Health Officer Training Program - DrPH
Supervisor: Professor Lisa Jackson Pulver
Co-supervisor: Professor Bin Jalaludin
NSW Health Supervisor: Mr David Muscatello
Stage of Candidature: Early

Introduction

Falls are common causes of injury and contribute substantially to the burden on health services in Australia. Costs in 2003-2004 were estimated to exceed one billion dollars annually (Bradley 2008).

Method

We used a public health surveillance database containing information recorded by NSW Ambulance to describe the epidemiology and characteristics of falls in the Sydney region in 2008 to which an ambulance was dispatched.

Variables included age, sex, time of call, call priority, location of the patient and body region of injury. A random sample of 1,200 records was selected and manually coded for body region of injury. SAS v9.2 statistical software was used for analysis. Ages specific/ standardised rates were calculated. Counts from the random sample provided estimates for the Sydney region, and confidence intervals were calculated.

Results

Of all fall related calls, females accounted for 57% . From eighty years of age and on, they accounted for 25%. As females aged their injuries changed from head/ neck to hip/foot. Males reported 'head/neck' most often throughout all age groups. Crude fall rates were higher for females. After direct age standardization, the rates were similar. Most falls occurred in the home.

Discussion

This information can be used to further justify increased resources for prevention programs that target older women in their home environment. Ambulance services are well placed to explore a variety of options related to falls such as assessment, screening and treatment on the site as well as referrals to PHC services which may prevent a trip to the Emergency Department.

To gain a greater understanding of how the paediatric services at La Perouse Community Health Centre work in partnership with families, the community and other services and to develop recommendations to improve the capacity of the service to work in partnership to maximise health outcomes for children

SUSAN THOMAS

Degree: DrPH
Workplace Supervisor: Associate Professor Dr Katrina Williams
Academic Supervisor: Professor Lisa Jackson Pulver
Academic Co-supervisor: Professor Bin Jalaludin
Stage of Candidature: Middle

Introduction

Paediatric services include physical, emotional and behavioural assessments with referrals made as appropriate. An evaluation was performed with the aim of better understanding how the paediatric service works in partnership with Aboriginal families, the community and other services. Recommendations for service improvement were developed.

Methods

Qualitative data was collected through semi structured interviews and focus groups with 12 health care workers. Participants were asked a range of open-ended questions in order to understand the meaning and use of partnerships, the barriers and enablers and recommendations to improve collaboration. Interviews were recorded, transcribed and analysed manually.

Results

For most participants the concept of partnership involved collaboration to achieve common goals, improve efficiency and provide opportunity for families to access a range of services. Enablers included having services in the same location on the same day, having adequate time, a shared need, commitment and leadership. Barriers to partnerships included lack of time, staff turnover and confidentiality. Recommendations included establishing formalised case reviews, additions to staff orientation programs and strengthening partnerships with other child health services.

Conclusion

There is potential to improve the paediatric service by formalising relationships between services and the methods of sharing information. Strengthening partnerships with a range of services can lead to greater awareness of needs and to innovative ways of working collaboratively.

Blood lead screening in Broken Hill; improving access for Aboriginal children

S Thomas[1], F Boreland[2], D Lyle [2]
[1]NSW Health, Public Health Training Program, Sydney, NSW
[2]University of Sydney, Broken Hill Department of Rural Health, Broken Hill, NSW

Lead has detrimental effects on the health of children including reduced intellectual development. National recommendations advise blood lead levels should be below 10 µg/dl however, there is growing concern that even small amounts can be detrimental to health(1). In the mining town of Broken Hill, public health screening commenced in 1991 to monitor the blood lead levels in children aged 1-4 years. Compared to the general population, Aboriginal children have higher blood lead levels and lower attendance rates at screening programs (2).

We used a mixed methods design to identify strategies to improve access to blood lead screening by Aboriginal children aged 1-4 years in Broken Hill.

The study was conducted in two phases. In phase one we analysed data from the Lead Management Database to document trends in blood lead levels and attendance rates for Aboriginal children since 2000. Phase two involved interviews with Aboriginal parents and service providers. Participants were asked about how blood lead screening is promoted, community awareness of risks posed by environmental lead and barriers and enablers to accessing screening services.

We report on the change in attendance rates and blood lead levels in Aboriginal children compared to non-Aboriginal children. Thematic analysis of the interviews will be presented to identify issues affecting attendance for blood lead screening, including factors such as community awareness of lead as a health issue, and the perceptions about the current screening services.

Based on these findings strategies will be proposed to improve the accessibility and acceptability of the blood lead screening service in Broken Hill for Aboriginal families.

References:
1. NHMRC. Information Paper, Blood lead levels for Australians, August 2009.
2. Greater Western Area Health Service. Blood lead trends in children aged less than 5 years in Broken Hill 2010, Broken Hill University Department of Rural Health, 2011 (internal report).

Session 2 Concurrent 11.10am – 12.30pm

	2A: Service Delivery	2B: Workforce	2C: Preventative Health & Health Promotion
Location:	**Theatrette**	**Starlight 1 & 2**	**Starlight 3**
11.10am – 11.30am	TBA	Perceptions of CDSM Support in Rural Primary Health Care: a Mixed Methods Study **Kay Cope**	The Research Spider: Assessing Change in Self-assessed Research Experience—how Much Change is Enough? **Emma Webster**
11.30am – 11.50am	Blood Lead Screening in Broken Hill; Improving Access for Aboriginal Children **Susan Thomas**	Occupational Therapy Private Practice in Regional and Remote Australia **Judith Merritt**	Evaluation of the 'Farm Health and Safety Toolkit for Rural General Practitioners' **Frances Boreland**
11.50am – 12.10pm	Risk Characteristics of Emergency Department Patients Who Did Not Wait or Were Discharged Against Medical Advice **Yuen Yi (Cathy) Lee**	New Graduate Nurses' Transition into the Workforce **Michelle Giles**	Promoting Resilience in Kids: an Evaluation of an Anxiety Management 'toolkit' **Sally McNamara**
12.10pm – 12.30pm	Efficacy of Leisure Intervention Groups and Their Impact on Leisure Satisfaction, Self Esteem and QOL Amongst People with an ABI? **Elizabeth Mitchell**	Recruiting and Retaining Therapists to Work in Disability Services in Regional Areas **Kim Bulkeley**	Urban-rural Influences on Suicidality: Gaps in the Existing Literature and Recommendations for Future Research **Tonelle Handley**

12.30pm – 1.30pm Lunch & Poster Session

Session 3 Plenary

1.30pm **Cultural Event**
Buninyong Primary School – Kindergarten Dance Troop

1.40pm – 2.10pm **Keynote Address:**
Can Rural Health Research be a Priority in the Context of Health Reform?
Associate Professor Lyn Fragar
Chair, Hunter New England District Health Board, Moree, NSW

Appendix C: Ethics approval letters

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Ethics approval letters for chapter three: Community Child Health's Outreach Paediatric Services at La Perouse Community Health Centre- an Evaluation of Working in Partnerships	146
Ethics approval letters for chapter four: Review of Blood Lead Screening for Aboriginal Children in Broken Hill- 'Aboriginal Health in Aboriginal Hands, Nothing Works Better'	152

SOUTH EASTERN SYDNEY
ILLAWARRA
NSW HEALTH

HUMAN RESEARCH ETHICS COMMITTEE – Northern Hospital Network

Room G71, East Wing
Edmund Blacket Building
Prince of Wales Hospital
Cnr High & Avoca Streets
RANDWICK NSW 2031
Tel: (02) 9382 3587
Fax: (02) 9382 2813

26 March 2010

Dr Katrina Williams
Community Child Health
Cnr Barker St and Avoca
RANDWICK NSW 2031

Attention: Ms Susan Thomas

Dear Dr Williams

HREC Reference Number: 10/038
Project Title: Evaluation of how the paediatric clinic at La Perouse Community health Centre works in partnership with families, the community and other services (government and non-government).

Thank you for submitting the above Quality Assurance study for review. Based on the information you have provided and in accordance with the NHMRC guidelines [National Statement 2007 - Section 5 Institutional Responsibilities and "When does quality assurance in health care require independent ethical review?" (2003)], this project has been assessed as QA/low risk and is therefore exempt from full Human Research Ethics Committee (HREC) review.

The project was considered by the Executive of the Human Research Ethics Committee (HREC) of the Northern Hospital Network at its meeting held on 1 March 2010.

At that meeting the Executive agreed this is a QA/low risk application and asked that the applicant provide further information The HREC delegated final approval to the HREC Executive Officer upon receipt of an appropriate response.

I am pleased to advise that with your correspondence dated 16 March 2010 the requested information and revised documents were received incorporating the recommendations of the Executive.

Ethical approval has been granted for the above project.

The documents approved for this project are:

- Low/negligible risk research activities form, version 2
- Data Collection Sheet
- General Questions for Focus Groups and individual interviews
- Letter of Invitation for focus group
- Letter of invitation for managers

Letter of invitation for stakeholders
This authorisation is valid for five years, and the Committee requires that you provide annual reports on the project's progress. Please inform the Research Support Office when this project is completed.

Please quote **HREC Ref No: 10/038** in all correspondence.

If you have any queries relating to the above please contact the Research Support Office on tel: (02) 9382 3587.

Yours sincerely

Deborah Adrian
Executive Officer, Human Research Ethics Committee
HREC – NHN

P:\Correspondence\2010\038\25.03.10 EO Approval of QA after EXEC review.doc Page 2 of 2

Aboriginal Health & Medical Research Council

of New South Wales

AH&MRC ETHICS COMMITTEE

7 June 2010

Katrina Williams
Community Paediatrician
Community Child Health
Sydney Children's Hospital
SESIAHS
Cnr Barker St and Avoca St
Randwick NSW 2031

Dear Ms Williams,

Evaluation of how the paediatric clinic at La Perouse Community Health Centre works in partnership with families, the community and other services (government and non-government) (723/10)

The Aboriginal Health and Medical Research Council (AH&MRC) Ethics Committee has considered your application received on 12 March 2010 for ethics approval for the above project. Your letter of 17 March and email of 3 June (including attachments) containing additional information are considered to form part of the application.

The Committee agreed to approve the application, subject to the conditions below.

Standard Conditions of Approval (where applicable to the project)

1. The approval is for the period from 1 June 2010 until 30 June 2011, with extension for an additional period subject to providing a report on the research by 30 June 2011.
2. All research participants are to be provided with a relevant Participant Information Statement and Consent Form in the format provided with your application.
3. Copies of all signed participant consent forms must be retained and made available to the Ethics Committee on request. A request will only be made if there is a dispute or complaint in relation to a participant.
4. Any changes to the staffing, methodology, timeframe, or any other aspect of the research relevant to continued ethical acceptability of the project must have the prior written approval of the Ethics Committee.
5. The research must comply with:
   - the *AH&MRC Guidelines for Research in Aboriginal Health – Key Principles;*
   - the *National Statement on Ethical Conduct in Research Involving Humans* (2007); and
   - the *NSW Aboriginal Health Information Guidelines*.

Funded by NSW Health Department

Lvl 3, 66 Wentworth Avenue Surry Hills NSW 2010 : PO Box 1565 Strawberry Hills NSW 2012
Ph: +61 (02) 9212 4777: Fax:+61 (02) 9212 7211 Email: ahmrc@ahmrc.org.au
ABN 66 085 654 397: ACN 085 654 397

HUMAN RESEARCH ETHICS COMMITTEE (HREC)

04-Nov-2011

Dr Katrina Williams

NSW 2052

Dear Dr Williams,

HREC Ref # HC11438
Evaluation of how the paediatric clinic at La Perouse Community Health Centre works in partnership with familis, the community and other services (government and non-government)

Thank you for the above application for ratification of the ethics clearance given by the South Eastern Sydney Illawarra Health HREC (Ref 10/038) to Dr Katrina Williams for the approval period from 26-Mar-2010 to 25-Mar-2015.

The Executive noted the above application at its meeting held on 01-Nov-2011, and is pleased to advise it is satisfied that this protocol meets the requirements as set out in the National Statement on Ethical Conduct in Human Research*. The Deputy Vice-Chancellor (Research) has accepted the Committee's recommendation.

Please note that the UNSW HREC period of approval for this project is valid for the duration of the approval period given by the Primary Ethics Committee.

The Committee also reviewed the approval given by the Aboriginal Health and Medical Research Council of NSW (AH&MRC) dated 1 December 2010.

Sincerely,

Michael Grimm

Presiding Member
Human Research Ethics Committee

* http://www.nhmrc.gov.au

Aboriginal Health & Medical Research Council

of New South Wales

AH&MRC ETHICS COMMITTEE

14 March 2011

Professor David Lyle
Broken Hill Department of Rural Health
PO Box 457
Broken Hill NSW 2880

16 MAR 2011

Dear Professor Lyle,

Blood lead levels in Aboriginal children in Broken Hill: improving access and outcomes for Aboriginal children - 771/11

The Aboriginal Health and Medical Research Council (AH&MRC) Ethics Committee has considered your application received on 27 January 2011 for ethics approval for the above project. Your email of 3 March 2011 containing additional information is considered to form part of the application.

The Committee agreed to approve the application, subject to the Standard Conditions and Special Condition/s of Approval below:

Standard Conditions of Approval (where applicable to the project)

1. The approval is for the period from 14 March 2011 until 31 March 2012, with extension for an additional period subject to providing a report on the research by 31 March 2012.
2. All research participants are to be provided with a relevant Participant Information Statement and Consent Form in the format provided with your application.
3. Copies of all signed consent forms must be retained and made available to the Ethics Committee on request. A request will only be made if there is a dispute or complaint in relation to a participant.
4. Any changes to the staffing, methodology, timeframe, or any other aspect of the research relevant to continued ethical acceptability of the project must have the prior written approval of the Ethics Committee.
5. The research must comply with:
   - the *AH&MRC Guidelines for Research in Aboriginal Health – Key Principles*
   - *National Statement on Ethical Conduct in Research Involving Humans* (April 2007)
   - the *NSW Aboriginal Health Information Guidelines.*
6. The final draft report from the research, and any publication or presentation prior to that report where new data or findings are presented, must be provided to the AH&MRC Ethics Committee to be reviewed for compliance with ethical and cultural criteria prior to:
   - any submission for publication; and/or
   - any dissemination of the report.

Funded by NSW Health Department

Lvl 3, 66 Wentworth Avenue Surry Hills NSW 2010 : PO Box 1565 Strawberry Hills NSW 2012
Ph: +61 (02) 9212 4777: Fax:+61 (02) 9212 7211 Email: ahmrc@ahmrc.org.au
ABN 66 085 654 397: ACN 085 654 397

7. A copy of the final published version of any publication is to be provided to the AH&MRC Ethics Committee.

Special Condition/s

8. Before work can commence on this application, the Committee must be provided with a signed letter of approval from the Greater Western Area Health Service HREC.

Please acknowledge receipt of this letter and your acceptance of the above conditions within fourteen (14 days).

We would also appreciate your agreement that the AH&MRC may, on request, obtain access to the data obtained from the research in order to assist the future development of policy and programs in Aboriginal health.

On behalf of the AH&MRC Ethics Committee,

Yours sincerely,

Val Keed
Chairperson
AH&MRC Ethics Committee

NSW GOVERNMENT | Health

30th May 2011

Ms Susan Thomas
Public Health Officer Trainee
Population Health
University of Sydney
c/- Broken Hill Department of Rural Health
PO Box 457
BROKEN HILL NSW 2880

Dear Ms Thomas,

Greater Western Area Health Service (AHS)
Human Research Ethics Committee (HREC)
Project No. HREC/11/GWAHS/4

Blood lead level screening in Broken Hill
Improving access and outcomes for Aboriginal children

Thank you for responding to the HREC's request for clarification and further information for the above project. The HREC Executive reviewed your responses at its meeting held on 26th May 2011.

The Greater Western AHS HREC is constituted and operates in accordance with the National Health and Medical Research Council's National Statement on Ethical Conduct in Human Research and the CPMP/ICH Note for Guidance on Good Clinical Practice.

I am pleased to advise that the HREC has granted ethical approval of this research project. The following documentation has been reviewed and approved by the HREC:

- National Ethics Application Form (NEAF) (amended) – dated 11th May 2011
- Researcher's Response Template – Conditional Approval – 14th February 2011
- Researcher's Response Template – Conditional Approval – 6th May 2011
- Researcher's Response Template – Conditional Approval – 26th May 2011
- NSW Health Privacy Questions – undated
- Research Protocol – version 1, dated 29th March 2011
- Participant Information Sheet - Community Member – version 6, dated 26th May 2011

Human Research Ethics Committee

PO Box 143
Level 1, 230 Howick Street
BATHURST NSW 2795
Tel: (02) 6339 5601 Fax: (02) 6339 5606

- Participant Information Sheet – Service Provider – version 5, dated 26th May 2011
- Consent Form – Individual Interview – version 4, dated 10th May 2011
- Consent Form – Focus Group – version 4, dated 10th May 2011
- Questions – Community Members – version 2, dated 11th May 2011
- Questions – Service Providers – version 1, dated 29th March 2011
- "Talking about blood lead screening for our kids" Flyer – version 2
- Letter from Bob Davis, Chief Executive Officer – dated 14th January 2011

The project is approved to be conducted at the following sites within the Far West Local Health District:

- Broken Hill Department of Rural Health
- Family and Child Health Centre, Broken Hill

Please note the following conditions of approval:

1. The Principal Investigator will immediately report anything which might warrant review of ethical approval of the project in the specified format, including:

   - any serious or unexpected adverse events; and
   - unforeseen events that might affect continued ethical acceptability of the project.

2. The Principal Investigator will report proposed changes to the research protocol, conduct of the research, or length of HREC approval to the HREC in the specified format, for review.

3. The Principal Investigator will inform the HREC, giving reasons, if the project is discontinued before the expected date of completion.

4. The Principal Investigator will provide an annual report to the HREC and at completion of the study in the specified format.

HREC approval is valid for two years from the date of this letter.

This HREC approval letter constitutes ethical approval only. You are required to submit a site specific assessment application to the Western NSW & Far West Local Health Networks Research Governance Officer. You must not commence this research project at a site until separate authorisation from the Chief Executive or delegate of that site has been obtained.

Should you have any queries about your project please do not hesitate to contact the Greater Western AHS HREC Executive Officer on (02) 6339 5601 or via email ethics.committee@gwahs.health.nsw.gov.au .

Please quote HREC Reference No. HREC/11/GWAHS/4 in all correspondence.

The HREC wishes you every success in your research.

Yours sincerely

Suzanne Degiorgio
for
Dr Thérèse Jones
Executive Officer
Human Research Ethics Committee

NSW GOVERNMENT | Health

21st June 2011

Ms Susan Thomas
Public Health Officer Trainee
Population Health
University of Sydney
c/- Broken Hill Department of Rural Health
PO Box 457
BROKEN HILL NSW 2880

Dear Ms Thomas,

Western NSW & Far West Local Health Districts
Project No. HREC/11/GWAHS/4
SSA No. SSA/11/GWAHS/16

Blood lead level screening in Broken Hill
Improving access and outcomes for Aboriginal children

Thank you for submitting a site specific assessment application to conduct research within the Far West Local Health District.

