

Promoting the generation and effective use of population health research in NSW

A Strategy for NSW Health 2011-2015



Health

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Content

A message from the Chief Health Officer	2
Introduction	3
Aim and objectives	3
Scope of the Strategy	3
The changing context	4
Background	5
The value of and need for population health research in NSW	5
The context for population health research in NSW	6
Principles for population health research.....	7
The Strategy document	7
Figure 1: The framework	8
Table 1: Strategies and actions at a glance.....	9
Key strategies for population health research.....	11
Strategy 1: Facilitate the generation of high quality research that is relevant to population health policy and practice.....	11
Strategy 1.1: Identify and ensure a focus on NSW Health priorities for population health research	11
Principles of effective priority setting	12
Criteria for identifying population health research priorities	12
Research priority formats	12
Strategy 1.2: Fund and commission research	14
Strategy 1.3: Plan and undertake research	16
Strategy 2: Maximise the use of research to improve population health and reduce health inequities	18
Strategy 2.1: Facilitate synthesis of and access to research evidence	18
Strategy 2.2: Develop policy and practice environments that value and use research evidence	20
Strategy 2.3: Foster research environments that promote the use of research evidence in policy and practice.....	22
Strategy 3: Build population health research capability	24
Strategy 3.1: Develop and maintain the population health research workforce.....	24
Strategy 3.2: Develop and maintain population health research infrastructure	26
Strategy 3.3: Foster links and partnerships for collaborative population health research	27
Guidelines for development of partnerships with NSW Health for NHMRC Partnership Grants and ARC Linkage Grants	30
Implementation, evaluation and reporting	31
References.....	32
Appendix 1: Acknowledgments.....	34

A message from the Chief Health Officer

As an organisation that values excellence and renewal, NSW Health is committed to the generation and use of research evidence to inform its population health policies and programs. We recognise the critical role that research plays in informing decisions in all areas of population health policy and program development and hence in improving population health and reducing health inequities in New South Wales (NSW).

This 5-year Strategy outlines a comprehensive framework and key strategies and actions that will underpin a culture within NSW Health that values and uses research evidence. It focuses on how the Population Health Division of the NSW Department of Health will more efficiently and collaboratively use funds currently devoted to supporting research. Research and evaluation efforts already in place within the different Centres in the Population Health Division, and within local population health services, can be further strengthened. To meet current and emerging population health challenges, and to work towards the Department's strategic directions, it is important that research be given a stronger emphasis in decision-making. Research must therefore be integrated more fully into the agenda of population health services at the state and local level.

This Strategy identifies three main areas of work for the Population Health Division to support population health research in NSW Health, i.e. the generation of relevant research, maximising the use of research evidence and building research capability. Central to the Strategy are the important premises of focusing expenditure and effort on identified research priorities, improving communication between stakeholders and developing productive partnerships for population health research. In implementing this Strategy, the Population Health Division will work in collaboration with other funders, researchers, research-users and those likely to be affected by research.

The process for development of the Strategy included a review of Australian and international strategic research documents, a review of strategies to increase the use of evidence in policy and programs, and broad consultation with stakeholders internal and external to NSW Health, at both the state and local levels, thus ensuring the robustness and relevance of the Strategy. The initiatives outlined in the Strategy will ensure that population health research in NSW Health is first class, is conducted ethically, addresses identified population health research priorities, informs policy and practice and hence improves the health of the population.

I would like to thank all those who contributed to the development of the Strategy and look forward to working with the staff of the Population Health Division and local population health services and networks on its implementation.



Dr Kerry Chant
Deputy Director-General, Population Health
and Chief Health Officer

Introduction

This Strategy provides a framework for NSW Health to generate and use population health research. Its main purpose is to describe how the Population Health Division of the New South Wales (NSW) Department of Health will facilitate the conduct of high-quality, relevant, population health research and the use of research evidence in policy and practice in NSW Health. The Strategy builds on NSW Health's population health plan: *Healthy People NSW: Improving the health of the population*¹ and complements the *NSW State Plan: Investing in a better future*² and the *NSW State Health Plan, A new direction for NSW: towards 2010*.³ Together these documents have the vision of good health and wellbeing for all people in NSW.

Aim and Objectives

The aim of this Strategy is to promote the generation and use of high quality, relevant research to improve policy and program effectiveness which will lead to better population health and reduced health inequities in NSW.

The four main objectives are:

1. Increase research that is relevant to NSW Health population health policy and practice
2. Improve the quality of population health research in NSW Health
3. Increase the use of research evidence in NSW Health population health policies and practice
4. Strengthen population health research capability in NSW Health.

Scope of the Strategy

A focus on population health services at the state and local level

This Strategy (and its implementation) will support population health research that is undertaken, commissioned, supported or used by NSW Health population health services (at the state and local level).

Primary governance for this Strategy and leadership for its implementation lies with the Population Health Division of the NSW Department of Health with the Deputy Director-General, Population Health and Chief Health Officer as the executive sponsor. The Centre for Epidemiology and Research will be responsible for facilitating the implementation of the Strategy, with the Centres within the Population Health Division taking the lead on the various actions. This Strategy and its implementation do not remove responsibility from the various Population Health Division Centres for funding or supporting research. Centres may choose to develop their own strategy to complement these initiatives. It is also not the intent of the Strategy to reduce investment in local population health research.

Although the Strategy focuses on what the Population Health Division can do to promote the generation and effective use of population health research, improvements in the conduct and use of population health research in NSW Health can only come about through working with key stakeholders including:

- all Divisions within the NSW Department of Health
- NSW population health services at the local level
- universities that partner with NSW Health
- other NSW research institutions
- other NSW government departments and community-managed organisations
- government departments in other jurisdictions
- national and interstate funding, academic and research organisations
- those likely to be affected by the research.

These groups will be engaged in the implementation of strategies and actions as appropriate.

Definition of population health research

For the purpose of this Strategy, population health research has been defined as the investigation and analysis of factors that influence the health status of groups or whole populations, as well as the testing and evaluation of policies and interventions to improve population health outcomes.⁴

Population health research includes research for problem definition, solution generation and evaluation.⁵ It includes primary data collection and analysis, analysis of existing data and systematic reviews of research. It involves a range of methodologies, i.e. quantitative, qualitative and mixed methods.

The term 'population health research' has been used in preference to 'public health research' to reflect the broader focus of NSW population health services at the state and local level.

This definition of population health research, and hence this Strategy, does not include clinical research and does not include health services research (although there is an interface between population health research and health services research and some research fits into both categories).

Working within existing resources

The strategies and actions outlined in this Strategy have been designed so that the Population Health Division, NSW Department of Health, can use currently available research funds more efficiently and collaboratively. The Population Health Division makes a significant investment in supporting population health research. This Strategy identifies ways that the Division can manage this investment more strategically and work better with its internal and external partners.

The changing context

The Strategy covers the period from January 2011 to December 2015. During this time there will be significant changes to the health system at the national, state and local levels, including the changes in response to the National Health and Hospitals Network reform plan.⁶ To account for this changing context, we have used the term 'local population health services' to refer to the population health services within the 2010 NSW Area Health Services and NSW population health networks.

Background

There has been an increased focus on prevention in health at both the national and state level in recent years. *The National Partnership Agreement on Preventive Health*,⁷ approved by the Council of Australian Governments (COAG) in 2008, and subsequent developments such as the establishment of the Australian National Preventive Health Agency, form part of the national health reform agenda.⁶ *The NSW State Plan*² includes significant prevention initiatives and the *NSW Policy Framework for Prevention and Early Intervention*,⁸ launched in December 2007, heralded a growing move to prevention and early intervention across the NSW government as a whole. One of the seven strategic directions of the NSW State Health Plan³ is 'Making prevention everybody's business'. This shift in policy direction towards prevention and early intervention, and the associated funding for preventive initiatives, has resulted in an increased need for population health research to inform and evaluate the emerging programs.

The value of and need for population health research in NSW

If the health of the people of NSW is to be improved and inequities in health are to be reduced, the capacity of research to contribute to these aims must be maximised. The value of research to the health of populations, and its importance in the development of health policies and programs, are highlighted by the World Health Organization (WHO) in its strategy on research for health:⁹

High quality research and evidence are critical for improving global health and health equity, and for the achievement by WHO of its objective, namely, the attainment by all peoples of the highest possible level of health.

At a time when there are many competing demands on limited resources, it is especially important for policies and practices in support of health to be grounded in the best scientific knowledge.

In Australia, the requirement for 'priority-driven research that contributes directly to population health and evidence-based health care' was emphasised in the 1998 Health and Medical Research Strategic Review¹⁰ and reinforced in the 2004 Investment Review of Health and Medical Research,¹¹ which called for improvements to the 'structure, process and governance of policy-and-practice-focused research' to support the use of research results in policy and practice.

Population health research is essential to identify the determinants of health and estimate their impact, to describe the ways that health determinants and their contexts interact, and to develop and evaluate interventions to manage the determinants of health, their contexts and interactions to produce health improvements.

The benefits of population health research that are of greatest importance are the contribution to improved health, reduced morbidity and increased life expectancy. In addition to the direct health benefits to the population from improved population health policy and practice, the economic potential of research is attracting ever-increasing attention: the economic benefits of population health research are predominantly related to reduced health and societal costs, the influx of research funds from successful grants adding to the wealth of the state, and the associated employment within research circles. An effective research commitment also has a systemic benefit for the operation of population health programs and services as it 'changes the philosophy and ethic that underpin them and becomes a key determinant in fostering best practice'.¹²

In addition to harnessing these direct benefits, NSW needs to foster a level of research capacity so that it can make effective use of research results from elsewhere, that is, interpret research evidence and implement and evaluate effective programs.¹² Furthermore there are diseases and conditions that occur more frequently in some Australian states than others, e.g. HIV infection. NSW therefore needs local research capacity to address the special research needs of its own population.

Fostering a productive population health research system also builds the capacity of those who conduct the research and the organisations within which they work. The potential benefits for individuals engaging in research include contributing to the public good, increased research skills, career progression and broadening of employment opportunities.

NSW is well placed to support a vibrant population health research community within a competitive research environment. NSW has the largest and most rapidly growing population in Australia,¹³ established academic and non-academic centres of population health research excellence and has attracted an increasing proportion of National Health and Medical Research Council (NHMRC) funding in the broad research area of public health.¹⁴ Investment in, and support for, population health research in NSW to build on our competitive advantage is of paramount importance.

The Population Health Division of the NSW Department of Health therefore identifies the conduct of policy and program-relevant research and the use of research evidence in the development of its policies and programs as core organisational values.

The context for population health research in NSW

The scope of research for population health is wide. Current research covers a broad range of issues of varying complexity, a large number of funders (including state and federal governments, community-managed organisations and charities) and a diverse research community. There are several different models for research generation, including NSW Health-based, university-based, centre of excellence and industry research; and a myriad of partnerships. In addition, research can be driven by policy, investigator, communities of practice, theory or community. This variety of approaches affords options to address the breadth of research required.

Stakeholders bring different skills (e.g. links to policy and practice, support for research use, skills and expertise to produce high quality research or expertise in innovative research methodologies). However, stakeholders often have different needs, such as NSW Health's need for timely, policy-driven research evidence versus the academic need for peer-reviewed research publications and grant income. Stakeholders also experience different barriers to research generation and use. These barriers have been identified and taken into account through the consultation processes used to develop this Strategy.

As one of the key stakeholders for population health research in NSW, the NSW Department of Health funds, commissions and undertakes population health research to support its policies and programs. These functions occur mainly through the Population Health Division within the Department, however, other Divisions also fund and support population health research. For example, the Mental Health and Drug and Alcohol Office, within the Strategic Development Division, has major initiatives which support research into preventive strategies for good health and wellbeing. At the local level in NSW, population health services vary in their investment in research, with many contributing substantially to the evidence base for population health practice.

Principles for population health research

The Population Health Division supports a consistent approach to the generation and use of population health research evidence, guided by the following principles.

Principles underpinning population health research in NSW Health

NSW Health will undertake, support and commission research that:

- will make a difference to health outcomes
- is of high quality
- is conducted in an ethical manner
- is relevant to current NSW population health research priorities
- can be used to inform policy and practice
- focuses on the NSW population or population subgroups
- uses a range of methods appropriate for the purpose of the research (including quantitative, qualitative and mixed methods)
- fosters research teams and partnerships
- includes large scale, collaborative, cross-area or state-wide research projects
- uses cross-jurisdictional or whole-of-government collaborations where appropriate
- is conducted collaboratively with those likely to be affected by the research
- links researchers with policy-makers and practitioners
- builds research capacity for the future
- where appropriate, focuses on:
 - disadvantaged communities and population groups (to reduce health inequities)
 - the broad determinants of health
 - intervention research
 - translational research
 - economic evaluations.