I am pleased to inform you that authorisation has been granted for this study to take place at the following sites within the Far West Local Health District:

- Child and Family Health Centre, Broken Hill Health Services

The following conditions apply to this research project. These are additional to those conditions imposed by the Human Research Ethics Committee that granted ethical approval:

1. Proposed amendments to the research protocol or conduct of the research which may affect the ethical acceptability of the project, and which are submitted to the lead HREC for review, are copied to the Research Governance Officer;

2. Proposed amendments to the research protocol or conduct of the research which may affect the ongoing site acceptability of the project, are to be submitted to the Research Governance Officer.

Research Governance

PO Box 143
Level 1, 230 Howick Street
BATHURST NSW 2795
Tel: (02) 6339 5601 Fax: (02) 6339 5606

Should you have any queries regarding your project, please do not hesitate to contact the Research Governance Officer on (02) 6339 5601 or via email ethics.committee@gwahs.health.nsw.gov.au .

Please quote SSA Reference No. SSA/11/GWAHS/35 in all correspondence.

The Far West Local Health District wishes you every success in your research.

Yours sincerely

Suzanne Degiorgio
for
Dr Thérèse Jones
Research Governance Officer

Appendix D: Workplace Reports End Material

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Community Child Health's Outreach Paediatric Services- an Evaluation of Partnerships	158
Review of Blood Lead Screening for Aboriginal Children in Broken Hill-'Aboriginal Health in Aboriginal Hands, Nothing Works Better'	164

Letter of Invitation

Department of Community Child Health
Cnr Avoca and Barker Streets Randwick NSW 2031
Date:
Dear_____
Re: Working in Partnership: An evaluation of how the paediatric clinic at La Perouse Community Health Centre works in partnerships with families, communities and relevant agencies

This letter is to invite you to attend a focus group at Community Child Health on_____ from _____ am. The focus group is part of an evaluation of how staff at the paediatric outreach clinic at La Perouse Community Health Centre (CHC) work in partnership with families, the local community and other relevant agencies or services. The aim is to gain greater understanding of how staff perceives partnerships and how they use them to provide comprehensive care to children and families who attend the paediatric clinic at La Perouse CHC. The purpose of the evaluation is to improve the quality of the service.

You have been invited to participate in the focus group as you work with the La Perouse community, at the La Perouse CHC and have a connection with or work directly in the paediatric clinic there. The format will be semi-structured questions, group discussion with an opportunity to express opinions and provide feedback about the topic in general, current work practices and recommendations for future service development regarding working in partnerships. The group session will be tape recorded for qualitative analysis. Notes will also be taken to assist the facilitator in developing the main themes that emerge.

Participation in the focus group is voluntary and there are no right or wrong answers. There will be no negative implications for anyone who chooses not to participate and your contributions will remain confidential. Some comments may be selected for publication in the final report, however, you will be given an opportunity to have yours removed during the editing phase if you so choose. All tape recordings and notes will be kept in a secure, locked location and will be destroyed in accordance with research practice. Consent to participate will be obtained by signing this letter on the day of the focus group. If you have any questions or concern regarding participation in this focus group or about the evaluation process in general, please feel free to contact me. If the date and time are not suitable please let me know and alternative times can be considered. Thank you.

Yours truly,

Susan Thomas Public Health Officer Trainee0433 708 012 9382 8480 Susan.thomas2@sesiahs.health.nsw.gov.au

Consent

You are making a decision whether or not to participate. Your signature on the consent form indicates that, having read the information provided above, you have decided to participate.
You will be given a copy of this form to keep.

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Signature of Research Participant | Signature of Witness

(Please PRINT name) | (Please PRINT name)

Date | Nature of Witness

REVOCATION OF CONSENT

I hereby wish to WITHDRAW my consent to participate in the research proposal described above and understand that such withdrawal WILL NOT jeopardise your relationship with me nor with our respective employers.

……
…….
Signature Date

……
Please PRINT Name

The section for Revocation of Consent should be forwarded to

Susan Thomas
Public Health Officer Trainee
Community Child Health
Sydney Children's Hospital
Randwick0433 708 012 9382 8480 Susan.thomas2@sesiahs.health.nsw.gov.au

Interview Questions

Interview Guide for Focus Groups

Thanks for participating, introduce myself and the evaluation

What is your current role, how long have you been working in that role?

What does working in partnerships mean to you?

What are the benefits of working collaboratively?

For you, patients, families, communities?

What are the main barriers, if any, in working in partnership at or with the paediatric clinic?

How could those barriers be addressed?

What has been your experience working at or with the CCH paediatric clinic at La Perouse Community Health Centre in terms of collaboration, cooperation and in providing comprehensive care to patients?

Do colleagues contact you to discuss the patient in more detail?

Do you have regular meetings or attend larger meetings together?

Do you case manage patients together?

How do you solve patient's complex problems?

Do you see any limitations or potentially negative aspects to working in partnership? Generally? Specifically?

Do you have any suggestions to improve the way the Paediatric clinic works in partnership with others?

Would you like to add anything further?

Thanks

Interview for managers

Welcome and introduce yourself and your role (the managers)
Working in partnership has been defined as one part of good practice in early childhood care and implies provision of a comprehensive range of integrated services (from individual to population and from universal to targeted).
What does working in partnerships mean to you?
What are the benefits of working collaboratively? For you, patients, families, communities?
In what ways do you work in partnerships generally and more specifically in your work as a supervisor at La Perouse clinic?

What sort of barriers or problems, if any, do you experience in working collaboratively with the community?
With other service providers? With families?

How might you address those barriers? What would you suggest as possible solutions or strategies?
In your role as supervisor to new and less experienced doctors, how do you teach them or enable them to develop and work in partnerships?

Can you describe the collaborate processes involved in developing the paediatric clinic (was there community and consumer involvement in planning, developing and implementing the service?)
Do you attend any regular meeting with other agencies?
If so, which agencies? What is the nature of the meetings? Who chairs them and who sets the agenda? Is the atmosphere accepting of diverse opinion? What kind of decisions come out? How does this affect the work?
How do you communicate with other health professional/community groups in La Perouse/intersectoral groups and NGO's?
Do you attend any regular meeting with other non health government agencies such as housing or education or welfare services

Do you see any limitations or potentially negative aspects to working in partnership with others?
Do you have any suggestions to improve the way the Paediatric clinic works in partnership with others? Is there anything else you would like to add?

Chart Audit Tool

Evaluation of Working in Partnership
La Perouse Community Health Centre/Paediatric Outreach Clinic
Susan Thomas
PHO Trainee, NSW Health

Study number_____
1. Phone Calls, if yes, how many
with family _____
with other community services
Health_____
Education_____
Community services_____
Juvenile justice_____
Other_____

2. Meetings organised or attended, if yes, how many and who attended
Family conference_____
Case reviews or case conference_____
Other case management meetings (please specify)_____
_____
3. Correspondence, number
To and from caregivers/services_____
Cc'd to others service provider
Yes_____
To how many_____

Steering Committee Terms of Reference

Broken Hill Blood Lead Screening for Aboriginal Children Steering Committee Terms of Reference – April 2011	
Project Manager: Susan Thomas, Public Health Officer Trainee, NSW Health	
Project Aim: To improve access to blood lead level screening for Aboriginal children in Broken Hill Project Objective: To gain a greater understanding of declining trends in attendance at blood lead screening in the Aboriginal population and identify strategies to improve access to screening services Steering Group Aim: To facilitate the achievement of the project aim and objective by: Providing a forum for the interests of target populations and stakeholders to be tabled Advising on project processes e.g. consultations, focus groups and interviews with service providers and community members, adherence to the project timeline Identifying any issues or sensitivities which may affect the project Assisting with the identification of strategies to effectively address the identified issues Reviewing and providing advice on the project plan and draft report Ratifying the final project plan and draft report Assist with dissemination of findings to relevant stakeholders Provide advice on the continuation of the project (implementation and evaluation)	
Chairperson Di Johnson and David Lyle on rotation Secretariat Susan Thomas Time Frame Project length 6 months-March-Sept 2011 Meetings Monthly, 1 hr duration Venue Child and Family Health Services	Membership University Dept Rural Health-Frances Boreland, David Lyle, Susan Thomas Far West Public Health Unit- Margie Lesjak Child and Family Health Services/Lead Program- Di Johnson, Angela Tiziani, Vilmae McManus, Kelli Schultz Maari Ma Health Aboriginal Corp- Hugh Burke Local Health District- Stuart Riley Others by invitation Minutes distribution to group members
Ratified: 28 April 2011	

Lead Health Program
Child and Family Health Services, Broken Hill, NSW
Testing Schedule and Interventions

0-10 ug/dL	**Annual testing** **Education in clinic**
11-20 ug/dL **(≥ 15 ug/dL)**	**6 Monthly testing** **Home assessment** **Education**
21-39 ug/dL	**3 Monthly testing** **Home assessment** **Education**
40-49 ug/dL	**1 Monthly testing** **Home assessment** **Education**
≥ 50 ug/dL	**Refer to paediatrician for possible chelation therapy** **Home assessment** **Education**

Appendix E: NSW Public Health Officer Training Program Documents

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NSW GOVERNMENT | Health

Certificate of Completion

This is to certify that

Susan Thomas

has successfully completed the three year

NSW Public Health Officer Training Program

June 2012

Dr Mary Foley
Director-General
NSW Ministry of Health

PHREDSS Learning Contract

NSW DEPARTMENT OF HEALTH
PUBLIC HEALTH OFFICER TRAINING PROGRAM
Learning Contract

Trainee:	Susan Thomas
Year of training:	First
Stream of training:	General
Placement:	Population Health Information Branch, NSW Health
Supervisor(s):	David Muscatello
Placement commencement date:	3rd March 2009
Placement review date:	3rd June 2009
Placement completion date:	21rd Sept 2009
Project titles:	1. Daily syndromic surveillance 2. Evaluate ambulance data for falls syndromic surveillance 3. Request for data from Internal and External sources 4. Participation in Swine Flu Response initiated by NSW Health

SECTION 1: PLACEMENT OVERVIEW
Project one:

Title:	**Daily syndromic surveillance**

Project description (100 - 150 words)	**Main roles, activities and learning strategies**	**Competency elements expected to be addressed**
This will involve participating in the Public Health Real-time Emergency Department Surveillance System (PHREDSS). It is aimed at providing early warning of unusual trends or patterns in visits to NSW Emergency Departments (EDs) that might signify an emerging outbreak or epidemic caused by a new disease, bioterrorism, a naturally occurring disease or other risk factor that might be amenable to public health intervention The PHO's role is to participate in the smooth running of the surveillance system, and in collaborative committees, meetings, projects, investigations and reporting activities with other branches, Divisions and Area Health Services. The PHO will gain valuable experience in using software tools such as pgAdmin, SAS statistical package, NetEpi analysis.	My role of contributing to the core business of syndromic surveillance included: • Checking of real-time emergency department reports daily as required including weekends. • Initiation of investigations of abnormalities in diseases patterns when appropriate. • Extract historical data from HOIST for ED patient presentations. • Conduct analysis comparing "epidemic period" with "control period". All extraction, analysis and manipulation performed using SAS statistical software or pgAdmin. • Liaise with ED staff to ensure continual data flow between ED and NSW Health • Inform relevant personnel of increases in ED visits including Emergency Departments, Communicable Diseases, Drug and Alcohol, Mental Health via email and face to face meetings. • Provide data to be included in media releases as requested • Respond to data specific data requests from stakeholders	Professional Practice 1.1, 1.2, 1.3, 1.4, 1.6 Management 2.1, 2.2, 2.3, 2.4 Epidemiology and Biostatistics 3.4, 3.5, 3.6 Information Management 4.1, 4.2, 4.3, 4.4 Infectious Diseases 9.1, 9.2, 9.4

SUPERVISOR SIGNATURE / DATE	**TRAINEE SIGNATURE / DATE**
11 Nov 2011	11/11/11

SECTION 1: PLACEMENT OVERVIEW
Project two:

Title:	Evaluate Ambulance data for falls syndromic surveillance

Project description (100 - 150 words)	Main roles, activities and learning strategies	Competency elements expected to be addressed
To complete a descriptive epidemiological population based study using PHREDSS Ambulance NSW dispatch data. These data currently contribute to syndromic surveillance of public health significance. The project will examine the characteristics of fall related ambulance data in the Sydney Metropolitan region and identify potentially high risk groups where preventative interventions may be implemented.	• Develop classification system for falls data. • Consult with NSW Ambulance and other relevant stakeholders such as injury prevention branch • Design and implement a pilot study to review the text data for calls requesting Ambulance dispatch responding to falls. • Literature search for evidence and supporting data. • Implement complete study on Ambulance falls data. • Evaluate results from study. • Complete a publishable report with recommendations for the use of the Ambulance data for falls.	Professional Practice 1.1, 1.2, 1.3, 1.4, 1.6 Management 2.3, 2.4 Epidemiology and Biostatics 3.1, 3.2, 3.3, 3.4, 3.5, 3.6 Information Management 4.1, 4.2, 4.3, 4.4 Communication 5.1, 5.3 Risk Assessment/Management 10.1, 10.4

SUPERVISOR SIGNATURE / DATE	TRAINEE SIGNATURE / DATE
11 Nov 2011	11/11/11

SECTION 1: PLACEMENT OVERVIEW

Project three:

Title:	Request for data from internal and external sources

Project description (100 - 150 words)	Main roles, activities and learning strategies	Competency elements expected to be addressed
The Centre for Epidemiology and Research regularly receives data requests from Internal NSW Health bodies and external bodies to the Centre. Data requests require the understanding, extraction, evaluation of data. Data requests are then submitted and externally released to those requesting the information. Examples include request from D&A for the use of inhalants as a reason for presentation to ED dept.	• Communicate through electronic and non-electronic media to develop parameters for data requests. • Undertake statistical analysis to extract data based on request specifications, using SAS/HOIST • Compile report of extracted data. • Prepare brief for approval to release data.	Professional practice 1.1, 1.2, 1.4, 1.6 Epidemiology and Biostatistics 3.1, 3.2, 3.4 Information Management 4.1, 4.2, 4.3, 4.4 Communication 5.1, 5.3 Health Policy 6.1

SUPERVISOR SIGNATURE / DATE	TRAINEE SIGNATURE / DATE
11 Nov 2011	11/11/11

SECTION 1: PLACEMENT OVERVIEW

Project four:

Title:	**Participation in Swine Flu Response initiated by NSW Health**

Project description (100 - 150 words)	Main roles, activities and learning strategies	Competency elements expected to be addressed
Human Swine Influenza appeared in Mexico and the US in April 2009. In May confirmed cases appeared in Australia. The Incident Control System was used to coordinate the state-wide response. Many staff from different departments including the PHO's were required to work on a full time basis on the Swine Flu response. Some worked on a more casual/part time basis. Most members of the Epidemiology and Research Branch were required to focus on Swine Flu surveillance on a full time basis. **Addendum** **The PHO assisted the PHEOC in community based responses to the H1N1 outbreak in a major role of managing information from PHREDSS to support the pandemic response, which was protracted and complex in nature. This included visits to schools where there have been confirmed cases and to arriving cruise ships where possible cases may be disembarking. In field trips, the PHO took an active role in providing information to the public, identifying possible cases, contacts and suspects, liaising with a range of Public Health staff to ensure appropriate protection measure are in place, such as using PPE and providing Tamiflu appropriately**	• Attending daily morning briefings as PHREDSS representative • Participating as part of the Planning team to talk about pandemic response issues • Working on a rotating roster including evenings and weekends to support information base required in responding to the pandemic • Coordinating the roster for the other members of the Surveillance team, ensuring the right skills mix and human resource capacity • Providing information about flu like symptoms to the Bunker and others in Planning and Operations in the form of daily SitReps • Monitoring the PHREDSS signals and reporting on a daily basis with particular attention to Influenza and All Respiratory syndromes • Monitoring text of ED visits and reporting to AHS's and relevant teams in the Bunker. **Addendum** • **Worked with SESIAHS PHU in responding to known cases of H1N1 at Botany Public School (travel to the PHU, meet with the Director, plan and organise resources for parents and teachers, travel to the school, work with the principal and teachers, assist parents to complete questionnaires to identify risk and possible contacts, suspects, work with infection control nurses and the Director of the PHU in collecting specimens for pathology and providing data for nurses to enter into NetEpi)** • **Travelled with other PHO's to the King St Wharf at the request of the Director of the CER, to meet the cruise ship Pacific Dawn. PHO's prepared to meet disembarking passangers and provide information and advice. PHO's were prepared to participate in the quarantine/isolation of cases and suspects as they were identified onboard. This work was conducted under the Public Health Act.**	Professional Practice 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, Management 2.1. 2.3, Epidemiology and Biostatistics 3.1, 3.3, 3.4, 3.5, 3.6, Information Management 4.1, 4.2, 4.3, 4.4, Communication 5.1, 5.3 Communicable Diseases 9.1, 9.2, 9.3, 9.4,

SUPERVISOR SIGNATURE / DATE	TRAINEE SIGNATURE / DATE
11 Nov 2011	11/11/11

SECTION 2: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Project one:

Title:	Daily Syndromic surveillance

Competency element		Level of competency gained [1]	Evidence of achievement
1.1	Demonstrates understanding of responsibilities of working within the health service.	1.0	• Communicating and networking with all members of the PHREDSS team, CDB and others involved in Swine flu response • Completed time sheets and other documents as requested by the dept • Was a reliable team member, punctual at work and kept my team leaders informed of any absences or other commitments where I would be away (ie UNSW or other PHOT responsibilities). • I think I demonstrated all colleagues with respect.
1.2	Manages professional development and personal workload	1.0	• Communicated with supervisors to ask for assistance, guidance, feedback and to inform them of areas where I feel I need more support. • Assisted others to learn about PHREDSS, how to interpret the signals and compose daily reports and sitreps. • Advocated for 2 days off in a row and managed the Swine flu roster for the PHREDSS team.
1.3	Actively participates in the NSW PHOT Program	1.0	• Compiled my 3 white folders and began adding evidence. • Attended regular meetings with David Muscatello and Wei Zheng • Embraced mandatory placement in PHREDSS • Attended Aboriginal Health training and other workshops during and outside

			work time (PHO Epi club and other seminars…see section 3)
1.4	Acknowledges and demonstrates ethical behaviour in public health practice	1.0	• Respected confidentiality of all information that came to my attention in investigating PHREDSS data, especially anything that was identifiable. • Discussed with my supervisors how far our role should go in reporting on issues of drug/alcohol/suicide/injury. Where did our role stop or start?
1.6	Consistently demonstrates commitment to evidence-based population health practice	1.0	• Considering the evidence and the quality of the epidemiological data when interpreting PHREDSS signals • Consulting and collaborating with colleagues when deciding to report the signals through PHREDSS situation reports.
2.1	Understands the organisation of Health Services in NSW and identifies appropriate points to influence decision-making	1.0	• Printed out the dept structure and hierarchy and identified my place within it • Developed awareness of PHREDSS infrastructure, technical background, data collection, storage, management etc.
2.2	Identifies the processes associated with the effective operations of a branch or unit	1.0	• Suggested and began implementation of a daily PHREDSS meeting to summarize findings in surveillance, discuss concerns, share ideas and knowledge and monitor trends as a team.
2.3	Manages effective working relationships at an appropriate level with a variety of individuals and groups		• Attending CDB RAP meetings, meeting with vaccine Preventable Diseases and Drug and Alcohol teams to share information, promoting the role of PHREDSS and using information from those teams to further PHREDSS interpretation of signals.
2.4	Manages a project	1.0	• Managed all steps of my falls project, as outlined in Project 2.
3.4	Performs epidemiological analysis	1.0	• Using PHREDSS data to identify unusual trends • Using SAS/HOIST and PgAdmin to collect required data • Interpreting data including comments text to determine if the areas of concern are usual or if they require reporting to relevant health services • Preparing daily reports and occasional situation reports
3.5	Applies epidemiological principals to establish/evaluate a surveillance system	1.0	• Daily work on PHREDSS reports and situation reports
3.6	Advises other health professionals about the use of epidemiological data and methods	1.0	• Presented a 10 minute power point presentation to all PHOT's on the uses of PHREDSS, how it works, limitations and applications
4.1	Prepares written reports that include the descriptive presentation of data	1.0	• Daily PHREDSS reports and sitreps using Macros, PgAdmin, Printscreen, Word
4.2	Analyses data sources using appropriate software packages	1.0	• Did SAS/HOIST training • Used SAS/HOIST to run Macros for PHREDSS • Used PgAdmin to gather data for analysis •
4.3	Utilizes appropriated data sources to describe the health of the population	1.0	• Used PHREDSS Edis and Ambulance data
4.4	Communicates using electronic media	1.0	• Used email, intra/internet, wikki, Citrex for home access • Respected the department's policy re confidentiality, respect, privacy and did

			not access inappropriate internet sites.
9.1	Demonstrates understanding of common infectious diseases, in particular notifiable infectious diseases	1.0	• Use of resources provided on the subject at the commencement of the program • Awareness of how notifiable diseases fit into PHREDSS syndromes and how to use the comments text for further information
9.2	Recognises the public health benefit of accurate surveillance of notifiable infectious diseases	1.0	• Used PHREDSS to further explore the apparent progression of pertussis outbreak as well as H1N1, gastroenteritis and meningitis • Discussion and understanding of how methods of data coding and reporting might provide inaccurate signals in PHREDSS
9.4	Liaises with intrasectoral and intersectional groups responsible for the control of infectious diseases in NSW	1.0	• Regular formal and informal communication with CDB staff through RAP meetings and other informal exchanges of information • Meeting with VPD branch to further exchange information on pertussis

We agree that the above is a complete and accurate record of competency attainment related to this project.	
SUPERVISOR SIGNATURE / DATE **11 Nov 2011**	**TRAINEE SIGNATURE / DATE** 11/11/11

SECTION 2: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Project two:

Title:	Evaluate Ambulance data for falls syndromic surveillance

Competency element		Level of competency gained [1]	Evidence of achievement
1.1	Demonstrates understanding of responsibilities of working within the health service.	1.0	• Developed good working relationships with senior staff from NSW Ambulance, staff at the control centre, other staff working in injury prevention
1.2	Manages professional development and personal workload	1.0	• Developed good rapport with Corinne Stolzenheim who assisted me along with my supervisors in conducting my literature searches • Asked for help in all areas as needed, related to my project • Worked after hours to meet personal/professional deadlines • Made my supervisors aware early on what my limitations were in regard to computer skills and abilities and limited experience in research projects.
1.3	Actively participates in the NSW PHOT Program	1.0	• Developed this learning contract and included falls project • Ongoing participation in all aspects of the program (centre based and UNSW)
1.4	Acknowledges and demonstrates ethical behaviour in public health practice	1.0	• Respecting confidentiality when working with ambulance data • Understanding the importance of using de-identifiable data in the study
1.6	Consistently demonstrates commitment to evidence-based population health practice	1.0	• Literature search for falls/ambulance, analysis and interpretation of the literature and development of a study design and strategy, with assistance from supervisors • Discussions re how to disseminate the information best and deciding on the NSW Public Health Bulletin
2.3	Manages effective working relationships at an appropriate level with a variety of individuals and groups	1.0	• Worked well and in collaboration with Dr Paul Middleton from NSW Ambulance, Claire Monger from Injury prevention, Lorraine Lovitt from Clinical Excellence Commission and other members of PHREDSS who were participating, David Muscatello and Wei Zheng • Organised a visit to NSW Ambulance dispatch centre
2.4	Manages a project	1.0	• Managed all aspects of my falls project with assistance from my supervisors. This is ongoing although we are in the final stages of preparing the paper for submission.
3.1	Demonstrates understanding of the principal forms of epidemiological study design	1.0	• Discussed different types of study designs most suitable for the falls project • Reviewed study designs in the literature with strengths and limits

3.2	Applies epidemiological principals when designing studies	1.0	• Incorporated demographic data for description and analysis
3.3	Manages data collection	1.0	• With assistance I collected data for the study period, determined inclusion and exclusion criteria and produced a dataset and extracted a random sample from it.
3.4	Performs epidemiological analysis	1.0	• With assistance I used SAS/Hoist to analyse that data based on demographic and other variables. Coding was done in the random sample and cross tabulations were done to provide deeper level of analysis
3.5	Applies epidemiological principals to establish/evaluate a surveillance system	1.0	• We were able to see missing/insufficient data and how that limited our study • Worked with NSW Ambulance to understand the limits of the data and areas where further data collection and linking could provide valuable information.
3.6	Advises other health professionals about the use of epidemiological data and methods	1.0	• Study will be submitted for publication so that others may learn from the methods • Future similar studies may be carried out in a similar was using Ambulance data.
4.1	Prepares written reports that include the descriptive presentation of data	1.0	• Completed literature search • Prepared numerous copies of the final paper which includes graphs and tables • PPP is pending for presentation at UNSW in Nov in post-grad research symposium.
4.2	Analyses data sources using appropriate software packages	1.0	• Used SAS/Hoist • Excel • With assistance
4.3	Utilizes appropriated data sources to describe the health of the population	1.0	• PHREDSS NSW Ambulance data • ABS population census 2001
4.4	Communicates using electronic media	1.0	• Using email to conduct updates of the project with co-authors
5.1	Prepares reports, submissions and articles on public health issues to a standard acceptable for publication	1.0	• Falls paper is in the final stage for submission to NSW Public Health Bulletin
5.3	Presents and consults with others in a range of formal settings.	1.0	• Consulting widely with co-authors of the falls paper
10.1	Identifys hazards	1.0	• Understand the high risk of falls in the community • Understand the groups more at risk • Understand the benefit of surveillance iin monitoring and measureing the impact of falls which is a major public health issue.
10.4	Communicates the risk	1.0	• Due to submit the final paper by the end of Oct. • Plan to present the study at NSW post grad research symposium in Nov.

We agree that the above is a complete and accurate record of competency attainment related to this project.

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11 Nov 2011	11/11/11

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SECTION 2: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Project three:

Title:	Request for data from Internal and External sources

Competency element		Level of competency gained [1]	Evidence of achievement
1.1	Demonstrates understanding of responsibilities of working within the health service.	1.0	Developed a good relationship with staff in Drug and Alcohol, to work with them and meet their requests for information.
1.2	Manages professional development and personal workload	1.0	Worked with my supervisor to collect the data and did the coding independently Put time aside to work on this and other projects
1.3	Actively participates in the NSW PHOT Program	1.0	Ongoing meetings with my supervisors Wei Zheng and David Muscatello
1.4	Acknowledges and demonstrates ethical behaviour in public health practice	1.0	Respected confidentiality in working with the data collected which contained sensitive information
1.6	Consistently demonstrates commitment to evidence-based population health practice	1.0	Participated in providing the information that would contribute to an evidence based assessment of the incidence of inhalants in ED presentations in NSW.
3.1	Demonstrates understanding of the principal forms of epidemiological study design	1.0	Used PHREDSS to examine information of interest to Public Health Understand limits of the dataset, using keywords in the comments and some EDs not participating
3.2	Applies epidemiological principals when designing studies	1.0	Assisted with defining the study population and the keywords for searching
3.4	Performs epidemiological analysis	1.0	Coded the dataset and assisted in analysing the results
4.1	Prepares written reports that include the descriptive presentation of data	1.0	Prepared the brief on inhalants in ED presentations, including tables to present the info
4.2	Analyses data sources using appropriate software packages	1.0	Used SAS/Hoist and Macros to obtain the information
4.3	Utilizes appropriated data sources to describe the health of the population	1.0	Used PHREDSS Edis database
4.4	Communicates using electronic media	1.0	Utilized email to communicate with Drug & Alcohol in collaboration and clarification of data
5.1	Prepares reports, submissions and articles on public health issues to a standard acceptable for publication	1.0	Prepared the Brief to report the finding

5.3	Presents and consults with others in a range of formal settings.	1.0	Communicated effectively with D&A services to promote collaboration in the task of collecting and presenting the data
6.1	Influences health policy to ensure it promotes, protects and supports the maintenance of the health of the population	1.0	Assisted in this process by providing the information requested, which would potentially be used in policy development

We agree that the above is a complete and accurate record of competency attainment related to this project.	
SUPERVISOR SIGNATURE / DATE **11 Nov 2011**	**TRAINEE SIGNATURE / DATE** 11/11/11

SECTION 2: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Project four:

Title:	Participation in Swine Flu Response initiated by NSW Health

Competency element		Level of competency gained [1]	Evidence of achievement
1.1	Demonstrates understanding of responsibilities of working within the health service.	1.0	Readily participated in Swine flu response, working evenings and weekends Maintained confidentiality re the internal documents and decision making processes within the dept
1.2	Manages professional development and personal workload	1.0	Worked many hours over the 35 hr week for about 2 months including many weekends Managed the PHREDSS roster and advocated for 2 consecutive days off.
1.3	Actively participates in the NSW PHOT Program	1.0	Took advantage of opportunities for PHOTs to go to Botany public school and assist with outbreak there and to meet the Pacific Dawn and provide information to passengers disembarking. Continued to meet all requirements of the program and UNSW commitments
1.4	Acknowledges and demonstrates ethical behaviour in public health practice	1.0	Provided feedback in Swine flu briefings and PHU meetings re vulnerable groups such as Aboriginal communities and the homeless.
1.5	Applies understanding of public health law to professional practice		Was able to observe pubic health actions in imposing isolation and quarantine procedures upon members of the community and participate in some discussion about the ethical issues in this. General knowledge of Public Health Act which can empower health workers to do this.
1.6	Consistently demonstrates commitment to evidence-based population health practice	1.0	Daily monitoring of the presentations to ED of people with respiratory illness, documentation and reporting of the epi facts without bias.
2.1	Understands the organisation of Health Services in NSW and identifies appropriate points to influence decision-making	1.0	Participation in the briefings in the bunker daily with members of many branches including media and the CHO. Observed many debates about the best course of action based on political, social outcomes in a media driven atmosphere
2.2	Identifies the processes associated with the effective operations of a branch or unit	1.0	Participated in adapting our PHREDSS roster and daily work routine to adapt to changes in the progress of the H1N1 epidemic.
2.3	Manages effective working relationships at an appropriate level with a variety of individuals and groups	1.0	Participating in the briefings by providing the PHREDSS report and analysis of up to date data, gaining information from other staff in the briefing particularly CDB and BPU and CATI, working as part of the planning team.
3.3	Manages data collection	1.0	Collecting H1N1 data daily from PHREDSS, using daily reports and Macros to contribute to daily situation report for PHEOC and the bunker
3.4	Performs epidemiological analysis	1.0	Interpreting the data independently and in collaboration with the PHREDSS team, preparing the daily sitreps and contributing to the weekly epi reports.

3.5	Applies epidemiological principals to establish/evaluate a surveillance system	1.0	Ongoing surveillance of all respiratory and other syndromes, providing feedback on the design and format of the situation reports to adapt to changes in the epidemic and to feedback from others (what they want to know, what is not interesting etc)
3.6	Advises other health professionals about the use of epidemiological data and methods	1.0	Able to explain the limitations of the data collected, for example not all EDs were participating in PHREDSS, influenza-like illness was not necessarily influenza confirmed case, ED diagnosis may not be definitive diagnosis, errors or discrepancies in coding etc. Explained this to bunker staff and at times to PHU directors in teleconferences and to new staff in PHREDSS.
4.1	Prepares written reports that include the descriptive presentation of data	1.0	Daily PHREDSS situation reports on H1N1 and contributions to weekly epi report, using graphs and some tables
4.2	Analyses data sources using appropriate software packages	1.0	Using SAS/Hoist and Excel
4.3	Utilizes appropriated data sources to describe the health of the population	1.0	Used PHREDSS data for ED and Ambulance and CATI
4.4	Communicates using electronic media	1.0	All work was communicated electronically to mailing lists as appropriate
5.1	Prepares reports, submissions and articles on public health issues to a standard acceptable for publication	1.0	Situation reports for H1N1 and PHREDSS and weekly epi report
5.3	Presents and consults with others in a range of formal settings.	1.0	Working collaboratively with teachers, principal of Botany Public school, nurses, director of the PHU of SESIAHS to organise an H1N1 prophylaxis clinic on June 15th. Presenting at daily briefings in the bunker and providing the surveillance report to the PHU Directors teleconferences with the head of CDB.
9.1	Demonstrates understanding of common infectious diseases, in particular notifiable infectious diseases	2.0	Participated in general learning about the new H1N1 virus, reading reports and updating myself using sites such as WHO. Understood and applied knowledge of the link between syndromes and communicable diseases.
9.2	Recognises the public health benefit of accurate surveillance of notifiable infectious diseases	2.0	Showed motivation in developing and interpreting and using the PHREDSS surveillance data to follow the epidemic and to anticipate possible scenarios. Often arrived early to make sure up to date data was available for morning briefings. Had my work checked and checked the work of others to ensure our data was correct and accurate. Surveillance was on syndromes related to communicable diseases.
9.3 - Adden dum	**Responds appropriately to outbreaks of disease**	**2**	**Observed and participated in the public health surge response to H1N1, delay, contain, protect and learned the roles of the CDB and BPU in responding to protect the public, particularly in providing information pertinent to daily decision making** **Participated in the planning team, most often in surveillance but sometimes helping in other areas as requested. Visited Botany Public School in response to confirmed cases of H1N1 and the King St Wharf to meet disembarking passengers from the Pacific Dawn, prepared to inform the public and to participate in quarantine/isolation of cases.**
9.4	Liaises with intrasectoral and intersectional groups responsible for the control of infectious	2.0	Active participation in the bunker briefings and PHU Directors teleconferences and PHREDSS regular meetings to plan or adapt our surveillance response to the epidemic.

	diseases in NSW		Conveyed information from PHREDSS Reports to other parties to ensure appropriate decision making

We agree that the above is a complete and accurate record of competency attainment related to this project.	
SUPERVISOR SIGNATURE / DATE DMcA 11 Nov 2011	**TRAINEE SIGNATURE / DATE** STharnos 11/11/11

SECTION 3: SUMMARY OF OFF–THE–JOB TRAINING ATTENDED DURING PLACEMENT

Details	Related competency elements
Bug Breakfast seminars	
• Murray Valley Encephalitis Virus April 3, 2009	9.1
• Hepatitis C (postponed)	9.1
• Waterborne Diseases in Aboriginal Communities June 5, 2009	9.1
• H1N1 influenza Aug 7, 2009	9.1
• Refugee Health Sept 4, 2009	9.1
PHO training days/ modules	
• Aboriginal Health Training at UNSW June 3-4, 2009	1.2, 1.3
• PHO Epi Club- Salmonella in the Caribbean July 1st	1.2, 1.3, 3.1
• Episeg- Spatial Epidemiology April 3, 2009	1.2, 1.3, 3.1
• Epi training with Richard Taylor Aug 7, 2009	1.2, 1.3, 3.1
Conferences/ seminars/ courses	
• SAS/Hoist April 27-29, 2009	3.4, 4.2
• Menzies Centre for Health Policy/Oxford Health Alliance Asia Pacific Centre,	7.1
• Social Determinants April 28, 2009	
• Australian Health Promotion Assoc & PHAA & AFPHM	7.1
• Prof Fran Baum, April 23, 2009	
• Annual Dinner AGM PHAA with Boyd Swinburn 'The weight of it all'	7.1
Specialist stream activities	
• Centre for Health Governance, Law and Ethics-Beyond the millennium goals Aug 6, 2009	1.2, 1.4
• Sydney Law School-Distinguished Speakers program-Prof Peter Singer, Ethics and World Poverty July 13, 2009	1.2, 1.4
• Centre for Health Governance, Law and Ethics- Global Health Day Aug 28, 2009, all day event	1.2, 1.4

SECTION 4: SUMMARY OF COMPETENCY ATTAINMENT WITHIN PLACEMENT

Please indicate level of attainment against each project/activity. Enter a value only for those competency elements that were addressed.

KEY:
1 = partial attainment of competency
2 = satisfactory attainment of competency

	1. PROFESSIONAL PRACTICE							2. MANAGEMENT				3. EPIDEMIOLOGY & BIOSTATS							4. INFO MANAGEMENT				5. COMMUNICATION					6. POLICY			
Project/activity	1.1 responsibilities of working in health sector	1.2 manage professional development/workload	1.3 participate in PHO Training Program	1.4 demonstrate ethical behaviour	1.5 understand public health law	1.6 commitment to evidence-based practice	2.1 organisational understanding	2.2 effective operations of branch	2.3 manage effective relationships	2.4 manage a project	2.5 understand processes supporting employment	3.1 understand principal forms of epi study design	3.2 apply epi principles when designing studies	3.3 manage data collection	3.4 perform epidemiological analysis	3.5 establish/evaluate surveillance system	3.6 advise others of epi data methods	4.1 prepare reports inc. presentation of data	4.2 analyse data sources using software	4.3 utilise appropriate data sources	4.4 communicate using electronic media	5.1 prepare reports, submissions, articles	5.2 present at conferences	5.3 present/consult in formal settings	5.4 engage effectively with media	6.1 influence health policy	6.2 determine need for new policy/guideline	6.3 prepare policy or guideline	6.4 understand policy implementation	6.5 evaluate policy or guideline
Daily syndromic surveillance	1	1	1	1		1	1	1	1	1					1	1	1	1	1	1	1									
Evaluate ambulance data for falls	1	1	1	1		1			1	1		1	1	1	1	1	1	1	1	1	1	1		1						
Request for data from Internal and External sources	1	1	1	1		1						1	1		1			1	1	1	1	1		1		1				
Participation in Swine Flu Response initiated by NSW Health	1	1	1	1	1	1	1	1	1					1	1	1	1	1	1	1	1	1		1						
Off the job training		1	1	1								1			1				1											
CUMULATIVE TOTAL																														

	7. HEALTH PROMOTION							8. EVALUATION				9. INF.DISEASES				10. RISK ASSMAN				11. HEALTH ECONOMICS				
Project/activity	7.1 u'stand contribution of health promotion	7.2 describe components of intervention	7.3 enable indiv/community participation	7.4 work in partnership	7.5 influence policy of other sectors/orgs	7.6 act as an advocate	8.1 understand role of evaluation	8.2 plan an evaluation	8.3 conduct an evaluation	8.4 involve consumers in evaluation	8.5 implement results of evaluation	9.1 u'stand infectious/notifiable diseases	9.2 recognise benefit of surveillance	9.3 respond to outbreaks	9.4 liaise with inter/intrasectoral groups	10.1 identify hazards	10.2 assess risk	10.3 manage risk	10.4 communicate risk	11.1 apply health economics concepts	11.2 appreciate economic analysis	11.3 appraise economic evaluations	11.4 discuss equity	11.5 interpret value judgements
Daily syndromic surveillance												1	1		1									
Evaluate ambulance data for falls																1			1					
Request for data from Internal and External sources																								
Participation in Swine Flu Response initiated by NSW Health												2	2	2	2									
Off the job training	1											1												
CUMULATIVE TOTAL																								

11 Nov 2011

Trainee signature / date:

11/11/11

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SECTION 5: END OF PLACEMENT REVIEW

Reflection on on-the-job and off-the-job learning.