The Strategy document

This Strategy was developed under the auspices of an Advisory Committee, through a process of literature review and extensive consultation described elsewhere.¹⁵ A list of Advisory Committee members and organisations that provided comments or contributions is included in Appendix 1.

This process has resulted in the development of a framework for the Strategy (Figure 1), and associated strategies and actions are summarised in Table 1 and detailed throughout the document. Actions currently being undertaken through the Population Health Division and local population health services are included in text boxes and as case studies.

Figure 1. The framework

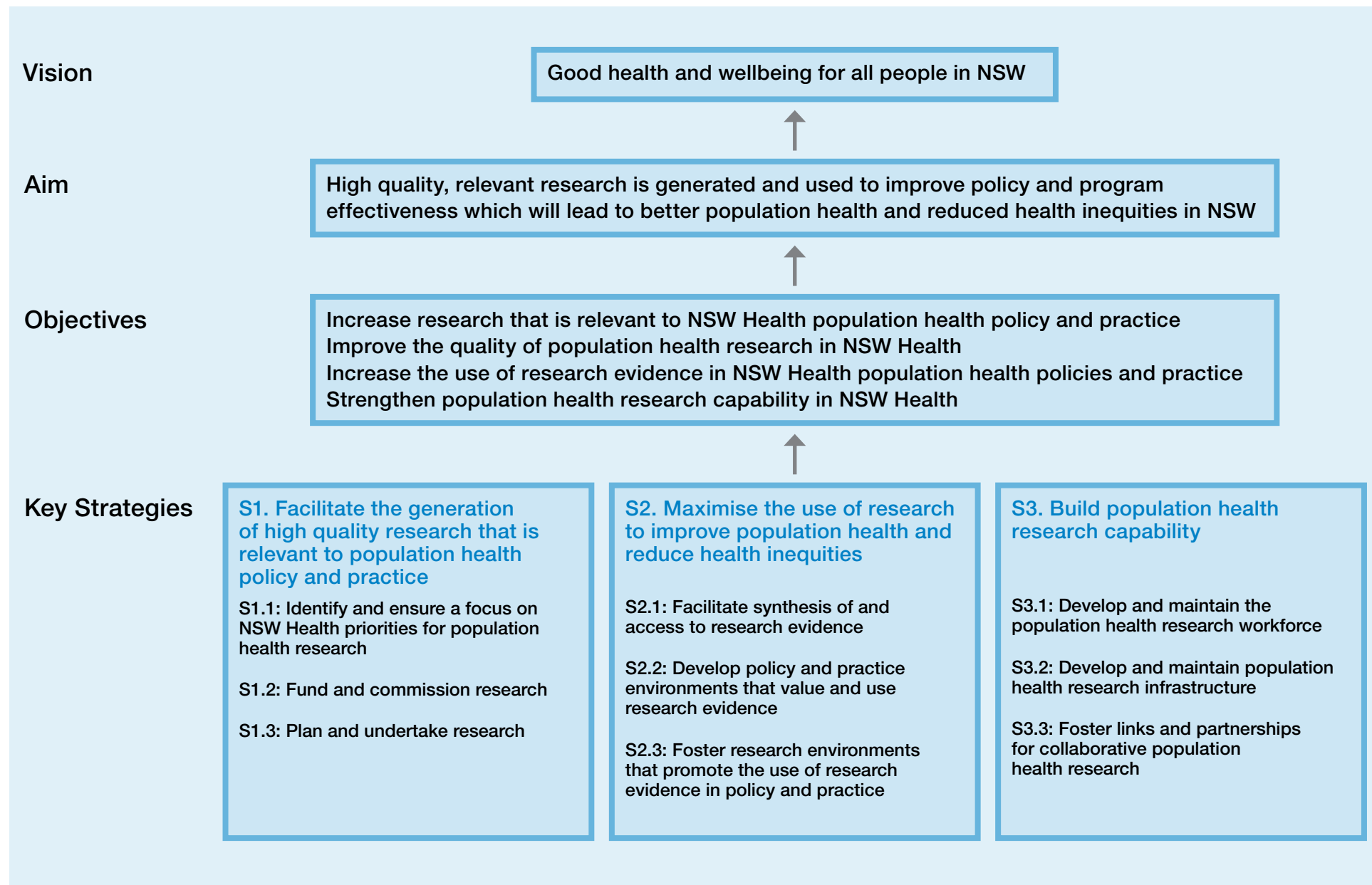


Table 1: Strategies and actions at a glance++

S1. Facilitate the generation of high quality research that is relevant to population health policy and practice	S2. Maximise the use of research to improve population health and reduce health inequities	S3. Build population health research capability
S1.1: Identify and ensure a focus on NSW Health priorities for population health research	S2.1: Facilitate synthesis of and access to research evidence	S3.1: Develop and maintain the population health research workforce
Establish and facilitate a process for identifying and updating population health research priorities for NSW Health	Develop a statement on publication of population health research funded or conducted by the PHD	Continue to administer current NSW Health training programs: the Biostatistical and Public Health Officer Training Programs*
Ensure that research funded and conducted by the PHD is aligned to identified NSW Health population health research priorities	Consider mechanisms for the provision of editorial and publications assistance for PHD Centres	Establish the Aboriginal Population Health Training Initiative
Ensure that identified population health research priorities are communicated to senior levels within the NSW government	Ensure that the use of existing NSW Health population health datasets promotes equity	Establish a NSW Health population health research fellowship program
Publish current NSW Health population health research priorities on the NSW DoH Research website	Establish mechanisms to ensure ready access to research findings and research syntheses	Facilitate access for NSW Health staff to research training opportunities offered through external organisations
		Include local research personnel in research and evaluations relating to NSW Health state-wide population health programs
		Support workforce development opportunities*
		Improve communication among NSW Health population health networks regarding research training opportunities
		Improve the use of technologies to ensure equity of access to research training opportunities
S1.2: Fund and commission research	S2.2: Develop policy and practice environments that value and use research evidence	S3.2: Develop and maintain population health research infrastructure
Ensure the use of evidence, evaluation and monitoring in relevant NSW DoH population health policies and programs	Encourage an organisational culture that supports the use of research evidence in policy and practice	Continue to fund and periodically review current infrastructure programs and initiatives*
Maintain the NSW DoH Population Health Research Group*	Develop a module on using research evidence in policy and practice for NSW DoH staff training programs	Publish an outline of the major datasets held by the DoH on the NSW DoH Research website
Publish an outline of research funding opportunities available through the PHD on the NSW DoH Research website	Encourage and assist PHD Centres to establish knowledge broker functions within funded research centres	Publish an outline of the major infrastructure assets supported by the PHD on the NSW DoH Research website
	Investigate the establishment of research indicators in the performance agreements of PHD Centre Directors and Directors of Population Health at the local level	Publish a description of the work focus of PHD-funded organisations on the NSW DoH Research website
	Strengthen researcher-practitioner engagement*	