Trainee comments

PHREDSS was a great first placement and offered many learning opportunities for me. I hope I took advantage of all that was available. There was a high degree of support from my supervisors David and Wei and the atmosphere was one of teaching and learning for the PHO Trainee. I chose this placement as I knew that my epi skills needed updating and so, I did find it quite hard at times. The emergence of H1N1 added extra experiences and more challenges but overall I think I have learned a lot about surveillance, responding to outbreaks, research and NSW Health as an organisation. The opportunity to meet so many dedicated health professionals has been inspiring and I am very happy with the start I have received to the PHO Traineeship. Thanks to all the staff on PHREDSS and in the CER for their assistance and support and for the positive atmosphere in the branch! We even managed to share some good times, laughter and lunches.

Supervisor comments

Susan's commitment to public health is clear and I was humbled by seeing her experiences of Medicins Sans Frontieres. I was impressed by Susan's willingness to learn and desire to complete tasks. I had the sense that she would be an excellent manager of a public health team, recognising people's strengths and capabilities and applying them to meet the requirements of difficult situations. I could see that she was struggling with some of the more technical aspects of the placement, but she persisted and this paid off. It was a pleasure to supervise Susan and I can see that she will be a leader in population health.

SECTION 6: SUMMARY OF OVERALL COMPETENCY ATTAINMENT WITHIN TRAINING PROGRAM

Summarise competency attainment from each placement undertaken so far using cumulative totals from Section 4

KEY:
1 = partial attainment of competency
2 = satisfactory attainment of competency

Placement	1. PROFESSIONAL PRACTICE						2. MANAGEMENT					3. EPIDEMIOLOGY & BIOSTATS						4. INFO MANAGEMENT				5. COMMUNICATION				6. POLICY			
	1.1 responsibilities of working in health sector	1.2 manage professional development/workload	1.3 participate in PHO Training Program	1.4 demonstrate ethical behaviour	1.5 understand public health law	1.6 commitment to evidence-based practice	2.1 organisational understanding	2.2 effective operations of branch	2.3 manage effective relationships	2.4 manage a project	2.5 understand processes supporting employment	3.1 understand principal forms of epi study design	3.2 apply epi principles when designing studies	3.3 manage data collection	3.4 perform epidemiological analysis	3.5 establish/evaluate surveillance system	3.6 advise others of epi data methods	4.1 prepare reports inc. presentation of data	4.2 analyse data sources using software	4.3 utilise appropriate data sources	4.4 communicate using electronic media	5.1 prepare reports, submissions, articles	5.2 present at conferences	5.3 present/consult in formal settings	5.4 engage effectively with media	6.1 influence health policy	6.2 determine need for new policy/guideline	6.3 prepare policy or guideline	6.4 understand policy implementation	6.5 evaluate policy or guideline
PHREDSS	1	1	1	1	1	1	1	1	1	1		1	1	1	2	1	1	1	2	1	1			1		1				

Placement	7. HEALTH PROMOTION						8. EVALUATION					9. INF. DISEASES				10. RISK ASS/MAN				11. HEALTH ECONOMICS				
	7.1 u'stand contribution of health promotion	7.2 describe components of intervention	7.3 enable indiv/community participation	7.4 work in partnership	7.5 influence policy of other sectors/orgs	7.6 act as an advocate	8.1 understand role of evaluation	8.2 plan an evaluation	8.3 conduct an evaluation	8.4 involve consumers in evaluation	8.5 implement results of evaluation	9.1 u'stand infectious/notifiable diseases	9.2 recognise benefit of surveillance	9.3 respond to outbreaks	9.4 liaise with inter/intrasectoral groups	10.1 identify hazards	10.2 assess risk	10.3 manage risk	10.4 communicate risk	11.1 apply health economics concepts	11.2 appreciate economic analysis	11.3 appraise economic evaluations	11.4 discuss equity	11.5 interpret value judgements
PHREDSS	1											2	2	2	2	1			1					

Community Child Health Learning Contract

NSW DEPARTMENT OF HEALTH
PUBLIC HEALTH OFFICER TRAINING PROGRAM

Learning Contract

Trainee:	Susan Thomas
Year of training:	First
Stream of training:	General
Placement:	Community Child Health, Randwick Campus, SESIAHS
Supervisor(s):	Dr Katrina Williams
Placement commencement date:	Sept 22, 2009
Placement review date:	Dec 22, 2009
Placement completion date:	July 2nd, 2010
Project titles:	**1. Identify/Develop an Appropriate Framework for Evaluating Health Initiatives for Children in Disadvantaged Communities and Evaluate an existing service provided by CCH using the framework** **2. Assist in ongoing research project involving ED presentations to SCH by Aboriginal children living in the local area.** **3. Assist in the writing of grants and proposals for CCH and other day to day work**

1

SECTION 1: PLACEMENT OVERVIEW *(to be completed at commencement of placement)*

Project one:

Title:	Developing and Piloting a Framework for Evaluating Health Initiatives for Children in Disadvantaged Communities

Project description (100 - 150 words)	Main roles, activities and learning strategies	Competency elements expected to be addressed
The aim of this project is to develop and apply an evaluation framework for the services provided by the Community Child Health (CCH) service. This will involve extensive work to establish the concept of 'best practice' in relation to preventative child health services with a focus on disadvantaged communities by a literature review and discussion with project stakeholders. The project will also involve discerning key evaluation questions that will help determine service gaps and potential service enhancements to the services provided at the CCH. An evaluation program logic will be developed, stakeholders will be identified, and the project will require an understanding of managerial and political issues related to services and feasible sources of information. Evaluation data collection tools (qualitative and quantitative) will be developed and piloted with stakeholders, and external stakeholders will also be consulted to continuously scope and re-frame the evaluation to meet its aims. The PHO will attend regular meetings with stakeholders in the department and visit other relevant child health services. Ongoing collaboration and communication re the framework will be part of the project. Through the development and piloting of an evaluation framework, the PHO will gain experience in evaluation of child community health services and a greater understanding of the needs of disadvantaged communities.	Collaborate with members of the CCH team and present a project proposal and project timeline • Consult with other child health services in the local area and people who have applied evaluation to child health services nationally and the literature to determine best practice • Determine application of knowledge from literature and stakeholders in light of service specific features of CCH. • Do an ethics application (quality service improvement) • Analyse existing models and theory around evaluation and program logic for relevance • Analyse major theoretical underpinnings related to provision of child health services in the community • Consult with key stakeholders within CCH and other child health experts as required as to issues to consider within the evaluation, appropriateness of existing frameworks, range of data sources and quality of information and methods (qual and quant) • Develop/modify aims, the framework and data and methods in consultation with relevant stakeholders • Establish and pilot instruments • Modify instruments and conduct evaluation • Analyse data and consider implications • Produce two reports for publication (one on best practice and one on the outcomes of the evaluation) • Present the framework to staff of CCH including service providers in order to gain feedback and discuss possible pathway to implementation	Professional Practice 1.1, 1.2, 1.3, 1.4, 1.6 Management 2.1, 2.2, 2.3, 2.4 Information Management 4,4 Communication 5.1, 5.2, 5.3 Health Promotion 7.1, 7.2, 7.3, 7.4, 7.5, 7.6 Health Evaluation 8.1, 8.2 8.3, 8.4, 8.5

SUPERVISOR SIGNATURE /	TRAINEE SIGNATURE / DATE
Gwilliams DATE 19/08/10	S Thomas 19/8/10

2

SECTION 1: PLACEMENT OVERVIEW *(to be completed at commencement of placement)*

Project two:

Title:	Participate in ongoing research using ED data from Sydney Children's Hospital

Project description (100 - 150 words)	Main roles, activities and learning strategies	Competency elements expected to be addressed
A medical student recently commenced a health service evaluation looking at past Emergency Dept presentations at Sydney Children's Hospital by Aboriginal and Torres Strait Islander children living in La Perouse and the surrounding area. The study aims to identify preventative health problems and potentially preventative presentations to the hospital that could be treated in the La Perouse Community Health Centre's Paediatric Clinic. This service evaluation could lead to service re-alignments or a new health promotion activity to meet the needs of the population living in the area. Ethics approval has previously been received for the publication and presentation of the data and a medical student is currently collecting the data to inform the study. The role of the PHO is to assist the medical student in the ongoing study design, comparisons associated with data analysis and interpretation and possible writing of the paper. The PHO will place the findings within the broader preventative context in conjunction with the medical student, assist in writing the final report and discuss with other authors the most appropriate health issue that will be amenable to health promotion. The PHO will write this up as a placement for PHO's manual for 2010. The medical student is on a time limited placement until March 2010. The study is expected to be completed by that time.	PHO's role Regular meetings with Supervisor and medical student/research team Assist with entering and cleaning data; Coding the dataset Drawing on relevant sources to place the results within the broader context of preventative health for local aboriginal families; Formalising the results, discussion, recommendations and conclusions Seeking and incorporating feedback on the final paper. Participating in discussion on outcome of the study, what activities might be generated from the results Publishing the paper in a peer review journal	Professional Practice 1.1, 1.2, 1.3, 1.4, 1.6 Management 2.1, 2.2, 2.3 Epi and Biostats 3.1, 3.6 Information Management 4.4 Communication 5.1, 5.2, 5.3 Health Promotion 7.1, 7.6 Evaluation

SUPERVISOR SIGNATURE /	TRAINEE SIGNATURE / DATE
Williams DATE 19/08/10	STthomas 19/8/10

SECTION 1: PLACEMENT OVERVIEW *(to be completed at commencement of placement)*

Project four:

Project Title:	Assist in writing of grants and proposals within the department

Project description (100 - 150 words)	**Main roles, activities and learning strategies**	**Competency elements expected to be addressed**
Writing of grants and proposals occupies more and more time of the paediatricians as CCH increases its research and development capacity. Applications for ethics approval and for funding either for new or existing programs require knowledge of the process. Skills and knowledge are gained through the experience of writing such proposals. The PHO will assist in writing and submitting proposals for the dept.	Assist the dept in writing proposals and grants for the Aboriginal Parenting Program, Prioritising referrals for High Risk Children, Refugee Longitudinal study poster	Professional Practice 1.1, 1.2, 1.3, 1.4, 1.6 Management 2.1, 2.2, 2.3 Health Promotion 7.1, 7.6

SUPERVISOR SIGNATURE /	**TRAINEE SIGNATURE / DATE**
G Williams **DATE** **19/08/10**	S Thomas 19/8/10

SECTION 1: PLACEMENT OVERVIEW *(to be completed at commencement of placement)*

Associated projects and other service responsibilities:

List main roles and activities	Competency elements expected to be addressed
Participation in ongoing Child Health Education of paediatric trainees at SCH 90 min talk to trainees on public health aspects of humanitarian aid work and the public health approach to Sleeping Sickness control in Northern Uganda and Southern Sudan. Video conference with Liverpool, Westmead and St George on March 8th from 2-4 pm.	1.2, 1.6, 3.6, 4.1, 4.3, 4.4, 5.3, 7.6, 9.1, 9.2
Presentation of Fall injuries responded to by NSW Ambulance in Sydney 2008, to Ambulance officers at their headquarters in Rozelle on March 9th from 7:30-9:00 (from previous PHREDSS placement)	1.1, 1.2, 1.3, 1.6, 2.1, 2.3, 3.6, 4.4, 5.3

SUPERVISOR SIGNATURE / DATE	TRAINEE SIGNATURE / DATE
Williams 19/08/10	STHomas 19/8/10

SECTION 2: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Project one:

Title:	**Identify/Develop an Appropriate Framework for Evaluating Health Initiatives for Children in Disadvantaged Communities and Evaluate an existing service provided by CCH using the framework**
Principle Products:	**Evaluation Framework and Evaluation Report with 2 papers to be written**

Competency element	Level of competency gained [1]	Evidence of achievement
1.Professional Practice (1.1, 1.2, 1.3, 1.4, 1.6)		**Balancing workload with significant number of hours of work done at home. Developed my project and wrote it up, wrote projects for future PHO's, attended compulsory trainings and those of my own interest, behaved with respect to all colleagues and beneficiaries of programs run by our dept. Conducted extensive literature searches and applied inclusion and exclusion criteria, as described in my paper.**
2. Management (2.3 and 2.4)		**Consulted widely for the evaluation with colleagues and academics. Consultation was in the form of meetings, steering committee, qualitative interviews. The actual evaluation was a project, which I managed from start to finish using a tool established by the Canadian Public Health Association.**
3.Epi and Biostats (3.2, 3.3, 3.4)		**We extracted data from the CCH database and used SPSS to analyse that. This is presented in the evaluation report. I developed a tool to collect quantitative data from the patient records and analysed records from all visits in 2010**
4.Information Management (4.1, 4.2, 4.3, 4.4)		**Data and information was collected through literature searches, extracting from databases and client records. Descriptions and interpretations are found in the 2 papers. The framework was presented to the team and the preliminary results of the evaluation have also been presented. Further presentations to all relevant stakeholders including the community (and the SPHCM post grad research forum) are planned for Sept 1, 2010**
5.Communication (5.1, 5.3)		**Two papers prepared and one report. Several presentations done with the team, stakeholders, community, UNSW, see PPP and draft papers/report**
6.Policy (6.2, 6.3)		**Extensive literature searching done to try and find an evaluation framework for community child health services from a population health perspective. There was not one found and so it was decided that we needed to develop one. An evaluation framework was developed by the PHO from the literature search and is described in the paper for submission.**

7.Health Promotion (7.1, 7.4, 7.5, 7.6)		**The evaluation involved staff from other services including midwifery and early childhood, speech pathology and the 'parent program'. Education and training on public health issues, the evaluation framework and partnership issues was imparted to a range of health services and workers. Many other health professionals were involved and consulted or given the opportunity to advice. Staff from UNSW included Assoc/Prof Jan Ritchie and Qualitative Research staff Sally Nathan and Nieve Stephenson, academic supervisors and a range of experts from SESIAHS. I acted as an advocate for child populations who could have improved access to community based health services and to improved, better coordinated existing child health services.**
8.Evaluation (8.1, 8.2, 8.3, 8.4, 8.5)	**2**	**A comprehensive evaluation was done, see report and paper. Results communicated with stakeholders, recommendations have been adopted (in part or in full)**

We agree that the above is a complete and accurate record of competency attainment related to this project.	
SUPERVISOR SIGNATURE / Williams **DATE** **19/08/10**	**TRAINEE SIGNATURE / DATE** 19/8/10

SECTION 2: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Project two:

Title:	**Assist in ongoing research project involving ED presentations to SCH by Aboriginal children living in the local area.**
Principle Products:	• **Research paper; contributing author**

Competency element	**Level of competency gained [1]**	**Evidence of achievement**
3. Epi and Biostats (3.1, 3.2)		**Participation in the design, goals and objectives of the study, assisted the ILP with some preliminary analysis of the data**
7. Health Promotion (7.4)		**Connecting the findings of the research paper with the development of health promotion projects that could be taken on by a PHO or by the CCH team. Also referring to the study in the evaluation of how the CCH team could work on closer partnerships to address the findings of the study (ie possibly partnerships with health promotion activities or other agencies in the community that may address injury prevention, or nurses in SCH ED to provide community based care to children rather than having them return to ED for follow up care such as wound management**

We agree that the above is a complete and accurate record of competency attainment related to this project.

SUPERVISOR SIGNATURE /	**TRAINEE SIGNATURE / DATE**
Gillian **DATE** **19/08/10**	STthomas 19/8/10

SECTION 2: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Project three:

Title:	**Assist in the writing of grants and proposals for CCH and other day to day work**
Principle Products:	

Competency element	**Level of competency gained** [1]	**Evidence of achievement**
1.Professional Practice (1.1, 1.2, 1.3, 1.4, 1.6)		**Assisting in writing grant proposals, meeting with relevant stakeholders** **Assisted in development of longitudinal study plans and methods**
2. Management (2.1, 2.2, 2.3)		**Assisted in writing the proposal for the Prioritising Health Services for high Risk Children (to SESCHN)**
7.Health Promotion (7.1, 7.6)		**Assisted in writing the expression of interest for funding for the Teenage Aboriginal Back-to-School Program**
)		

We agree that the above is a complete and accurate record of competency attainment related to this project.

SUPERVISOR SIGNATURE / DATE	**TRAINEE SIGNATURE / DATE**
Williams **19/08/10**	SThomas 19/8/10

SECTION 2: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Associated projects and other service responsibilities:

Competency element	Level of competency gained [1]	Evidence of achievement

We agree that the above is a complete and accurate record of competency attainment related to associated projects and service responsibilities undertaken within this placement.

SUPERVISOR SIGNATURE / DATE	TRAINEE SIGNATURE / DATE

SECTION 3: SUMMARY OF OFF–THE–JOB TRAINING ATTENDED DURING PLACEMENT

Details	Related competency elements
Bug Breakfast seminars	
Dental Caries in young children Oct 2nd, 2009	9.1
Chlamydia, Nov 6, 2009	9.1
Plague, Feb 5, 2010	9.1
Influenza surveillance in GP practise, March 5, 2010	9.1
Risk communication in Public Health, April 9, 2010	9.1
Dengue fever, May 7, 2010	9.1
Listeriosis June 4, 2010	9.1
Trachoma, July 2nd, 2010	9.1
PHO training days/ modules	
Scientific writing, by Raina MacIntyre and Kathleen Falster Oct 2nd, 2009	1.2, 1.3, 3.1
EPISIG, Non-communicable disease investigations, Nov 6, 2009	1.2, 1.3, 3.1
Communicable Diseases Workshop-Jeremy McAnulty and CDB Nov 16-17	9.1, 9.2
Health Impact Assessment UNSW Dec 6-7	1.1, 1.2, 2.1, 8.1
Hospital Epidemiology, Central Lines and infection Feb 5, 2010	1.1, 1.2, 1.3
Literature Searches March 5, 2010	1.2, 1.3, 1.6
Health Economics Workshop, April 7-8 and July 15, 2010	11.1, 11.2, 11.3, 11.4, 11.5
Public Health Law, Dr Chris Reynolds, May 7 2010	1.1, 1.2, 1.2, 1.5
Cultural Competence, June 4, 2010	1.1, 1.2, 1.3
Qualitative Research with Assoc Proff Jan Richie, Feb 5, 2010	1.1, 1.3
Environmental Health Risk Assessment, Bin Jalaludin, NSW Health July 2, 2010	1.1, 1.2, 1.3, 2.1, 10.1
Conferences/ seminars/ courses	
Intermediate Excel Training by Forrest Training pty/ltd at NSW DoH, Nov. 4 2009	1.2, 3.3
Indigenous Research Showcase UNSW Nov 9-10, selected presentations	1.2, 1.3
Post Graduate Research Conference SPHCM, UNSW Nov 23 (Falls Project)	1.1, 1.3, 3.6, 4.4, 5.2
Effective Public Health Advocacy, PHAA, Darlington Centre, Sydney Uni, Wed Feb 17, 2010	1.1, 1.2, 1.3
Bush Law, Open Forum, UNSW, March 17, 2010	1.2, 1.3
Designing community based programs for marginalised communities	1.2, 1.3, 7.1
Refugees in transition, PHAA seminar, Darlington Centre, Syd Uni, April 28, 2010	1.2, 7.1
SPHCM Lunchtime Seminar- David Muscatello, H1N1, Wed 21 Oct, 2009	1.2, 1.3, 3.1
SPHCM Lunchtime Seminar-Assoc/Prof Melissa Haswell, Empowerment, Muru Marri Indigenous Health Unit, May 26, 2010	1.2, 1.3, 7.1

Specialist stream activities	
Research consultation at UNSW library 9 Oct 2009, 2-3 pm	1.2, 4.2, 4.3
Research consultation at UNSW library 16 Oct 2009, 2-3 pm	1.2, 4.2, 4.3
Research consultation at UNSW library 12 Feb, 2010 11-12 pm	1.2, 4.2, 4.3
Meeting with A/Prof Jan Ritchie at UNSW for Qualitative Research consult	1.1, 1.2, 2.3

SECTION 4: SUMMARY OF COMPETENCY ATTAINMENT WITHIN PLACEMENT

Please indicate level of attainment against each project/activity. Enter a value only for those competency elements that were addressed.