S1.3: Plan and undertake research	S2.3: Foster research environments that promote the use of research evidence in policy and practice	S3.3: Foster links and partnerships for collaborative population health research
Undertake priority research projects across the PHD and local population health services	Ensure that all research funded and conducted through the PHD includes strategies for use of the research in policy and practice	Conduct negotiations with relevant universities regarding issues around population health research funding and partnerships
Support the implementation of the Research Governance Framework for NSW Health*	Encourage PHD-funded research centres to engage with policy-makers and practitioners	Encourage collaboration with external organisations on NHMRC Partnership Grants, ARC Linkage Grants and other grant opportunities
Support the implementation of policies and procedures for ethical review and site authorisation of low and negligible risk research*	Include instances of use of research in policy and practice in the listing of PHD research projects on the NSW DoH Research website	Strengthen collaboration and partnerships with those who are likely to be affected by research
Develop and implement a surveillance strategy		Continue to work with the Mental Health and Drug and Alcohol Office on preventive population health research initiatives*
Publish a list of population health research projects funded or conducted through the PHD on the NSW DoH Research website		Hold a biennial research showcase
		Publish an organisational chart for the PHD and roles of PHD Centres and Branches on the NSW DoH Research website
		Publish a list of official networks supported by the PHD on the NSW DoH Research website
		Promote the NSW DoH Research website and relevant NSW population health research initiatives

++Actions to improve communication regarding population health research within NSW Health and with relevant agencies external to NSW Health form a large part of the program of work described in this Strategy. These actions are shaded in green

*Indicates actions which are currently underway.

PHD: Population Health Division of the NSW Department of Health

DoH: Department of Health

NHMRC: National Health and Medical Research Council

ARC: Australian Research Council

Key strategies for population health research

Strategy 1 Facilitate the generation of high quality research that is relevant to population health policy and practice

The NSW Department of Health Population Health Division is responsible for setting direction for population health research for NSW Health, funding and commissioning research, and planning and undertaking research in partnership with local population health services and agencies external to NSW Health.

Strategy 1.1 Identify and ensure a focus on NSW Health priorities for population health research

The value of focusing on policy-driven research, while acknowledging the role of investigator-led research, has been emphasised in recent reviews of research in Australia and NSW.^{4,10-12} In addition, priority-setting and supporting research that is aligned with identified priorities are key elements of population health research strategies in other jurisdictions and countries.¹⁶

As research priorities will change over time, this 5-year Strategy does not specify population health research priorities for NSW Health. Rather it establishes processes for identifying, periodically updating and disseminating priorities and ensuring that research funded and conducted by the Population Health Division is aligned with these priorities.

Having clear, communicated population health research priorities will:

- foster links and partnerships within NSW Health and with agencies external to NSW Health including academic institutions
- encourage potential partners to align their research with the NSW Health priorities
- allow potential applicants to tailor grant applications when applying for NSW Department of Health funding
- inform those seeking NSW Health involvement in partnership grants of areas of interest to NSW Health
- assist the Population Health Division in responding to requests for research funding.

Principles and criteria for setting population health research priorities have been included here to assist Population Health Division Centres in the identification of research priorities for their policy area. These principles and criteria could also be used by local population health services to apply the priorities identified by the Population Health Division to local circumstances and to identify whether there are additional priorities in their local area.

Retaining flexibility to address emerging priorities is crucial. For instance, it will be important to allow additional priorities to be identified in response to natural, social or economic events, major population gatherings and disease outbreaks.

Principles of effective priority setting

- Involve all stakeholders (e.g. funders, researchers, policy-makers, practitioners, community-managed organisations, the public)
- Ensure that robust, transparent criteria are used
- Ensure that all relevant evidence is taken into account
- Develop capacity for systematic prediction of population health issues requiring research
- Build in flexibility to conduct research on emerging population health issues.

Criteria for identifying population health research priorities

Health priorities are defined in national and state policy documents, but not all health priorities require a concerted research effort. Population health research priorities should meet several at least of the following criteria:

- Research evidence within the priority area can make a difference to decision-making
- Relevance to current population health strategic priorities (national and state health priorities and policies that affect population health, national research priorities)
- Research addresses gaps in knowledge (e.g. complements existing research, adds value, is timely)
- Relevance to addressing health inequities within the NSW population
- Anticipated return on investment through the use of research evidence in population health policy, services or programs in the short term and health benefits to the NSW population in the medium term. This criterion is not restricted to evaluations of interventions, but could include other types of research such as epidemiological and sociological research that informs practice.
- Areas of research or practice excellence (e.g. builds on research strengths, uses existing data collections, provides a competitive advantage) are used to advantage
- Opportunities are provided for collaboration and partnerships (between researchers and policy-makers and practitioners, with academic institutions and research institutes, community-managed organisations and industry).

Research priority formats

Research priorities can be set:

- at a broad level (e.g. environmental health, healthy weight)
- at an intermediate level (e.g. water safety, physical activity, resilience)
- at the level of specific research questions (e.g. what are the best strategies for increasing fruit and vegetable intake among school children).^{16,17}

Priorities can also be defined by:

- population group (e.g. Aboriginal people; older people; children; gay, lesbian, bisexual and transgender communities; people affected by hepatitis C)
- setting (e.g. rural and remote areas)
- research types (e.g. intervention research, health economic research)
- issues (e.g. health equity, health systems access, emerging threats to health, determinants of health).

Current actions

Provide ongoing forums for discussion of research priorities involving all stakeholders (see case study below)

Prioritise policy-relevant research topics at the Centre level within the Population Health Division

Case Study

The Health Promotion Sub-Committee of the Ministerial Advisory Committee on HIV and Sexually Transmissible Infections

Since 2000, HIV prevention in NSW has been overseen by a Health Promotion Sub-Committee of the Ministerial Advisory Committee on HIV and Sexually Transmissible Infections. The Sub-Committee meets quarterly, and its ongoing work demonstrates how interactions between researchers, community-based and public-sector educators and policy-makers can enable the development of a responsive and strategically targeted research agenda that is integral to effective evidence-informed policy and programs. This flexible, timely and iterative relationship between response partners is highlighted in the following example.

By 2007, HIV diagnoses had been increasing in homosexual men for almost a decade in many developed countries. Rates had doubled since the nadir in the late 1990s in some Australian jurisdictions. In contrast, apart from a brief increase in 2002, HIV diagnoses in homosexual men in NSW had remained stable. There was discussion about whether this exceptional pattern was real, or whether diagnoses were increasing but were not recorded by the surveillance system in NSW. In response the Sub-Committee decided that a comprehensive review of the HIV epidemic in NSW was required. The review took the form of a Think Tank entitled *Why are HIV notifications in NSW flat?* Scientists from across the spectrum of HIV public health were assembled and undertook a 6 month process of enquiry and review to ensure that all possible explanations for the lack of increase in HIV diagnoses in NSW were considered. The Think Tank invited scientists, the leadership of community-based organisations, clinicians, public-sector health promoters and those responsible for the Government's policy response to consider the evidence. The result was clear: sustained and sufficient investment in NSW had provided the capacity for health promotion efforts to decrease HIV risk behaviour, which meant that NSW had avoided the increases in HIV rates seen elsewhere in homosexual men, where long-term data were available.

Research efforts were then focused on new initiatives to support the translation of evidence into practice, such as regular social research briefs and health promotion demonstration projects; providing community-based partners with an integral role in the conduct of research and a shift in the research focus to include issues such as sexual adventurousness and the salience of HIV to the lives of gay men.

What we will do

S1.1.1

Establish and facilitate a process for identifying and updating population health research priorities for NSW Health, including:

- the regular assessment by each Centre in the Population Health Division of research priorities for its policy area, based on the identified principles and criteria and involving all stakeholders in the process.

S1.1.2

Ensure that research funded and conducted by the Population Health Division is aligned to identified NSW Health population health research priorities, through:

- a regular assessment of whether Population Health Division research aligns with identified priorities
- adjustment of Population Health Division funding processes or priorities if necessary.

S1.1.3

Ensure that identified population health research priorities are communicated to senior levels within the NSW government.

S1.1.4

Publish current NSW Health population health research priorities on the NSW Department of Health Research website.

Strategy 1.2 Fund and commission research

NSW Health makes a significant investment in population health programs. It is essential that: policies and programs are developed and implemented using the best available evidence; new evidence is generated where needed; and the impact of our policies and programs is assessed through appropriate evaluation and monitoring.

The funding and commissioning of research to support NSW Health population health policies and programs occurs through the relevant Centre within the Population Health Division but there are potential synergies between the Centres' funding procedures that have yet to be explored. More consistent funding processes would reduce workload within the Population Health Division and make it easier for potential funding applicants. The NSW Department

of Health internal Population Health Research Group provides a mechanism for improving communication and collaboration across the Population Health Division Centres with regard to administrative processes and models for funding research and identification of common research issues.

Enhanced transparency about research funding available through the Population Health Division will ensure all potential applicants have equal opportunity to apply. Information about what has been achieved through the Population Health Division research investment is required to promote the breadth of research supported by the Division, to provide external partners with information about the research focus of the Population Health Division Centres, to foster partnerships for research and to broaden the potential use of the research.

Current actions

Administer grant schemes to fund population health research in NSW, e.g. NSW Health Promotion Demonstration Research Grants Scheme

Support Population Health Division-funded research centres, e.g. Physical Activity, Nutrition and Obesity Research Group at the University of Sydney, an Injury Prevention Research Centre at the University of NSW

Fund evaluations of state-wide policies and programs, e.g. NSW Falls Prevention in Older People Plan 2010-2013 Evaluation and Monitoring Framework

Commission specific research projects, e.g. Lane Cove Tunnel Study, Sydney Diabetes Prevention Program, NSW Falls Prevention in Older People Baseline Survey

Case Study

The NSW Health Promotion Demonstration Research Grants Scheme

In 2000 the Centre for Health Advancement, NSW Department of Health, developed the NSW Health Promotion Demonstration Research Grants Scheme. This is a priority-driven research scheme which funds Area Health Services to conduct rigorously designed, practice-based, effectiveness research. This type of research is rarely funded through other public health research schemes.

The aims of the Scheme are to:

- build an evidence base to support policy development and health promotion practice in NSW
- contribute to the knowledge base for health promotion
- build health promotion research and evaluation workforce capacity.

From 2000 to 2008 the Scheme awarded almost \$3.5M in health promotion research grants to 17 projects. Funding increased from \$529,811 in 2000 to \$876,365 in 2008. In the current 2010 round, \$1M were available and two projects were recommended for funding.

The Health Promotion Demonstration Research Grants Scheme has contributed to evidence on health promotion interventions and influenced NSW health strategy. For instance, the benefits of Tai Chi for reducing risk of falling in older people was demonstrated in a grant project, and subsequently contributed to the inclusion of Tai Chi as a prevention strategy in the NSW Health *Management Policy to Reduce Fall Injury Among Older People, 2003 to 2007*.

The importance of the Scheme to building health promotion research capacity in NSW is demonstrated by the completion of three Doctor of Philosophy degrees and the current enrolment of two project staff in postgraduate studies.

Further information about the NSW Health Promotion Demonstration Research Grants Scheme and reports of completed projects are available at: <http://www.health.nsw.gov.au/publichealth/healthpromotion/grants/index.asp>

What we will do

S1.2.1

Ensure the use of evidence, evaluation and monitoring in relevant NSW Department of Health population health policies and programs, through:

- a requirement in the annual performance agreement between Population Health Division Centre Directors and the Deputy Director-General Population Health and Chief Health Officer
- a regular assessment of relevant Population Health Division policies and programs regarding their evidence base and evaluation component
- development of a module or guidelines, or both, on how to include evaluations in policies and programs for NSW Department of Health staff training programs (open to state and local NSW Health staff).

S1.2.2

Maintain the NSW Department of Health Population Health Research Group, which:

- includes representatives from Centres within the Department of Health who are responsible for research or administration of research related to population health
- identifies and works to address common issues, standardise administrative processes (where possible), encourage strategic collaboration (including joint funding of research where appropriate) and advocate for an increased focus on population health research within NSW Health.