KEY:
1 = partial attainment of competency
2 = satisfactory attainment of competency

Project/activity	1. PROFESSIONAL PRACTICE							2. MANAGEMENT					3. EPIDEMIOLOGY & BIOSTATS						4. INFO MANAGEMENT					5. COMMUNICATION					6. POLICY			
	1.1 responsibilities of working in health sector	1.2 manage professional development/workload	1.3 participate in PHO Training Program	1.4 demonstrate ethical behaviour	1.5 understand public health law	1.6 commitment to evidence-based practice	2.1 organisational understanding	2.2 effective operations of branch	2.3 manage effective relationships	2.4 manage a project	2.5 understand processes supporting employment	3.1 understand principal forms of epi study design	3.2 apply epi principles when designing studies	3.3 manage data collection	3.4 perform epidemiological analysis	3.5 establish/evaluate surveillance system	3.6 advise others of epi data methods	4.1 prepare reports inc. presentation of data	4.2 analyse data sources using software	4.3 utilise appropriate data sources	4.4 communicate using electronic media	5.1 prepare reports, submissions, articles	5.2 present at conferences	5.3 present/consult in formal settings	5.4 engage effectively with media	6.1 influence health policy	6.2 determine need for new policy/guideline	6.3 prepare policy or guideline	6.4 understand policy implementation	6.5 evaluate policy or guideline
Evaluation Framework and pilot	1	1	1	1		1			1	1			1	1	1		1	1	1	1	1	2		1			1	1		1
Assist ILP student with research												1	1																	
Assist in grants and proposals and other daily task in the dept	1	1	1	1		1	1	1	1																					
Associated Projects (Sleeping Sickness)		1				1											1	1		1	1			1						
Associated Projects (Falls presentation)	1	1	1			1	1		1								1				1			1						
Off–the–job training	1	1	1				1		1			1		1			1		1	1	1		1							
CUMULATIVE TOTAL	2	2	2	1		2	2	1	2	1		1	2	2	1		2	2	2	2	2	2	1	2			1	1		1

Project/activity	7. HEALTH PROMOTION						8. EVALUATION					9. INF DISEASES				10. RISK ASS/MAN				11. HEALTH ECONOMICS				
	7.1 u'stand contribution of health promotion	7.2 describe components of intervention	7.3 enable indiv/community participation	7.4 work in partnership	7.5 influence policy of other sectors/orgs	7.6 act as an advocate	8.1 understand role of evaluation	8.2 plan an evaluation	8.3 conduct an evaluation	8.4 involve consumers in evaluation	8.5 implement results of evaluation	9.1 u'stand infectious/notifiable diseases	9.2 recognise benefit of surveillance	9.3 respond to outbreaks	9.4 liaise with inter/intrasectoral groups	10.1 identify hazards	10.2 assess risk	10.3 manage risk	10.4 communicate risk	11.1 apply health economics concepts	11.2 appreciate economic analysis	11.3 appraise economic evaluations	11.4 discuss equity	11.5 interpret value judgements
Evaluation Framework and pilot	2			1	1	1	2	2	2	2	2													
Assist ILP student with research				1																				
Assist in grants and proposals and other daily task in the dept	1					1																		
Associated Projects (Sleeping Sickness)						1						1	1											
Associated Projects (Falls presentation)																								
Off–the–job training							1					1	1			1								
CUMULATIVE TOTAL	2			2	1	2	2	2	2	2	2	1	1			1								

Supervisor signature /
date:
19/08/10

Trainee signature / date:
19/8/10

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SECTION 6: SUMMARY OF OVERALL COMPETENCY ATTAINMENT WITHIN TRAINING PROGRAM

Summarise competency attainment from each placement undertaken so far using cumulative totals from Section 4

KEY:
1 = partial attainment of competency
2 = satisfactory attainment of competency

Placement	1. PROFESSIONAL PRACTICE							2. MANAGEMENT				3. EPIDEMIOLOGY & BIOSTATS						4. INFO MANAGEMENT				5. COMMUNICATION				6. POLICY				
	1.1 responsibilities of working in health sector	1.2 manage professional development/workload	1.3 participate in PHO Training Program	1.4 demonstrate ethical behaviour	1.5 understand public health law	1.6 commitment to evidence-based practice	2.1 organisational understanding	2.2 effective operations of branch	2.3 manage effective relationships	2.4 manage a project	2.5 understand processes supporting employment	3.1 understand principal forms of epi study design	3.2 apply epi principles when designing studies	3.3 manage data collection	3.4 perform epidemiological analysis	3.5 establish/evaluate surveillance system	3.6 advise others of epi data methods	4.1 prepare reports inc. presentation of data	4.2 analyse data sources using software	4.3 utilise appropriate data sources	4.4 communicate using electronic media	5.1 prepare reports, submissions, articles	5.2 present at conferences	5.3 present/consult in formal settings	5.4 engage effectively with media	6.1 influence health policy	6.2 determine need for new policy/guideline	6.3 prepare policy or guideline	6.4 understand policy implementation	6.5 evaluate policy or guideline
PHREDSS	1	1	1	1	1	1	1	1	1	1		1	1	1	2	1	1	1	2	1	1			1		1				
CCH	2	2	2	1		2	2	1	2	1		1	2	2	1		2	2	2	2	2	2	1	2			1	1		1
Cumulative total	2	2	2	1	1	2	2	1	1	1		2	2	2	2	1	2	2	2	2	2	2	1	2		1	1	1		1

Placement	7. HEALTH PROMOTION						8. EVALUATION					9. INF DISEASES					10. RISK ASS/MAN			11. HEALTH ECONOMICS					
	7.1 u'stand contribution of health promotion	7.2 describe components of intervention	7.3 enable indiv/community participation	7.4 work in partnership	7.5 influence policy of other sectors/orgs	7.6 act as an advocate	8.1 understand role of evaluation	8.2 plan an evaluation	8.3 conduct an evaluation	8.4 involve consumers in evaluation	8.5 implement results of evaluation	9.1 u'stand infectious/notifiable diseases	9.2 recognise benefit of surveillance	9.3 respond to outbreaks	9.4 liaise with inter/intrasectoral groups	10.1 identify hazards	10.2 assess risk	10.3 manage risk	10.4 communicate risk	11.1 apply health economics concepts	11.2 appreciate economic analysis	11.3 appraise economic evaluations	11.4 discuss equity	11.5 interpret value judgements
PHREDSS	1											1	1	1	1	1			1						
CCH	2			2	1	2	2	2	2	2	2	1	1			1									
Cumulative total	2			2	1	2	2	2	2	2	2	1	1	1	1	1			1						

AH&MRC Learning Contract

NSW DEPARTMENT OF HEALTH
PUBLIC HEALTH OFFICER TRAINING PROGRAM

Learning Contract

Trainee:	Susan Thomas
Year of training:	Second
Stream of training:	General
Placement:	AH&MRC Surry Hills, NSW
Supervisor(s):	Dr Jenny Hunt and Sallie Cairnduff/Sofia Lema
Academic Supervisor(s)	Lisa Jackson Pulver and Prof Bin Jalaludin
Placement commencement date:	July 5th, 2010
Placement review date:	Nov 8th, 2010
Placement completion date:	March 11th, 2011
Project titles:	1. **Strengthening the links between ACCHS's and AHS's population health services** 2. **Revise the 2006 STI & BBI Manual: Early detection and treatment of STIs and BBIs**

1

SECTION 1: PLACEMENT OVERVIEW *(to be completed at commencement of placement)*

Project one:

Title:	Strengthening the links between ACCHS's and AHS's population health services

Project description (100 - 150 words)	Main roles, activities and learning strategies	Competency elements expected to be addressed
Aboriginal Community Controlled Health Services (ACCHS's) provide a range of Primary Health Care services including population health activities. AHS's are responsible for delivering public/population health services to Aboriginal communities within their region. While there is an overlap of function, the strength of the links between the two services varies. The work of both organisations could be improved by building stronger working relationships. The PHO will work collaboratively and in consultation with staff from the AH&MRC, ACCH's, NSW Health and AHS's to identify areas of common interest, strengths and barriers in collaboration and function. The PHO will develop and implement strategies to strengthen the relationships between the organisations and mechanisms to evaluate and monitor those links to ensure sustainability. This project may focus on one or two aspects of public/population health work but the strategies may be applicable to a range of services provided to Aboriginal communities.	The PHO's role; • Review existing documents that describe the links and relationships • Describe the structure of shared population health activities (for example, communicable disease and health promotion) • Identify and consult with key stakeholders in a working group using a variety of methods including face to face, teleconference, email etc, to identify common areas of interest, strengths and barriers to improved collaboration in service provision • Research and develop strategies to strengthen the relationship between the organisations in collaboration with others using methods such as interviews, focus groups or surveys. Barriers and strengths will be considered. • Pilot the strategies with particular focus on one area such as communicable disease • Develop evaluation plan to monitor and measure the relationship between organisations • Provide feedback to stakeholders (through a meeting and/or possibly designing a poster) and a written report about the project including recommendations which address ongoing implementation and applicability of results to other areas of practice.	Professional Practice 1.1, 1.2, 1.3, 1.4, 1.6 Management 2.1, 2.2, 2.3, 2.4 Information Management 4.1,4.4 Communication 5.1, 5.2, 5.3 Policy 6.1, 6.2, 6.3, 6.4,6.5, 6.6 Health Promotion 7.1, 7.4, 7.5, 7.6 Evaluation 8.2, Infectious Diseases 9.1, 9.2, 9.4

SUPERVISOR SIGNATURE / DATE	TRAINEE SIGNATURE / DATE
	9/3/11

SECTION 1: PLACEMENT OVERVIEW *(to be completed at commencement of placement)*

Project two:

Title:	Revise the 2006 STI & BBI Manual: Early detection and treatment of STIs and BBIs

Project description (100 - 150 words)	Main roles, activities and learning strategies	Competency elements expected to be addressed
The AH&MRC developed the STI & BBI Manual in 2007 to provide information to health workers about management and control of these infections. The manual is evidence based and was produced in consultation with Aboriginal community members, Aboriginal health services and other health professionals. . The manual is several years old and needs to be updated in light of new policy and evidence in the STI/BBI area. The role of the PHO will be to manage the revision of the manual with advice and guidance from a steering committee. Consultation will be sought, and then the revisions will be made along with a plan of how to deliver the updated manual. The PHO will use existing sources to update the epidemiology, any changes to screening tools, new treatment recommendations, references and update the contacts. Consultation will include a survey or questionnaire along with interviews of relevant stakeholders including Aboriginal Sexual Health Workers (ASHW) and medical specialists who use the current manual.	PHO's role; • Develop a reference group and obtain advice and guidance • Consult with relevant stakeholders about the points of concern/interest and to elicit feedback on the use of the manual including ASHW's, content experts, medical specialists and others identified by the reference group. Areas to update include epidemiology, policies and procedures. Areas to expand include Hep B & C detection and treatment. • Develop the tools to obtain feedback on the manual such as a questionnaire, survey and interviews. Areas of interest include the opinions of ASHW's on what needs to be updated. • Collect and analyse feedback and incorporate into revised manual after consultation with reference group and/or other relevant agencies • Perform technical revisions in current epidemiology and policy changes • Develop a strategy for the publication and distribution of the manual, including an implementation kit	Professional Practice 1.1, 1.2, 1.3, 1.4, 1.6 Management 2.1, 2.2, 2.3, 2.4 Information Management 4.1, 4.3, 4.4 Communication 5.1, 5.3 Policy 6.1, 6.2, 6.3, 6.4 Health Promotion 7.1, 7.3, 7.4, 7.5 Infectious Diseases 9.1, 9.2, 9.4 Risk Assessment/Management 10.1, 10.2, 10.3, 10.4

SUPERVISOR SIGNATURE / DATE	TRAINEE SIGNATURE / DATE
9/5/11	9/3/11

SECTION 2: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Project one:

Title:	**Strengthening the links between ACCHS's and AHS's population health services**
Principle Products:	

Competency element	Level of competency gained [1]	Evidence of achievement
Professional Practice 1.1, 1.2, 1.3, 1.4, 1.6	1	**Complied with administrative requirements, attended all trainings and PHOT forums, acted as PHO rep for 6 months, until March 2011, demonstrated respect of Aboriginal culture and communities while working at AHMRC, submitted an ethics application to AHMRC which has been conditionally approved (for my next placement and completed a literature review to obtain evidence for my partnership project.**
Management 2.1, 2.2, 2.3, 2.4	1	**Identified key stakeholders in relevant health services including NSW Health, AHMRC, PHU Wollongong and AMS Nowra, identified roles and responsibilities of each person and dept through interview process, undertook qualitative research process, interviewing 17 key informants, using letters of invitation, project brief, ensuring confidentiality and obtaining consent, responding to queries and concerns of participants, allowing opportunity for confirmation and feedback. The partnerships project was managed successfully, although not completed at the end of the placement. The trainee will complete the report in the coming weeks.**
Information Management 4.1, 4.4	1	**While the final report has not been completed, there is a significant amount of analysis done, documented and feedback to participants via PowerPoint at AHMRC**
Communication 5.1, 5.2, 5.3	1	**5.1 The final report will be submitted for the DrPH but not for general publication** **5.2 There is information that has come out of this project that would be of interest to others. Presentation of this needs to be negotiated with AHMRC** **5.3 Conducted a 2 hour feedback session with participants which included consulting about strategies for strengthening public health partnerships. I also presented at the UNSW research symposium on the results of my evaluation from the last placement at CCH.**
Policy 6.1, 6.2, 6.3, 6.4, 6.5	1	**This project aimed to clarify common interests and promote partnerships to improve the control of communicable diseases for Aboriginal people. Areas where improvement could be made in the partnerships between services were identified and strategies (which could be adopted as a guideline) where identified and will be submitted to AHMRC. We did not reach the evaluation stage.**

Health Promotion 7.1, 7.4, 7.5, 7.6	1	**Incorporated questions or comments about resource development and preventative approaches to communicable disease management, particularly in the PHU/AMS interviews, worked with a range of staff/participants from various backgrounds both clinical, education and administrative in the project. This project has had an impact on all participants as they expressed a great deal of interest and goodwill in the projects aims. The process of doing the project work was helpful in bringing people together, who had not met before or known of each others positions, roles etc.**
Evaluation 8.2	0	**We did not get this far unfortunately**
Infectious Diseases 9.1, 9.2, 9.4	1	**Incorporated documents from Centre for Health Protection and CDB in the literature review, including notifiable diseases in general and those of importance in Aboriginal communities, explored the ways and means of reporting and acting on notifications by the PHU and the AMS, discussed barriers and strategies to improve of Aboriginal health data collection at the local and state level. The project was all about liaison and included many key staff members.**

We agree that the above is a complete and accurate record of competency attainment related to this project.	
SUPERVISOR SIGNATURE / DATE	**TRAINEE SIGNATURE / DATE**

SECTION 2: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Project two:

Title:	**Revise the 2006 STI & BBI Manual: Early detection and treatment of STIs and BBIs**
Principle Products:	

Competency element	**Level of competency gained** [1]	**Evidence of achievement**
Professional Practice 1.1, 1.2, 1.3, 1.4, 1.6	1	Sought out evidence based material for the manual, managed time allocated for this project fairly well although I did not complete the final version of the revised manual. Some factors were outside my control (ie Xmas break, competing priorities within the reference group).
Management 2.1, 2.2, 2.3, 2.4	1	In partnership with the public health program manager, I identified key stakeholders to participate on regular reference groups, organised the agenda, organised teleconferences, chaired the meetings and sent out the minutes to the reference group meetings, as well as taking on any actions from the meeting. I consulted using numerous means including developing a questionnaire based on feedback from the STI/BBI Manual reference group, tailoring the questionnaire to the following stakeholders: Aboriginal Sexual Health Workers, Aboriginal Community Controlled Health Service Practice Managers, non Aboriginal sexual health workers, conducted group consultations with the Aboriginal Sexual Health Workers Metro Network, Aboriginal Sexual Health Worker Network, Aboriginal Community Controlled Health Service Practice Managers network. I held individual consultations with AH&MRC public health team, and a number of ACCHS. I also gathered 4 quotes for the publication of the manual and have been the main contact person for the publication plans.
Information Management 4.1, 4.3, 4.4	1	Developed the consultation tools, including modifying a questionnaire that was emailed to relevant networks, and developed a focus group question guide for the project. The tools included identifying how the manual was currently being used, areas for improvement, areas to update and identifying the most appropriate format. I gathered feedback from various professional venues including the Practice managers meeting and at the Sexual Health Conference at Darling Harbour.
Communication 5.1, 5.3	1	Collated and analysed the survey/feedback results, and fed the results to the reference group for the project, as well as incorporated the findings into the review of the Manual.

Policy 6.1, 6.2, 6.3, 6.4	1	Conducted a review of the literature on latest STI & BBI epidemiological data for Aboriginal people in NSW, and identified the most relevant components to incorporate into an updated Manual. Recent policy changes (National & at a state level) were also identified and incorporated. Current NSW protocols in STI management were incorporated into the Manual
Infectious Disease 9.1, 9.2, 9.4	1	I drew on my knowledge and experience of Infectious diseases and used current health data to inform the revisions. I supported the aims of the manual in reducing the incidence and prevalence of STI and BBI in the Aboriginal population and the main aims of the manual of increasing screening through Primary Health Care opportunities (ie through GP consultations) as well as outreach and through partnerships with mainstream services. I did liaise with NCHER and Dr Janet Knox, author of the first manual as well as others as listed above.
Risk assessment and management 10.1, 10.2, 10.3, 10.4	1	Part of the revisions was strengthening the tools and content about risk assessment, which sub populations are at risk and why and how individuals can be assessed, screened and which tests should be taken. Risk management is part of the revised STI manual.