S1.2.3

Publish an outline of research funding opportunities available through the Population Health Division on the NSW Department of Health Research website, that will include:

- strategic goals and objectives
- source of funding
- amount of funding
- eligibility requirements
- timeframes
- contact person
- current recipients
- main achievements to date.

Strategy 1.3 Plan and undertake research

In addition to funding and commissioning research, staff within the Population Health Division also undertake research, many in conjunction with external partners. At the local level, investment in research varies greatly across the different population health services in NSW. Where a significant investment in research has been made by local population health services over a period of time, this has resulted in a strong return on investment, through success in attracting additional research funding and through improved service delivery and better health outcomes (see case study below).

Involvement of population health services in research endeavours should be encouraged to help build the evidence base and research capacity, enhance job satisfaction and advancement, foster the use of research

evidence in practice and hence improve programs and the health of the population. At the local level, and particularly for smaller population health services, collaborative research with other services or external partners has many benefits. Such collaborations may assist with attainment of sufficient sample size to ensure reliable results and the appropriate mix of research skills required for rigorous, high quality research.

The establishment of priority research projects across the Population Health Division and local population health services will bring together expertise at the state and local level, ensure projects are large enough to provide valid results and foster collaboration and translation of research evidence.

An area that is common to all population health research at the national, state and local level is the need to facilitate the ethical conduct of research and clarity and consistency around research ethics and governance processes. The NSW Department of Health has been working with the National Health and Medical Research Council (NHMRC) and other agencies on streamlining these processes at the national level. In addition, the Department of Health, through the Centre for Epidemiology and Research, has a program of work underway which involves updating NSW Health ethics and research governance policies and procedures and a training program for research governance officers and researchers.

Current actions

Conduct research in collaboration with local population health services and academic institutions, e.g. evaluation of the Good for Kids Program, the Sydney Diabetes Prevention Program, investigations of the impact of pandemic influenza A (H1N1) in NSW and the Healthy Built Environments program

Monitor and report on the health status of the NSW population, using tools such as the NSW Health Survey Program, Public Health Real-time Emergency Department Surveillance System (PHREDSS), Report of the Chief Health Officer, NSW Register of Congenital Conditions and NSW Mothers and Babies Report, Communicable Diseases Surveillance, Sexually Transmissible Infections and Blood Borne Viruses in Aboriginal Communities Survey, the biannual Sydney Gay Community Periodic Surveys and the NSW Falls Prevention in Older People Monitoring Survey

Develop and implement standardised policies and procedures for research governance and ethics in NSW, found at <http://www.health.nsw.gov.au/ethics/research/policies.asp>, and train Research Governance Officers, Human Research Ethics Committee Executive Officers and researchers

Case Study

Hunter New England Population Health

Hunter New England Population Health has a focus on excellence in the delivery of evidence-informed health promotion and health protection services, and the development of a highly skilled population health workforce. One strategy it applies to achieve these outcomes is to integrate service development research and evaluation into routine service delivery practice. This approach ensures maximal alignment of research initiatives with service delivery priorities, and real-time translation of research findings into practice.

Characteristics of the organisation that support such integration include: recruitment of staff with research and research translation expertise; explicit investment in research and evaluation workforce development initiatives; and provision of a supportive research and evaluation infrastructure. In addition, strong collaborative relationships have been established with a number of universities, with such relationships resulting in the establishment of co-funded positions, conjoint appointments, post doctoral fellowships, post graduate scholarships and student placements.

Within the service these strategies currently support five post doctoral fellows and 10 doctoral students, three-quarters of whom are permanent staff, with all engaged in initiatives related to core service delivery priorities. These staff and their research work are primarily funded through competitive external grant sources such as the NHMRC and ARC. In addition to the establishment of these positions, all service delivery staff are supported to participate in service development research and evaluation in the context of their service role.

As a consequence of such strategies, the organisation has a culture of excellence in service delivery that involves: critical review of current evidence; service delivery that is subject to peer review; continual service improvement; and recruitment and retention of staff committed to operational research and evidence-informed practice. Such a culture has provided a platform for the achievement of enhanced financial, workforce and service delivery outcomes.

What we will do

S1.3.1

Undertake priority research projects across the Population Health Division and local population health services, by:

- identifying priority projects
- bringing together teams to undertake the work.

S1.3.2

Support the implementation of the Research Governance Framework for NSW Health (http://www.health.nsw.gov.au/policies/gl/2011/pdf/GL2011_001.pdf), including:

- issuing a Department of Health Guideline on research governance to support health services to put in place their own Research Governance Framework
- hosting biannual meetings of Directors of Research (or equivalent) from local health services to facilitate discussions on resolving common issues and sharing best practice
- providing training for researchers in research ethics and ethics application processes
- ongoing development of standard processes for key components, such as monitoring of authorised research projects.

S1.3.3

Support the implementation of policies and procedures for ethical review and site authorisation of low and negligible risk research (http://www.health.nsw.gov.au/policies/pd/2010/pdf/PD2010_055.pdf), including:

- hosting regular meetings of Human Research Ethics Committee (HREC) Executive Officers and Research Governance Officers to provide information on and support for implementation of new policies and procedures
- holding a series of forums for information dissemination
- providing written communications for system users, including applicants.

S1.3.4

Develop and implement a surveillance strategy, that:

- provides a long-term plan for population health surveillance
- identifies and addresses data gaps
- prioritises infrastructure needs
- identifies ways to maximise the use of the data for research purposes.

S1.3.5

Publish a list of population health research projects funded or conducted through the Population Health Division on the NSW Department of Health Research website, that will include:

- research topic
- source of funding
- contact person
- links to websites of research centres funded by the Population Health Division.

Strategy 2 Maximise the use of research to improve population health and reduce health inequities

Policy and program development is subject to a range of influences including competing interests, the pressure to act quickly and, importantly, by public values and democracy.¹⁸ However, in times of limited resources and competing demands, NSW Health must invest in policies and programs that are most likely to deliver the desired outcomes. High quality research evidence is therefore crucial for effective and efficient population health practice.^{4,18}

NSW Health needs to know what the challenges will be in the future, what programs are most likely to meet those challenges effectively, and what will represent the best return on investment. An essential part of answering these questions is being able to access and understand the latest evidence from research.