We agree that the above is a complete and accurate record of competency attainment related to this project.	
SUPERVISOR SIGNATURE / DATE 9/3/11	**TRAINEE SIGNATURE / DATE** Susan Thomas 9/3/11

SECTION 2: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Associated projects and other service responsibilities:

Competency element	Level of competency gained [1]	Evidence of achievement
No other associated projects		

We agree that the above is a complete and accurate record of competency attainment related to associated projects and service responsibilities undertaken within this placement.	
SUPERVISOR SIGNATURE / DATE	**TRAINEE SIGNATURE / DATE**

SECTION 3: SUMMARY OF OFF–THE–JOB TRAINING ATTENDED DURING PLACEMENT

Details	Related competency elements
Bug Breakfast seminars	
RSV August 6, 2010	9.1
TB, Sept 3, 2010	9.1
Oct…no Bug Breakfast	
Nov- Lysteria	9.1
Dec- Clostridium difficile	9.1
Jan/Feb-no Bug Breakfast	
March- Pertussis	9.1
PHO training days/ modules	
Risk Analysis July 9, 2010	10.1, 10.2, 10.3
Episig Aug 6, 2010	1.1, 1.2, 1.3, 1.6
Preperation for PHAA Sept 3, 2010	
None in Oct	
Communicable Disease Workshop Nov 15-16	1.1, 1.2, 1.3, 1.5, 1.6, 3.1, 3.2, 3.3, 5.4, 9.1, 9.2, 9.3, 9.4
Feb 4th Health Financing workshop	11.1, 11.2, 11.3, 11.4, 11.5
Conferences/ seminars/ courses	
Wagga Wagga Rural Intensive July 5-9, 2010	1.1, 1.2, 1.3, 1.6, 2.1, 2.2, 2.3, 4.3, 4.4, 5.3, 6.1, 6.2, 6.3, 6.4, 7.6, 8.1, 8.3, 8.4, 8.5, 9.1,
UNSW Advanced Health Economics workshop July 14, 2010	11.1, 11.2, 11.3, 11.4, 11.5
UNSW Research Symposium Oct 22	1.1, 1.2, 1.3, 1.4, 3.6, 4.1, 4.4, 5.2, 5.3, 5.4
Specialist stream activities	
Participation in UNSW Focus group after Wagga Wagga	1.1, 1.2, 1.3
Aboriginal Trainee Support meeting Nov 30 NSW Health	1.1, 1.2, 1.3, 1.4, 2.1, 2.2, 2.5
Scientific Writing Workshop Nov 3-4 NSW Health	1.1, 1.2, 1.3, 1.6, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 5.1, 5.3, 6.1, 6.2,
UNSW Tutorial Communicable Disease for undergraduate medical students Oct 18	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.3, 3.1, 3.6, 4.4, 5.3, 9.1, 9.2,

SECTION 4: SUMMARY OF COMPETENCY ATTAINMENT WITHIN PLACEMENT

Please indicate level of attainment against each project/activity. Enter a value only for those competency elements that were addressed.

KEY:
1 = partial attainment of competency
2 = satisfactory attainment of competency

	1. PROFESSIONAL PRACTICE						2. MANAGEMENT					3. EPIDEMIOLOGY & BIOSTATS							4. INFO MANAGEMENT				5. COMMUNICATION				6. POLICY				
Project/activity	1.1 responsibilities of working in health sector	1.2 manage professional development/workload	1.3 participate in PHO Training Program	1.4 demonstrate ethical behaviour	1.5 understand public health law	1.6 commitment to evidence-based practice	2.1 organisational understanding	2.2 effective operations of branch	2.3 manage effective relationships	2.4 manage a project	2.5 understand processes supporting employment	3.1 understand principal forms of epi study design	3.2 apply epi principles when designing studies	3.3 manage data collection	3.4 perform epidemiological analysis	3.5 establish/evaluate surveillance system	3.6 advise others of epi data methods	4.1 prepare reports inc. presentation of data	4.2 analyse data sources using software	4.3 utilise appropriate data sources	4.4 communicate using electronic media	5.1 prepare reports, submissions, articles	5.2 present at conferences	5.3 present/consult in formal settings	5.4 engage effectively with media	6.1 influence health policy	6.2 determine need for new policy/guideline	6.3 prepare policy or guideline	6.4 understand policy implementation	6.5 evaluate policy or guideline
Links between ACCHS and AHS	1	1	1	1		1	1	1	1	1								1			1	1	1	1		1	1	1	1	
STI/BBI Manual	1	1	1	1		1	1	1	1	1								1		1	1	1		1		1	1	1	1	
UNSW research symposium	1	1	1	1													1	1	1	1	1		1	1	1					
Health Economics																														
Rural Intensive	1	1	1			1	1		1											1	1			1		1	1	1	1	
PHO Training	1	1	1		1	1						1	1	1											1					
Specialist stream activities	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1			1	1		1		1	1			
CUMULATIVE TOTAL	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	2	1	1	2	2	1	2	1	2	1	1	1	

	7. HEALTH PROMOTION						8. EVALUATION					9. INF.DISEASES				10. RISK ASS/MAN				11. HEALTH ECONOMICS				
Project/activity	7.1 u'stand contribution of health promotion	7.2 describe components of intervention	7.3 enable indiv/community participation	7.4 work in partnership	7.5 influence policy of other sectors/orgs	7.6 act as an advocate	8.1 understand role of evaluation	8.2 plan an evaluation	8.3 conduct an evaluation	8.4 involve consumers in evaluation	8.5 implement results of evaluation	9.1 u'stand infectious/notifiable diseases	9.2 recognise benefit of surveillance	9.3 respond to outbreaks	9.4 liaise with inter/intrasectoral groups	10.1 identify hazards	10.2 assess risk	10.3 manage risk	10.4 communicate risk	11.1 apply health economics concepts	11.2 appreciate economic analysis	11.3 appraise economic evaluations	11.4 discuss equity	11.5 interpret value judgements
Links between ACCHS and AHS	1			1	1	1						1	1		1									
STI/BBI Manual	1		1	1	1							1	1		1	1	1	1	1					
Health Economics																								
Rural Intensive																				2	2	2	2	2
PHO Training						1	1		1	1	1	1												
Specialist Stream activities												1	1	1	1	1	1	1		1	1	1	1	1
CUMULATIVE TOTAL	2		1	2	2	1	1		1	1	1	2	2		2	1	1	1	1	2	2	2	2	2

Supervisor signature / date: 10/3/11

Trainee signature / date: 10/3/11

SECTION 5: END OF PLACEMENT REVIEW

Reflection on on-the-job and off-the-job learning.

Trainee comments

I have enjoyed my 9 months here at AHMRC, have learned much about the ACCHS and met many wonderful people. I have gained a better understanding of the collaborative processes that are fundamental to working in the area of Aboriginal Health and I hope to continue developing my abilities in this area. I have learned from my colleagues and was impressed by the projects and resources that have been developed here. I have become much more aware of the challenges faced by Aboriginal health services particularly in terms of capacity and the power imbalances that make partnership 'easier said than done'.

I hope I have been helpful as a staff member here, apart from projects in the learning contract, in providing information and assistance to individuals as requested (providing feedback on their documents, assisting with epi data, clarifying the roles of NSW Health etc). Unfortunately I did not have the opportunity to travel more extensively around the state to visit AMSs but that is something I hope to do in future.

Supervisor comments

Sallie Cairnduff- In reviewing the STI/BBI Manual, Susan has demonstrated a high level of initiative and ability to manage a discrete public health project. Susan has juggled two projects at the AHMRC at a time of limited supervision, a lot of change within the organisation (structurally and physically moving to another floor), and with many competing priorities occurring within the team. Susan has been an active participant in public health team meetings, organising one of our journal club meetings and passing on relevant information to other staff.

Susan has quickly familiarised herself with the key issues and service providers around Aboriginal sexual health, and has confidently led discussions around revision of the Manual, and incorporated feedback from Aboriginal sexual health workers and staff from the Aboriginal Community Controlled Health Services.

It has been a pleasure having Susan as part of the public health team, and having her pass on her health knowledge to other members of the team

Sofia Lema- - Susan's showed a sound knowledge of project management. Working Autonomously, Susan has demonstrated an ability to manage competing tasks and responsibilities while managing the two projects. Susan has been open to understand the complexities surround cultural issues while reviewing the Manual, this in turns highlights Susan's ability to apply cultural sensitivities when implementing a project - she will be missed.

Jenny Hunt-Susan has worked independently and well on developing and implementing the public health partnerships project, which was only at the concept stage when she began her placement at the AH&MRC. She has managed to juggle the significant demands of her two AH&MRC projects, with writing up projects from a previous placement, undertaking preparatory work for a project she is undertaking in a subsequent placement, as well as the required PHO program training activities. In undertaking the project work, and throughout her time at the AH&MRC, Susan has demonstrated a sensitivity and awareness of cultural issues, as well as professionalism and good humour. She has been a valued member of our team.

SECTION 6: SUMMARY OF OVERALL COMPETENCY ATTAINMENT WITHIN TRAINING PROGRAM

Summarise competency attainment from each placement undertaken so far using cumulative totals from Section 4

KEY:
1 = partial attainment of competency
2 = satisfactory attainment of competency

Placement	1. PROFESSIONAL PRACTICE							2. MANAGEMENT				3. EPIDEMIOLOGY & BIOSTATS						4. INFO MANAGEMENT				5. COMMUNICATION				6. POLICY				
	1.1 responsibilities of working in health sector	1.2 manage professional development/workload	1.3 participate in PHO Training Program	1.4 demonstrate ethical behaviour	1.5 understand public health law	1.6 commitment to evidence-based practice	2.1 organisational understanding	2.2 effective operations of branch	2.3 manage effective relationships	2.4 manage a project	2.5 understand processes supporting employment	3.1 understand principal forms of epi study design	3.2 apply epi principles when designing studies	3.3 manage data collection	3.4 perform epidemiological analysis	3.5 establish/evaluate surveillance system	3.6 advise others of epi data methods	4.1 prepare reports inc. presentation of data	4.2 analyse data sources using software	4.3 utilise appropriate data sources	4.4 communicate using electronic media	5.1 prepare reports, submissions, articles	5.2 present at conferences	5.3 present/consult in formal settings	5.4 engage effectively with media	6.1 influence health policy	6.2 determine need for new policy/guideline	6.3 prepare policy or guideline	6.4 understand policy implementation	6.5 evaluate policy or guideline
PHREDSS	1	1	1	1	1	1	1	1	1	1		1	1	1	2	1	1	1	2	1	1			1		1				
CCH	2	2	2	1		2	2	1	2	1		1	2	2	1		2	2	2	2	2	2	1	2			1	1		1
AH&MRC	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	2	1	1	2	2	1	2	1	2	1	1	1	
Cumulative total	2	2	2	2	1	2	2	2	2	2	1	2	2	2	2	1	2	2	2	2	2	2	1	2	1	2	1	1	1	1

Placement	7. HEALTH PROMOTION							8. EVALUATION				9. INF DISEASES				10. RISK ASS/MAN				11. HEALTH ECONOMICS				
	7.1 u'stand contribution of health promotion	7.2 describe components of intervention	7.3 enable indiv/community participation	7.4 work in partnership	7.5 influence policy of other sectors/orgs	7.6 act as an advocate	8.1 understand role of evaluation	8.2 plan an evaluation	8.3 conduct an evaluation	8.4 involve consumers in evaluation	8.5 implement results of evaluation	9.1 u'stand infectious/notifiable diseases	9.2 recognise benefit of surveillance	9.3 respond to outbreaks	9.4 liaise with inter/intrasectoral groups	10.1 identify hazards	10.2 assess risk	10.3 manage risk	10.4 communicate risk	11.1 apply health economics concepts	11.2 appreciate economic analysis	11.3 appraise economic evaluations	11.4 discuss equity	11.5 interpret value judgements
PHREDSS	1											1	1	1	1	1			1					
CCH	2			2	1	2	2	2	2	2	2	1	1			1								
AH&MRC	2		1	2	2	1	1		1	1	1	2	2		2	1	1	1	1	2	2	2	2	2
Cumulative total	2		1	2	2	2	2	2	2	2	2	2	2	1	2	1	1	1	1	2	2	2	2	2

Broken Hill Learning Contract

NSW GOVERNMENT | Health

Public Health Officer Training Program

THE LEARNING CONTRACT

Trainee:	Susan Thomas
Year of training:	Third year
Stream of training:	PHO Training
Placement:	Department of Rural Health, Sydney University, Broken Hill
Workplace Supervisor:	Professor David Lyle
Academic Supervisor:	Lisa Jackson Pulver and Professor Bin Jalaludin
Placement commencement date:	March 14, 2011
Placement review date:	June 14, 2011
Placement completion date:	Sept 17, 2011
Project titles: (* if intended for DrPH thesis chapter)	* Blood Lead Level Screening in Broken Hill; improving access and outcomes for Aboriginal children

1

SECTION 1: PLACEMENT OVERVIEW *(to be completed at commencement of placement)*

PROJECT 1 Title:	Blood lead level screening in Broken Hill; improving access and outcomes for Aboriginal children	
Project description – * DrPH thesis	**Main roles, activities and learning strategies –** * DrPH thesis	**Competencies expected to be addressed and DrPH thesis outputs**
Mining activity in Broken Hill has resulted in a significant presence of lead in the local environment. The Broken Hill Environmental Lead Management Program (BHELMP) was established in 1991 to reduce blood lead levels in preschool children. The program consisted of strategies including monitoring, case managing, environmental initiatives, education, evaluation as well as ongoing research. The average blood lead level of young children living in Broken Hill has reduced by two-thirds across the whole community however blood lead levels among Aboriginal children remain significantly higher than the non-Aboriginal population. The number of Aboriginal children attending screening annually has been decreasing since 2004 to its lowest level ever – around 25% in 2009. This study is an original approach to addressing a new problem in the health system. It proposes to review routinely collected data from the Lead Management Program database as a first step to determining factors associated individual, environmental/organisational and social factors that impact on screening attendance and putative factors that increase blood lead levels in children.	• Scope project before arrival in Broken to determine the research question, data access and ethical issues. Hill. * Prepare and submit NEAF to GWAHS HREC, AHMRC and UNSW ethics committee. Undertake a brief literature to inform the study about trends in screening rates and issues relevant to the Aboriginal population. review • Prepare a project management plan including time line. Consult with key stakeholders, establish Steering Group with terms of reference, liaise closely with the Aboriginal community through the Community Working Group for advice re study methods and resources and interpretation of findings • Develop project flyers, participant information statements and consent forms and questions for qualitative interviews • Extract data from the Lead Management Database for quantitative analysis • Work collaboratively with a range of stakeholders including Aboriginal Community Controlled Health Services (Maari Ma Primary Health Services, Child and Family Centre, Broken Hill City Council, Bugdlie Pre-School and the Indigenous Play Group, Broken Hill Dept of Rural Health) • Conduct a range of interviews with service providers including managers and service providers, gaining an understanding of issues related to capacity of services to provide and promote services to a target population, what factors are associated with reduced attendance at screening programs, • Conduct a range of interviews with Aboriginal carers of children aged 0-5 years old • Transcribe and analyse interviews manually • Group emerging themes according to qualitative research practice • * Develop emerging theory related to declining screening rates in the Aboriginal population • * Develop recommendations to improve lead screening services for the Aboriginal population in Broken Hill thereby reducing risks in that group • * Produce a written report • Produce presentations for dissemination of findings for the community and for service providers • Prepare and deliver information for delivery through the media, either radio and/or local paper in Broken Hill • * Write an academic paper for submission to a relevant journal • * Present finding at a rural health or public heath conference	**1. Competency elements expected to be addressed** 1.1, 1.2, 1.4, 1.6 2.1, 2.2, 2.3, 2.4. 2.5 3.1, 3.2, 3.3, 3.4, 3.5, 3.6 4.1, 4.2, 4.3, 4.4 5.1, 5.2, 5.3, 5.4 6.1, 6.2, 6.4 7.1, 7.3, 7.4, 7.5, 7.6 10.1, 10.2, 10.3, 10.4 **Main outputs expected in relation to DrPH thesis** (chapter progress, publications, presentations, other) One Thesis Chapter • Report for stakeholders • Academic paper Conference presentation
WORKPLACE SUPERVISOR SIGNATURE / DATE 6/9/11	**TRAINEE SIGNATURE / DATE** 6/9/11	
ACADEMIC SUPERVISOR SIGNATURE / DATE (Sign off on DrPH related work)		

THE LEARNING CONTRACT REPORT – *(to be completed at the end of a placement)*

SECTION 2A: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Project one:

Title:	Blood lead level screening in Broken Hill; improving access and outcomes for Aboriginal children
Principle Products:	

Competency element	Level of competency gained [1]	Evidence of achievement
Professional Practice	1	Main driver of the NEAF submission to GWAHS/HREC and AHMRC, conditional approval obtained, concerns addressed , SSA completed-approval letters attached 'Chief presenter' of April 1 Bug Breakfast with summary submitted to NSW PH Bulletin Attending all training sessions, contributing to workshops and team presentations in Built Environment and Health Promotion Submitted learning contract, flex sheets, cab charge vouchers, briefs to undertake rural placement, attend PHC conference, present at a conference in Dubbo and submit a paper for publication Literature review in Lead report and Bug Breakfast Monthly meetings with the Dept of Rural Health; discussions re rural health workforce, education and training: issues, strategies and directions Regular meetings with the Research Team to share progress and future directions, regular weekly meetings with David Lyle, monthly meetings with Lisa and Jal
Management	2	Developed terms of reference for Steering Group, invited members Met with key stakeholders at Maari Ma, Child and Family, Broken Hill City Council, Garth Alperstein (independent consultant paediatrician), Bugdlie Preschool, Healthy Start Playgroup Develop project timeline and project progress reviews for meeting with supervisor Participated in the Lead Reference Group meetings at BHCC March 28 and June 15 Participated in the Lead Management meetings with GWAHS on same days

		Participated in the Lead Strategic planning meetings and contributed based on research project ? July and 9 Aug
Epi & Biostats	2	Write a research proposal See project report for methods and results See quantitative and qualitative analysis summary Conducted a 'white board meeting' 10 Aug to discuss findings of the research and the best way to present them in the report Worked with Indigenous health academic Lynne Mitchell to teach research methods including qualitative interviewing, transcribing, analysis and participating in the 'white board' meeting
Information Management	2	Data analysed from Lead Management database and ABS 2001 & 2006 using Excel Conducted qualitative research through interviews and focus groups with service providers, UDRH and community members (Healthy Start playgroup and Bugdlie preschool) Developed project flyers, invitation letters, consent forms and questions for interviews See final report
Communication	2	Briefed Aboriginal Community Working Party and continued liaising with them at subsequent meetings Liaised with staff members at Maari Ma and Child and Family in study design and research activities Liaised with Aboriginal staff and community members at the Aboriginal pre school and the Aboriginal play group Conducted monthly steering committee meetings to report and seek direction Disseminated findings through power point presentation to; Community Working Party, Maari Ma, Child and Family and UDRH See final report Applied to present at the Rural Health Symposium in Dubbo (accepted) Presented findings to Rotary Club at the Social Democrats Club, Broken Hill Aug 24th Writing an academic paper for publication
Policy	1	See recommendations of final report which recommend actions to promote and protect child health in the population Report will inform the Broken Hill Lead Health Program Strategic Plan 2011 GWAHS
Health Promotion	2	Literature review to inform project Participated in NAIDOC week with Child and Family having a lead display See recommendations of final report re engaging with the community Attending the Community Working Party twice to consult and seek advice and answer questions re lead as a health issue and screening services Attended intersectoral meetings at Broken Hill City Council with a variety of non-health services