Population health research evidence takes a variety of forms and a range of evidence is required for comprehensive policy and program development. Different types of research can be described in terms of 'stages of evidence-building'. For instance, surveillance data can help to define the population health issue; formative evaluation provides evidence for solution generation; research on effectiveness of interventions is needed to guide major decisions about program investment (at the innovation testing, intervention demonstration and dissemination stages); and program monitoring affords information about program sustainability.⁵

It is vital that any new population health research results in practical outputs for policy-makers and practitioners and that we maximise the use of currently held data and knowledge. Data relevant to population health come not only from the defined population health sector, but also from other areas such as mental health, drug and alcohol, housing and employment, through government, academic

and community-managed organisations. We must ensure that the knowledge gained from this research is transferred to the government departments and other agencies responsible for implementing the policies and programs that will ultimately lead to better health outcomes.

This Strategy focuses on three main approaches to maximise the use of research to improve population health and reduce health inequities, based on a recent review:¹⁹

- facilitating the synthesis of and access to research evidence
- developing policy and practice environments that value and use research evidence
- fostering research environments that promote the use of research evidence in policy and practice.

Other actions identified in the review¹⁹ have been included elsewhere in this Strategy, for example, actions to ensure that new evidence generated from research is relevant to NSW Health population health research priorities have been included under Strategy S1.1 (priorities for population health research) and actions to promote exchange between researchers and policy-makers have been included under Strategy S3.3 (links and partnerships for collaborative population health research).

Strategy 2.1 Facilitate synthesis of and access to research evidence

Publication of research results is essential for fostering the uptake of evidence in policy and programs. To ensure that population health research that is funded and conducted by state and local population health services is widely known and translated into practice, the publication of the results in peer-reviewed journals and other relevant forums will be encouraged and supported.

Policy-makers and practitioners often need to access results of research in an easy-to-understand format within a short timeframe. Reviews of evidence select research studies according to their quality and relevance and synthesise the results. The dissemination of research results and summaries, and the publishing of results in appropriate formats and forums, are essential to improving awareness of recent findings among policy-makers and practitioners. Locating relevant summaries of research in a central repository will facilitate access and encourage use.

Current actions

Fund and support research centres that produce and disseminate reviews of evidence relevant to policy and practice as part of their core business, e.g. the Sax Institute's **Evidence Check** Program and **Pulse e-bulletin**, the Physical Activity, Nutrition and Obesity Research Group's (PANORG) **Evidence Modules**

Publish the NSW Public Health Bulletin: a peer-reviewed journal for publication of population health research and practice

Case Study

Evidence Check: Evidence and Research to Inform Policy

Evidence Check is a means of assisting organisations to gather the best and most relevant research evidence to inform their policy making and program development. Through *Evidence Check*, the Sax Institute facilitates reviews of existing research and evidence tailored to the individual requirements of a policy maker. A Sax Institute knowledge broker meets with the policy maker to discuss the needs of their organisation, and to translate these needs into research amenable questions. The Institute then commissions an expert researcher to answer those questions and provide a concise, policy-friendly review which includes:

- What evidence exists in relation to the particular program or policy area
- Whether there are any gaps in this evidence
- The researcher's opinion on the quality of the evidence
- The researcher's opinion, in the light of the evidence, as to what might work best and be the most cost effective in the particular policy setting, i.e. what might be the best bets or best buys for the policy or program.

Agencies can commission an *Evidence Check* review by contacting the Manager, Knowledge Transfer Program at director@sxainstitute.org.au or by phoning the Manager on (02) 9514 5950.

For more information about the *Evidence Check* program, see the Sax Institute website: <http://www.sxainstitute.org.au/policyresearchexchange/EvidenceCheckReviews.cfm?objid=945>

What we will do

S2.1.1

Develop a statement on publication of population health research funded or conducted by the Population Health Division, to assist Population Health Division staff to publish their research, including:

- principles of publication of research findings
- publication of commissioned research
- publication of research conducted by the Population Health Division or in partnership with the Population Health Division.

S2.1.2

Consider mechanisms for the provision of editorial and publications assistance for Population Health Division Centres, to assist with:

- developing strategies for dissemination of research findings

- writing for journal publication
- writing for other audiences, e.g. policy-makers and practitioners, other departments and major stakeholder groups, and the general public.

S2.1.3

Ensure that the use of existing NSW Health population health datasets promotes equity, by:

- exploring gaps in data collection systems with the aim of providing enhanced demographic information for the purpose of measuring equity
- exploring other methods of monitoring health of marginalised groups through health data linkage, and using data from social welfare agencies.

S2.1.4

Establish mechanisms to ensure ready access to research findings and research syntheses, including:

- informing NSW Health staff of processes available for commissioning research syntheses
- publishing summaries of evidence funded or conducted through the Population Health Division (or links to these summaries of evidence) on the NSW Department of Health Research website
- developing a portal that provides links to research syntheses (both NSW Health and external)
- publishing a plain language summary of the results of research projects funded or conducted by the Population Health Division (and links to project reports and publications) on the NSW Department of Health Research website.

Strategy 2.2

Develop policy and practice environments that value and use research evidence

Decision-makers and practitioners must have the incentive and ability to understand and use research evidence to maximise the influence of research on policy and practice. A supportive organisational culture that values research evidence, as well as training, tools and resources to assist decision-makers in their use of research are key elements in this regard. Increasing the use of knowledge brokers and opportunities for exchange between researchers and policy-makers and practitioners can help to build common understanding and foster effective joint initiatives.

Current actions

Fund and support research centres to hold forums that facilitate exchange between researchers and policy-makers

Support evidence-based practice seminars for local population health services

Partner in the new Centre for Informing Policy in Health with Evidence from Research (CIPHER), funded under the NHMRC Centres of Research Excellence Scheme, which will build knowledge about what works to increase the use of evidence in policy

Case Study

The NSW Health Aboriginal Health Promotion Funding Program

The NSW Aboriginal Health Promotion Funding Program is managed and coordinated by the Centre for Aboriginal Health. The program has been operational for over a decade and has provided funding and resources to both the Aboriginal Community Controlled Health and Area Health Services to support Aboriginal Health Promotion Program activity.

The goal of the NSW Aboriginal Health Promotion Program is to prevent the onset of chronic disease and injury in Aboriginal school age-to-adulthood populations in NSW through the provision of targeted primary prevention health promotion interventions that modify major behavioural chronic disease risk factors.

The program will seek to identify NSW Health's target population and priorities for primary prevention health promotion based on the application of epidemiological data. It will set out state-wide program principles and standards for the delivery of programs under the Aboriginal Health Promotion Program.