		Work on the project was guided by Health Promotion principles of the Ottawa Charter and NSW Health Equity Statement Advocating for families in lower SES, disadvantaged groups including Aboriginal children and families
Risk Management	2	See project description/learning contract See introduction to final report and description of risk of environmental lead Communicated risk to Community Working Party, Community members in qualitative research interviews, presented lead health issue at Rotary meeting 24 Aug and will present at Rural Health Research Colloquium in Dubbo See final report See presentations

We agree that the above is a complete and accurate record of competency attainment related to this project.	
WORKPLACE SUPERVISOR SIGNATURE / DATE 6/9/11	**TRAINEE SIGNATURE / DATE** 6/9/11

SECTION 2B: SUMMARY OF PROGRESS ON DRPH RELATED WORK

List main DrPH thesis outputs *(if any related to this placement)*	**Comment on progress and plans for the next 6 months with regard to the thesis**
Chapter 1: Falls Surveillance (published in NSW Health Bulletin) Chapter 2: Evaluation Framework/ Application of the Evaluation Framework (pending submission) Chapter 3: Partnership report, internal, for AHMRC (not for publication) Chapter 4: Improving Access to Blood Lead Level Screening for Aboriginal Children (report and paper)	Current status Satisfactory Plans for next 6 months • Finalise academic papers from previous placements including Broken Hill • Link papers with introduction and conclusion

ACADEMIC SUPERVISOR SIGNATURE / DATE	**TRAINEE SIGNATURE / DATE**
	Susan Thomas 6/9/11

SECTION 3: SUMMARY OF OFF–THE–JOB TRAINING ATTENDED DURING PLACEMENT

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Details	Related competency elements
Bug Breakfast seminars	
1 April, 2011 Aboriginal Health, STI's and BBI's (presenter)	1.3, 4.1, 4.4, 5.1, 5.3, 9.1
6 May 2011 Antimicrobial resistance	9.1
3 June 2011 Tick-borne disease	9.1
1 July 2011	9.1
5 Aug 2011 Meningococcal disease	9.1
2 Sept 2011 on recreation leave	
PHO training days/ modules	
1 April 2011 Episig	1.3, 1.6, 3.1
6 May Healthy Built Environment Workshop	1.3, 1.6, 4.1, 4.4
20 May Healthy Built Environment Workshop	1.3, 1.6, 4.1, 4.4
3 June Health Promotion Workshop	1.2, 1.3, 1.6, 4.1, 7.1
1 July PHO presentations to all cohorts	1.2, 1.3, 4.1
5 August Health Promotion	1.2, 1.3, 1.6, 4.1, 7.1

Conferences/ seminars/ courses	
UNSW NSW Health Equity Statement; where to from here? 10 May 2011 PHC Research Conference Brisbane July 15 2011 Ethics training Sydney Uni 25 July, 15 Aug and 12 Sept 2011	1.2, 1.6, 7.1 1.2, 1.3, 1.6, 2.1, 2.3 1.1, 1.2, 1.3, 1.4, 1.6
Specialist stream activities	
9 May Progress review UNSW/NSW Health 12 May PHO Trainee graduation	1.1, 1.2, 1.3, 1.6, 5.3 1.1, 1.2, 1.3

SECTION 4: SUMMARY OF COMPETENCY ATTAINMENT WITHIN PLACEMENT

Please indicate level of attainment against each project/activity. Enter a value only for those competency elements that were addressed.

KEY:
1 = partial attainment of competency
2 = satisfactory attainment of competency

Project/activity	1. PROFESSIONAL PRACTICE							2. MANAGEMENT				3. EPIDEMIOLOGY & BIOSTATS						4. INFO MANAGEMENT					5. COMMUNICATION				6. POLICY				
	1.1 responsibilities of working in health sector	1.2 manage professional development/workload	1.3 participate in PHO Training Program	1.4 demonstrate ethical behaviour	1.5 understand public health law	1.6 commitment to evidence-based practice	2.1 organisational understanding	2.2 effective operations of branch	2.3 manage effective relationships	2.4 manage a project	2.5 understand processes supporting employment	3.1 understand principal forms of epi study design	3.2 apply epi principles when designing studies	3.3 manage data collection	3.4 perform epidemiological analysis	3.5 establish/evaluate surveillance system	3.6 advise others of epi data methods	4.1 prepare reports inc. presentation of data	4.2 analyse data sources using software	4.3 utilise appropriate data sources	4.4 communicate using electronic media	5.1 prepare reports, submissions, articles	5.2 present at conferences	5.3 present/consult in formal settings	5.4 engage effectively with media	6.1 influence health policy	6.2 determine need for new policy/guideline	6.3 prepare policy or guideline	6.4 understand policy implementation	6.5 evaluate policy or guideline
Blood Lead Screening project	1	1	1	1		1	2	1	2	2	1	2	2	2	1	1	2	2	2	2	2	2	2	2	1	1	1		1	
Off–the–job training	1	1	1	1		1	1		1									1			1	1		1						
CUMULATIVE TOTAL	1	1	1	1		1	2	1	2	2	1	2	2	2	1	1	2	2	2	2	2	2	2	2	1	1	1		1	

Project/activity	7. HEALTH PROMOTION						8. EVALUATION					9. INF DISEASES				10. RISK ASS/MAN				11. HEALTH ECONOMICS				
	7.1 u'stand contribution of health promotion	7.2 describe components of intervention	7.3 enable indiv/community participation	7.4 work in partnership	7.5 influence policy of other sectors/orgs	7.6 act as an advocate	8.1 understand role of evaluation	8.2 plan an evaluation	8.3 conduct an evaluation	8.4 involve consumers in evaluation	8.5 implement results of evaluation	9.1 u'stand infectious/notifiable diseases	9.2 recognise benefit of surveillance	9.3 respond to outbreaks	9.4 liaise with inter/intrasectoral groups	10.1 identify hazards	10.2 assess risk	10.3 manage risk	10.4 communicate risk	11.1 apply health economics concepts	11.2 appreciate economic analysis	11.3 appraise economic evaluations	11.4 discuss equity	11.5 interpret value judgements
Blood Lead Screening project	2	1	2	2	2	2										2	2	2	2					
Off–the–job training	1											1												
CUMULATIVE TOTAL	2	1	2	2	2	2						1				2	2	2	2					

Supervisor signature / date: 6/9/11

Trainee signature / date: 6/9/11

SECTION 6: SUMMARY OF OVERALL COMPETENCY ATTAINMENT WITHIN TRAINING PROGRAM

SECTION 5: END OF PLACEMENT REVIEW

Reflection on on-the-job and off-the-job learning.

Trainee comments

I have thoroughly enjoyed my placement at the UDRH. The project was exciting, important and challenging. I have learned much from the team led by David Lyle. think doing this placement towards the end of my training program was wise as I was able to take a leadership role in the research process and work fairly independently (which I wouldn't have been able to do earlier on). I have been inspired by the staff, who speak up and challenge situations, advocating for public health initiatives for disadvantaged groups, and being reminded that this is central to public health.

I have also enjoyed getting out into the community and talking directly with Aboriginal parents and grandparents. It was not easy to approach people and begin talking with them about lead screening but I am pleased that I was able to do this and that I was accepted by the community. There have been challenges working with some service providers and I have felt frustrated at times, but have found ways to continue working with these stakeholders. A lengthy delay in obtaining ethics approval for our study, despite submitting the application many months before arriving in Broken Hill, has had a detrimental effect. Most of the work involved in the study has been undertaken in the last 10 weeks of my placement. To complete a report, presentations and begin an academic paper meant many hours of work in the evening and on weekends.

I also took advantage to speak with a range of other service providers and people in the community to gain a better understanding of how health services are provided in regional/remote areas, what challenges exist for people of all ages and what some of the strategies may be for improving access to health services for people in the Far West. I always recommend Broken Hill as a wonderful placement with many opportunities. Thank you and keep in touch!

Workplace Supervisor comments

It was a pleasure to have Susan as member of our team in Broken Hill for her rural placement. In the months prior to commencing the placement, Susan spent time in researching the project she agreed to undertake and preparing the ethics submission which given the delays in obtaining ethics approval was a wise investment. The project involved working with both mainstream and Aboriginal health organisations, and with the local Aboriginal community. In observing her work with other people and organisations, it is clear that Susan approach is both professional and respectful. As with all projects not everything went according to plan. Susan dealt with these situations well, by facilitating processes that had stalled, working with people to overcome impediments, finding an alternate solution to the problem, or ultimately putting in extra effort to make up for lost time. This of course is a reality of working across organisations and with community – and Susan showed she has the experience and skills to manage these situations.

It is clear from the quality and timeliness of her work that Susan has well developed skills – in leadership and project management, research methods (with a focus on qualitative methods for this project), communicating to both professional groups and the wider community, report writing and time management. From a more personal perspective Susan appeared to enjoy her time with us and to engage in community life while on placement, thus enabling her to have a more enriched experience that comes from both working and living in a remote regional centre.

Overall I was very impressed with Susan's professional approach to her work, in taking responsibility for managing the project, working independently and organising staff and other resources she needed to get the job done.

Summarise competency attainment from each placement undertaken so far using cumulative totals from Section 4

KEY:
1 = partial attainment of competency
2 = satisfactory attainment of competency

Placement	1. PROFESSIONAL PRACTICE						2. MANAGEMENT					3. EPIDEMIOLOGY & BIOSTATS						4. INFO MANAGEMENT					5. COMMUNICATION					6. POLICY			
	1.1 responsibilities of working in health sector	1.2 manage professional development/workload	1.3 participate in PHO Training Program	1.4 demonstrate ethical behaviour	1.5 understand public health law	1.6 commitment to evidence-based practice	2.1 organisational understanding	2.2 effective operations of branch	2.3 manage effective relationships	2.4 manage a project	2.5 understand processes supporting employment	3.1 understand principal forms of epi study design	3.2 apply epi principles when designing studies	3.3 manage data collection	3.4 perform epidemiological analysis	3.5 establish/evaluate surveillance system	3.6 advise others of epi data methods	4.1 prepare reports inc. presentation of data	4.2 analyse data sources using software	4.3 utilise appropriate data sources	4.4 communicate using electronic media	5.1 prepare reports, submissions, articles	5.2 present at conferences	5.3 present/consult in formal settings	5.4 engage effectively with media	6.1 influence health policy	6.2 determine need for new policy/guideline	6.3 prepare policy or guideline	6.4 understand policy implementation	6.5 evaluate policy or guideline
PHREDSS	1	1	1	1	1	1	1	1	1	1		1	1	1	2	1	1	1	2	1	1			1		1				
Community Child Health	2	2	2	1		2	2	1	2	1		1	2	2	1		2	2	2	2	2	2	1	2			1	1		1
AHMRC	1	1	1	1		1	2	2	2	2								2		1	2	2	1	2		2	1	1	1	
Broken Hill UDRH	1	1	1	1		1	2	1	2	2	1	2	2	2	2	1	2	2	2	2	2	2	2	2	1	1	1			
TOTAL	2	2	2	2	1	2	2	2	2	2	1	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	1	1	1	1

Placement	7. HEALTH PROMOTION						8. EVALUATION					9. INF. DISEASES				10. RISK ASS/MAN				11. HEALTH ECONOMICS				
	7.1 u'stand contribution of health promotion	7.2 describe components of intervention	7.3 enable indv/community participation	7.4 work in partnership	7.5 influence policy of other sectors/orgs	7.6 act as an advocate	8.1 understand role of evaluation	8.2 plan an evaluation	8.3 conduct an evaluation	8.4 involve consumers in evaluation	8.5 implement results of evaluation	9.1 u'stand infectious/notifiable diseases	9.2 recognise benefit of surveillance	9.3 respond to outbreaks	9.4 liaise with intra/intersectoral groups	10.1 identify hazards	10.2 assess risk	10.3 manage risk	10.4 communicate risk	11.1 apply health economics concepts	11.2 appreciate economic analysis	11.3 appraise economic evaluations	11.4 discuss equity	11.5 interpret value judgements
PHREDSS	1											1	1	1	1	1			1					
Community Child Health	2			2	1	2	2	2	2	2	2	1	1			1								
AHMRC	2		1	2	2	1						2	2		2	1	1	1	1	2	2	2	2	2
Broken Hill UDRH	2	1	2	2	2	2										2	2	2	2					
TOTAL	2	1	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2

Refugee Health Learning Contract

Public Health Officer Training Program

THE LEARNING CONTRACT

Trainee:	Susan Thomas
Year of training:	Third year
Stream of training:	PHO Training
Placement:	Refugee Health Service, SSWAHS
Workplace Supervisor:	Dr Mitchell Smith
Academic Supervisor:	Lisa Jackson Pulver, Bin Jalaludin, Holly Seale
Placement commencement date:	12 Sept, 2011
Placement review date:	12 Dec , 2011
Placement completion date:	10 Feb 2011
Project titles: (if intended for DrPH thesis chapter)	n/a

SECTION 1: PLACEMENT OVERVIEW *(to be completed at commencement of placement)*

PROJECT 1 Title:	Revision of the Australasian Society for Infectious Diseases (ASID) Diagnosis, management and prevention of infections in recently arrived refugees

Project description – DrPH thesis	Main roles, activities and learning strategies – DrPH thesis	Competencies expected to be addressed and DrPH thesis outputs
The ASID guidelines were published electronically in 2008, designed to assist Drs providing comprehensive health checks to newly arrived refugees. At that time, the majority of refugees were arriving from sub-Saharan Africa and the guidelines focused primarily on their needs. In 2010/11 refugees are arriving from the Middle East, South Asia and sub-Saharan Africa and the guidelines require revisions. There is new evidence emerging which could influence current screening processes for refugees in Australia and internationally. The PHO will work with relevant experts and other stakeholders to update the ASID guidelines. She will review of a range of literature from Australia and internationally and identify factors that may influence the development of new guidelines (political, economic and others). The PHO will lead the process, guided by an advisory group with members drawn from the Refugee Health Network of Australia and others sources. A timeline for completion will be developed. The final document will be published online in Feb 2012	• Become familiar with the current screening guidelines, health services and current settlement processes, country of origin for refugees and infectious disease epidemiology in newly arrived refugees in Australia • Search for guidelines used in Australia and internationally and understand their application within the health service setting • Develop an advisory group with key stakeholders and experts from RHeaNA, ASID, RACGP Refugee Health SIG, CDNA and others • Develop terms of reference and project timeline and set up regular meetings • Undertake a review of literature from 2008 to gather recent evidence related to health issues and the effectiveness of screening practices • Identify emerging trends in refugee health issues including non-infectious diseases • Compare current ASID guidelines with recent evidence • Consider the impact new guidelines may have on existing health services for refugees and on GP's capacity generally. • Adjust current ASID guidelines to ensure they meet the needs of refugees from the Middle East, South Asia and sub-Saharan Africa • Seek feedback from advisory group members and incorporate into revisions • Plan for distribution of electronic resource • Plan for completion of the project by Feb 2012	1.1, 1.2, 1.6 2.1, 2.3, 2.4 4.4 5.3 6.1, 6.2, 6.3, 6.4, 6.5 7.5, 7.6 9.1, 9.2, 9.4 **Main outputs expected in relation to DrPH thesis** (chapter progress, publications, presentations, other) Not for use in DrPH

WORKPLACE SUPERVISOR SIGNATURE / DATE	TRAINEE SIGNATURE / DATE
1/2/12	Susan Thomas 1/2/12
ACADEMIC SUPERVISOR SIGNATURE / DATE (Sign off on DrPH related work)	

NSW GOVERNMENT Health

PROJECT 2 Title:	Assist in the implementation of the Refugee Health Plan 2011-2016	
Project description – DrPH thesis	**Main roles, activities and learning strategies – DrPH thesis**	**Competencies expected to be addressed and DrPH thesis outputs**
The Refugee Health Plan 2011-2016 is a state-wide plan for improving the health and well-being of refugees in NSW, through both specific and mainstream health services. A range of strategies have been identified to improve the health and well-being of refugees and asylum seekers. A model of best practice has been identified which focuses on health service provision and early universal health assessments. Ideally those assessments will be done by registered nurses with specific training and support. Funding has recently been secured to implement the Refugee Health Plan and steps are being taken to implement its recommendations including the recruitment of registered nurses, an admin assistant and data analysts. The PHO will participate in the implementation committee with a focus on developing job descriptions, criteria and recruitment processes. She will also assist with other tasks as required or as appropriate.	• Become familiar with the Refugee Health Plan 2011-2016 • Assist in the development of the implementation group responsible for overseeing the plan • Work collaboratively with the director/deputy director of NSW Refugee Health Service to develop job descriptions for registered nurses, nurse manager, admin assistant, data analyst • Develop line of supervision and reporting, required infrastructure, training/orientation plans • Undertake an online training course in staff recruitment, selection and induction course • Participate in all aspects of recruitment process as time allows (up until end of placement in Feb 2012).	1.1 2.1, 2.2, 2.3, 2.5 4.4 5.3 6.4 **Main outputs expected in relation to DrPH thesis** (chapter progress, publications, presentations, other) Not for use in DrPH
WORKPLACE SUPERVISOR SIGNATURE / DATE 1/2/12	**TRAINEE SIGNATURE / DATE** 1/2/12	
ACADEMIC SUPERVISOR SIGNATURE / DATE (Sign off on DrPH related work)		

NSW GOVERNMENT | Health

PROJECT 3 Title:	Act as Secretariat of the Refugee Health Network of Australia (RHeaNA)	
Project description – DrPH thesis	**Main roles, activities and learning strategies** – DrPH thesis	**Competencies expected to be addressed and DrPH thesis outputs**
RHeaNA is a national network that was formed in 2009 with the purpose of working collaboratively on health issues for refugees in Australia. Its aims are to; 1) inform and support quality holistic care, 2) provide advice to policy makers on current and emerging issues, 3) provide a forum for exchange of information, 4) develop a research agenda and disseminate research findings. Members include health care providers in a range of relevant settings in all jurisdictions. RHeaNA has the capacity to provide expert advice to inform policy towards improved and sustainable practice. RHeaNA does not have funding and the chair person rotates on a regular basis. The PHO will act as secretariat for RHeaNA, to provide organisational support for its functions and provide assistance in undertaking tasks. This may include summarising and collating evidence which may be used to promote the health of refugees and asylum seekers in Australia.	• Act as secretariat for RHeaNA including support for quarterly meetings (organise meetings, develop agenda, minute taking and follow up of issues as needed) • Collate/draft submissions as required, in collaboration with members • Support RHeaNA's website working group • Support RHeaNA's Research Working Group, translating evidence into policy and practice • Update the evidence base on vitamin D deficiency • Liaise with a variety of individuals including members, Infectious disease networks, RACGP, RACP, RCN, FASTT, Refugee Council of Australia • Collate and distribute contributions from other states/territories on a range of health topics including screening tests and models of care used to provide holistic services • Consult and collaborate with members of RHeaNA on current and emerging issues • Provide current evidence to members on health issues including Vitamin D, Hepatiis C, STI's for the purpose of review of current practice • Provide information to the chair which can be used in advocacy or advice to a range of stakeholder groups	1.1, 1.6 2.1, 2.3 4.1, 4.3, 4.4 5.3 6.1, 6.2, 6.3, 6.4, 6.5 7.4, 7.5, 7.6 **Main outputs expected in relation to DrPH thesis** (chapter progress, publications, presentations, other) Not for use in DrPH
WORKPLACE SUPERVISOR SIGNATURE / DATE 1/2/12	**TRAINEE SIGNATURE / DATE** Susan Thomas 1/2/12	
ACADEMIC SUPERVISOR SIGNATURE / DATE (Sign off on DrPH related work)		

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THE LEARNING CONTRACT REPORT – *(to be completed at the end of a placement)*

SECTION 2A: SUMMARY OF COMPETENCY ATTAINMENT (BY PROJECT)

Please include only competency areas addressed by this project

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Project one:

Title:	**Revision of the Australasian Society for Infectious Diseases Diagnosis, management and prevention of infections in recently arrived refugees**
Principle Products:	Completed revised guidelines

Competency element	Level of competency gained [1]	Evidence of achievement
Professional Practice 1.1, 1.2, 1.6	1	Developed a learning contract, submitted flex and leave forms, attended infectious disease journal club and other training days and balanced a range of work related requirements. Developed the evidence base for the review of the ASID guidelines and collaborated with others on the strength of each piece of evidence.
Management 2.1, 2.3, 2.4	1	Established a National Reference Group which included a wide range of professionals with expert knowledge and skills related to Refugee Health. There was a mix of government health services and university appointments. Established a timeline for the project and TOR for the reference group Undertook regular communication with my supervisor on the progress of the project and with members of the Reference Group
Information Management 4.4	1	Communicated with the Reference Group as a whole and with individuals re specific evidence for the revised guidelines.
Communication 5.3	1	Consulted with the Reference Group and with RHeaNA in teleconferences, email and individual telephone discussions. Also had regular weekly meetings with my supervisor where we discussed the content of the revisions, reviewed the progress to date and decided on the next steps to be taken.
Policy 6.1, 6.2, 6.3, 6.4, 6.5	2	In discussion with my supervisor, we established the need for revised guidelines. I then used NSW Health policy template and other published papers to develop the framework for the review of the guidelines. This included title page, summary and revision history. I wrote an introduction which outlines the context and the need for revised guidelines. We used WHO principles of screening and adopted the view that it is important to protect the public, and newly arrived refugees, from infectious diseases while taking care not to contribute to stigma as refugees are a pre-screened population and that screening should adopt a targeted rather than 'blanket' approach, according to risk factors and

NSW GOVERNMENT | Health

		migration history. I synthesised the current evidence from the Reference Group and my own searching, and presented it in a table, which compared new evidence with current ASID guidelines and gave suggestions for changes. This was presented to the Reference Group, feedback was collated and there was further discussion about some points. The table acted as a working document. ASID recommendations were then revised and sent back to the Reference Group. I understand and have made clear in communications with all stakeholders that the revisions are a guide or suggestions for health professionals and that there is flexibility for practice which will reflect local jurisdictions, experience and clinical judgement.
Health Promotion 7.5, 7.6	1	Our review process has generated positive feedback from others in a range of settings who are in agreement with our recommendations. Some changes that will take place include new screening for vitamin D and less screening for Hepatitis C. These changes will take place in a wide variety of settings across Australia, in specific Refugee Health clinics. Our revisions do advocate for a more selective process, rather than screening every refugee for every disease. This approach recognised the individuals risk factors, country of origin and travel history.
Infectious Diseases 9.1, 9.2, 9.4	1	The guidelines focussed on infectious diseases that may pose a threat to the public and to the individual. The infectious diseases in the ASID guidelines are notifiable to NSW Health. We looked at the prevalence data that was available, both from country of origin or transit, and data from Australia which has measured prevalence in refugees screened at clinics around Australia. We liaised regularly with many experts in infectious disease practice in both government and university contexts.

We agree that the above is a complete and accurate record of competency attainment related to this project.	
WORKPLACE SUPERVISOR SIGNATURE / DATE 1/2/12	**TRAINEE SIGNATURE / DATE** 1/2/12

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Project two:

Title:	**Assist in the implementation of the Refugee Health Plan 2011-2016**
Principle Products:	

Competency element	Level of competency gained [1]	Evidence of achievement
Professional Practice 1.1	1	Attended a funding meeting with the Director and Deputy Directory of RHS where preliminary discussions were held re the new funding arrangements to implement the Refugee Health Plan
Management 2.1, 2.2, 2.3, 2.5	1 2	26 Oct and 3 Nov and 25 Nov meet with the Deputy Director of RHS to begin developing position descriptions for RN and Nurse Manager 16 Nov attended Recruit, Select, Induct workshop, finishing the training which involved the self directed online component. This was in readiness to recruit RNs and other staff to implement the model. Certificate pending Attended meetings with a range of stakeholders from SWSLHD and from NSW Health (see policy)
Information Management 4.4	1	I was in the position of developing agendas and taking minutes for the Strategic Planning meeting and minute taking for the Implementation meeting at North Sydney.
Communication 5.3	1	This refers to the range of meetings I have attended and my role in facilitating the communication through agendas and minutes and some level of participation where appropriate.
Policy 6.4	1	8 Dec Strategic Planning Meeting for funds allocation with Nurse Educator and Business manager Population Health, developed agenda, chair and minute taker, participant as well. 28 Nov working with the Deputy Director on Micro Planning for implementation, looking at a more detailed approach of the policy implementation. 15 Dec. I had the opportunity to attend the state-wide policy implementation committee meeting chaired by the Acting Director of the Primary Health and Community Partnerships branch where I observed due process and acted as minute taker.

We agree that the above is a complete and accurate record of competency attainment related to this project.

WORKPLACE SUPERVISOR SIGNATURE / DATE	TRAINEE SIGNATURE / DATE
1/2/12	Susan Thomas 1/2/12

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Project three:

Title:	**Act as Secretariat of the Refugee Health Network of Australia (RHeaNA)**
Principle Products:	

Competency element	**Level of competency gained** [1]	**Evidence of achievement**
Professional Practice 1.1, 1.6	1	Assisted with the dissemination of evidence re refugee health practice to RHeaNA members. Some of this was from my own searching (I receive regular emails from NSW Health Library with articles relevant to refugee health), some from my supervisor and some from other RHeaNA members
Management 2.1, 2.3	1	I took responsibility for updating the RHeaNA membership, creating an Excel spreadsheet with information for all states and territories, following up on members who did not appear in the spreadsheet and adding others manually.
Information Management 4.1, 4.3, 4.4	1	Collate pathology screening practices from each jurisdiction and circulate to RHeaNA reference group Organised membership Excel spreadsheet Updated the service model table for each jurisdiction, with information provided by members, and circulated to RHeaNA reference group
Communication 5.3	1	Before arriving at RHS in Liverpool (while still based in Broken Hill) I was able to attend the annual face-to-face meeting of RHeaNA in Brisbane, at the PHC Conference. This was a great opportunity to begin those personal relationships that continued after I arrived at RHS and began my role as secretariat of RHeaNA. Assisted in the revision of the RHeaNA introduction letter and sent out to a range of potentially interested groups/stakeholders. Developed agendas, participated in specific items such as ASID review or RHeaNA admin issues, and took minutes and circulated to RHeaNA reference group for meetings on 25 Oct and 31 Jan. Arranged teleconferences and informed reference group according to local times Responds to requests from RHeaNA reps in consultation with RHS Director
Policy 6.1, 6.2, 6.3, 6.4, 6.5, 6.6	1	Most of the ASID guideline review Reference Group are also RHeaNA reference group members so there was overlap. Having a group such as RHeaNA facilitated the ASID review process tremendously as communication was easy and I got to know all the reference group members through email and telephone conversations. In this way, RHeaNA was used as a means to communicate about the ASID review, exchange information and evidence, communicate points of contention or discussion of different views. Refer back to project one for more detailed information.

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Health Promotion 7.4, 7.5, 7.6	1	RHeaNA consists of a very wide range of health professionals working across all states and territories. They are an informed and committed group who engage in discussion with the aim of improving health outcomes for refugees. As the secretariat of RHeaNA much communication was sent to me and I was able to participate in further discussion and to use information and evidence in our ASID review, which ultimately benefits the health of refugees. We exchanged information about a range of diseases, pathology practices and research projects undertaken by other members. Most RHeaNA members do have regular contact with newly arrived refugees and share their experiences and collected data, through RHeaNA in a way that promotes advocacy. Some examples include ensuring legislation which grants asylum seekers access to hospital services is observed by hospital administrators, working with pathology companies to provide tests free of charge to refugees for new and uncommon diseases, informing relevant government bodies of the strong evidence related to vitamin D deficiency in many groups of refugees, which facilitated the inclusion of supplementation at no cost to refugees.

We agree that the above is a complete and accurate record of competency attainment related to this project.

WORKPLACE SUPERVISOR SIGNATURE / DATE	TRAINEE SIGNATURE / DATE
1/2/12	1/2/12

SECTION 2B: SUMMARY OF PROGRESS ON DRPH RELATED WORK

List main DrPH thesis outputs *(if any related to this placement)*	**Comment on progress and plans for the next 6 months with regard to the thesis**
Chapter 1: Falls Surveillance (published in NSW Health Bulletin) Chapter 2: Evaluation Framework/ Application of the Evaluation Framework (pending submission) Chapter 3: Partnership report, internal, for AHMRC (not for publication) Chapter 4: Improving Access to Blood Lead Level Screening for Aboriginal Children (report and paper)	Current status Satisfactory Plans for next 6 months

ACADEMIC SUPERVISOR SIGNATURE / DATE	TRAINEE SIGNATURE / DATE

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SECTION 3: SUMMARY OF OFF–THE–JOB TRAINING ATTENDED DURING PLACEMENT

Key[1]
1= Partial attainment of competency
2= Satisfactory attainment of competency

Details	Related competency elements
Bug Breakfast seminars	
7 October 2011 (sick leave)	9.1
4 November 2011, Rapid assessment	9.1
2 December 2011, Botulism	9.1
3 February 2012, HPV	9.1
PHO Training days/modules	
7 & 10 Oct, Management training (sick leave)	
31 Oct-1 Nov, Scientific writing workshop with Elisabeth Heseltine	1.3, 1.6, 3.6, 4.1, 5.1
4 November 2011, Episig	1.1, 1.2, 1.3
14-15 Nov 2011, Communicable Disease Workshop	1.1, 1.2, 1.3, 9.1, 9.2
19 October 2011 Infectious Disease Journal Club-TB	1.2, 1.3, 1.6, 9.1, 9.2
Conferences/ seminars/ courses	
11-13 Oct Rural Health Research Colloquium in Dubbo	4.4, 5.2, 5.3
16 November Recruit, Select and Induct Staff, online and 1 day face to face, Karitane	2.5
20-22 February 2012 SAPHARI training	
Specialist stream activities	
November 21-23 Planning workshop in Broken Hill	1.1, 1.2, 1.3, 2.1, 2.3, 4.4, 5.3, 6.1
Attended Auburn Refugee Health Clinic 17 Oct as observer	1.1, 1.2, 2.1
End note training 16 Dec 2011	1.2, 1.6

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SECTION 4: SUMMARY OF COMPETENCY ATTAINMENT WITHIN PLACEMENT

Please indicate level of attainment against each project/activity. Enter a value only for those competency elements that were addressed.

KEY:
1 = partial attainment of competency
2 = satisfactory attainment of competency

Project/activity	1. PROFESSIONAL PRACTICE						2. MANAGEMENT					3. EPIDEMIOLOGY & BIOSTATS						4. INFO MANAGEMENT					5. COMMUNICATION				6. POLICY				
	1.1 responsibilities of working in health sector	1.2 manage professional development/workload	1.3 participate in PHO Training Program	1.4 demonstrate ethical behaviour	1.5 understand public health law	1.6 commitment to evidence-based practice	2.1 organisational understanding	2.2 effective operations of branch	2.3 manage effective relationships	2.4 manage a project	2.5 understand processes supporting employment	3.1 understand principal forms of epi study design	3.2 apply epi principles when designing studies	3.3 manage data collection	3.4 perform epidemiological analysis	3.5 establish/evaluate surveillance system	3.6 advise others of epi data methods	4.1 prepare reports inc. presentation of data	4.2 analyse data sources using software	4.3 utilise appropriate data sources	4.4 communicate using electronic media	5.1 prepare reports, submissions, articles	5.2 present at conferences	5.3 present/consult in formal settings	5.4 engage effectively with media	6.1 influence health policy	6.2 determine need for new policy/guideline	6.3 prepare policy or guideline	6.4 understand policy implementation	6.5 evaluate policy or guideline
ASID Guidelines	1	1				1	1		1	1											1			1		1	1	1	1	1
Implementation Plan	1						1	1	1		2										1			1					1	
RHeaNA secretariat	1					1	1		1									1		1	1			1		1	1	1	1	1
CUMULATIVE TOTAL	1	1				1	1	1	1	1	2							1		1	1			1		2	2	2	2	2

Project/activity	7. HEALTH PROMOTION						8. EVALUATION					9. INF.DISEASES				10. RISK ASSMAN				11. HEALTH ECONOMICS					
	7.1 u'stand contribution of health promotion	7.2 describe components of intervention	7.3 enable indiv/community participation	7.4 work in partnership	7.5 influence policy of other sectors/orgs	7.6 act as an advocate	8.1 understand role of evaluation	8.2 plan an evaluation	8.3 conduct an evaluation	8.4 involve consumers in evaluation	8.5 implement results of evaluation	9.1 u'stand infectious/notifiable diseases	9.2 recognise benefit of surveillance	9.3 respond to outbreaks	9.4 liaise with inter/intrasectoral groups	10.1 identify hazards	10.2 assess risk	10.3 manage risk	10.4 communicate risk	11.1 apply health economics concepts	11.2 appreciate economic analysis	11.3 appraise economic evaluations	11.4 discuss equity	11.5 interpret value judgements
ASID Guidelines					1	1						1	1		1									
Implementation Plan																								
RHeaNA secretariat				1	1	1																		
CUMULATIVE TOTAL				1	1	1						1	1		1									

Supervisor signature / date: 1/2/12

Trainee signature / date: 1/2/12

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SECTION 5: END OF PLACEMENT REVIEW

Reflection on on-the-job and off-the-job learning.

Trainee comments

I have really enjoyed my last placement, here at RHS and appreciated the opportunity to work on a variety of projects. The state-wide plan has been published and funding allocated so there has been opportunity to participate in some interesting aspects of its implementation. The PHO trainees also had a chance to comment on the state-wide plan while we were on our rural intensive in Wagga Wagga in 2010, so that historical connection to the work was there as well. I have enjoyed working in Sydney's south west, getting to know the area and experiencing its rich diversity.

I felt my projects here were important and achievable within the time frame. While Mitchell is a very busy person, he always had time to chat, share his knowledge and experience with me and met with me regularly to review my progress. In addition to the defined projects, I had time to get to know the roles and responsibilities of other team members and to work alongside some of them. This allowed me to broaden my knowledge of the challenges faced by refugees and asylum seekers and of some of the strategies to address these. I certainly appreciated the welcome and friendly atmosphere that is present everyday at RHS. I have learned a lot and hope that I have contributed in a useful way to the great work that is done here.

Workplace Supervisor comments

Susan has been an excellent member of our team during her too-short placement with the NSW Refugee Health Service. She has contributed in a very meaningful way to the three particular projects described; she has also taken on a number of other smaller activities that have helped us.

The timing of the placement was very good in that a review of national refugee health screening guidelines was (over)due. Her methodical approach to that has been of high quality. Similarly her availability, and ability, to act as the secretariat and support for an un-resourced national network of health professionals (RHeaNA) was extremely useful. Susan's professional insights as a nurse have also proved useful in planning for new service provision for refugees in NSW.

Susan has been reliable and hard working. She has blended well with the staff members here and will be missed. We congratulate her on her (near) completion of the PHO Training Program and wish her well in the future.

1/2/12

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SECTION 6: SUMMARY OF OVERALL COMPETENCY ATTAINMENT WITHIN TRAINING PROGRAM

Summarise competency attainment from each placement undertaken so far using cumulative totals from Section 4

KEY:
1 = partial attainment of competency
2 = satisfactory attainment of competency

Placement	1. PROFESSIONAL PRACTICE						2. MANAGEMENT					3. EPIDEMIOLOGY & BIOSTATS						4. INFO MANAGEMENT					5. COMMUNICATION				6. POLICY			
	1.1 responsibilities of working in health sector	1.2 manage professional development/workload	1.3 participate in PHO Training Program	1.4 demonstrate ethical behaviour	1.5 understand public health law	1.6 commitment to evidence-based practice	2.1 organisational understanding	2.2 effective operations of branch	2.3 manage effective relationships	2.4 manage a project	2.5 understand processes supporting employment	3.1 understand principal forms of epi study design	3.2 apply epi principles when designing studies	3.3 manage data collection	3.4 perform epidemiological analysis	3.5 establish/evaluate surveillance system	3.6 advise others of epi data methods	4.1 prepare reports inc. presentation of data	4.2 analyse data sources using software	4.3 utilise appropriate data sources	4.4 communicate using electronic media	5.1 prepare reports, submissions, articles	5.2 present at conferences	5.3 present/consult in formal settings	5.4 engage effectively with media	6.1 influence health policy	6.2 determine need for new policy/guideline	6.3 prepare policy or guideline	6.4 understand policy implementation	6.5 evaluate policy or guideline
PHREDSS	1	1	1	1	1	1	1	1	1	1		1	1	1	2	1	1	1	2	1	1			1	1	1				
Community Child Health	2	2	2	1		2	2	1	2	1		1	2	2	1		2	2	2	2	2	2	1	2			1	1		1
AHMRC	1	1	1	1	1	1	2	2	2	2								2		1	2	2	1	2		2	1	1	1	
Broken Hill UDRH	1	1	1	1	1	1	2	1	2	2	1	2	2	2	2	1	2	2	2	2	2	2	2	2	1	1	1		
NSW Refugee Health Service					1						2															2	2	2	2	2
TOTAL	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Placement	7. HEALTH PROMOTION						8. EVALUATION					9. INF.DISEASES					10. RISK ASS/MAN				11. HEALTH ECONOMICS				
	7.1 u'stand contribution of health promotion	7.2 describe components of intervention	7.3 enable indiv/community participation	7.4 work in partnership	7.5 influence policy of other sectors/orgs	7.6 act as an advocate	8.1 understand role of evaluation	8.2 plan an evaluation	8.3 conduct an evaluation	8.4 involve consumers in evaluation	8.5 implement results of evaluation	9.1 u'stand infectious/notifiable diseases	9.2 recognise benefit of surveillance	9.3 respond to outbreaks	9.4 liaise with inter/intrasectoral groups	10.1 identify hazards	10.2 assess risk	10.3 manage risk	10.4 communicate risk	11.1 apply health economics concepts	11.2 appreciate economic analysis	11.3 appraise economic evaluations	11.4 discuss equity	11.5 interpret value judgements
PHREDSS	1											2	2	2	2	1			1					
Community Child Health	2			2	1	2	2	2	2	2	2	1	1			1								
AHMRC	2	1	1	2	2	1						2	2		2	1	1	1	1	2	2	2	2	2
Broken Hill UDRH	2	1	2	2	2	2										2	2	2	2					
NSW Refugee Health Service																								
TOTAL	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

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