These principles and standards are based on evidence-informed best practice and will ensure quality and consistency of performance across all Area Health Services.

NSW Health has identified five priorities for action under the NSW Aboriginal Health Promotion Funding Program based on the following behavioural risk factors:

- Smoking
- Physical activity
- Nutrition
- Alcohol
- Injury prevention.

Under this Program, Area Health Services will be funded to provide primary prevention interventions that are based on available evidence.

The current Program is conducting Health Promotion Capacity Building workshops across NSW. These workshops have been designed to provide support to the health promotion and Aboriginal health workforces to:

- make sense of the research evidence on effective preventive health with Aboriginal communities
- develop a program logic for state and local health promotion efforts (differentiating initiative, program and policy logics)
- develop a plan of action for implementation of logic maps in the workplace.

What we will do

S2.2.1

Encourage an organisational culture that supports the use of research evidence in policy and practice, by:

- promoting the Population Health Division as a learning entity that examines the effectiveness of its policies and programs and disseminates and uses the findings
- incorporating the use of research evidence into Population Health Division policies and job descriptions
- including a requirement in all contracts that commissioned work be evidence informed (to the extent that evidence is available)
- including a requirement in all contracts that commissioned research employ the most appropriate methodologies for the issue(s) being addressed

- requiring policies and practice guidelines produced by the Population Health Division to include reference to the research evidence supporting the policy or practice.

S2.2.2

Develop a module on using research evidence in policy and practice for NSW Department of Health staff training programs (open to state and local level NSW Health staff; module based on existing programs), including:

- types of research evidence
- finding and using research evidence
- critical appraisal of research papers and research syntheses
- using existing infrastructure available to NSW Health such as the Clinical Information Access Program (CIAP), web-searching and library resources

- tools and resources to assist with using research evidence
- good examples of use of research evidence at state and local levels
- what to do when there is a dearth of evidence.

S2.2.3

Encourage and assist Population Health Division Centres to establish knowledge broker functions within funded research centres, to help:

- broker relationships with NSW Health (at the state and local level)
- identify research questions to be addressed by the funded research centre
- communicate research findings to NSW Health staff
- policy-makers and practitioners to identify, interpret and use research evidence.

S2.2.4

Investigate the establishment of research indicators in the performance agreements of Population Health Division Centre Directors and Directors of Population Health at the local level.

S2.2.5

Strengthen researcher-practitioner engagement by:

- encouraging all Population Health Division-funded research centres to include researcher-practitioner forums in their work program and to ensure access for those from rural areas
- establishing 'deliberative dialogues'²⁰ between researchers, practitioners and other major stakeholders around important policy and practice issues
- holding annual forums promoting the research conducted by organisations funded under the NSW Health Capacity Building Infrastructure Grants Program.

Strategy 2.3 Foster research environments that promote the use of research evidence in policy and practice

The influence that research evidence will have on policy and practice and on the health of the population should be considered at the outset of the research planning process. The most effective ways to ensure that researchers take the use of their research into consideration in the development of their projects are to encourage exchange with decision-makers, make strategies for the use of research a formal part of the research application process and promote examples of where research has been used in policy and practice.

Current actions

Require strategies for use of research outcomes in applications for Population Health Division research grant funding, e.g. NSW Health Promotion Demonstration Research Grants Scheme and Capacity Building Infrastructure Grants Program

Encourage conjoint university appointments for population health staff

Include a higher academic qualification in the Public Health Officer Training Program, i.e. Doctorate of Public Health

Case Study

The Role of Laboratory Research in Communicable Disease Control and Management

The Centre for Infectious Diseases and Microbiology - Public Health, a research group within the Centre for Infectious Diseases and Microbiology at Westmead Hospital, comprises a large microbiological diagnostic and public health laboratory and clinical infectious diseases services. The Centre's work is supported by a Capacity Building Infrastructure Grant from NSW Health. The focus of the research agenda is to improve the prevention, control and management of communicable diseases by:

- developing faster, more accurate methods to identify and 'fingerprint' pathogens of public health importance
- developing informatics tools to integrate and analyse large clinical, microbial and epidemiological datasets
- using these methods (among others) to: study the epidemiology of infectious diseases of public health importance, their antimicrobial resistance and arthropod vectors; improve routine communicable disease surveillance and outbreak investigation; evaluate the efficacy and cost-effectiveness of control programs; and develop risk assessment and decision-support tools.

The Centre's close links with the NSW government, including representation from NSW Health on its Scientific Advisory Committee, ensures that research is closely tied to current research priorities and directly relevant to public health decision-making. The application of the research results is considered early on in the research process, as illustrated in the following example.

Several years ago, the NSW Department of Health Communicable Diseases Branch and the NSW Food Authority identified a need for faster, more discriminatory molecular strain typing of the commonest notified cause of food-borne pathogen, *Salmonella* Typhimurium, so that outbreaks could be identified and controlled more rapidly. Preliminary research by a postdoctoral fellow at the Centre for Infectious Diseases and Microbiology - Public Health was the basis of a successful NHMRC grant to develop novel methods for strain typing of *S. Typhimurium* and a spatiotemporal monitoring system to provide rapid early warning of disease clusters. This system is now in routine use for food-borne disease surveillance and further research and evaluation is continuing, in collaboration with the Communicable Diseases Branch.

What we will do

S2.3.1

Ensure that all research funded and conducted through the Population Health Division includes strategies for use of the research in policy and practice, through:

- a regular assessment of whether Population Health Division funding processes require the inclusion of strategies for use of the research results and evidence of involvement of policy-makers or practitioners in research and translation processes.

S2.3.2

Encourage Population Health Division-funded research centres to engage with policy-makers and practitioners, through:

- inclusion of requirements for engagement in funding contracts.

S2.3.3

Include instances of use of research in policy and practice in the listing of Population Health Division research projects on the NSW Department of Health Research website, including:

- how and when the research was used in policy or practice
- organisations affected
- benefits that have accrued as a result.

Strategy 3 Build population health research capability

A key enabler for the generation and use of high quality, relevant population health research is the enhancement of research capabilities. In this Strategy, research capability includes improving the capacity of the workforce to commission, undertake and use research, the development of appropriate research infrastructure and the promotion of relevant collaborations and partnerships.

Strategy 3.1 Develop and maintain the population health research workforce

Quality research requires the involvement of researchers with appropriate skills, either in the conduct of the research or as supervisors of less experienced researchers. Building workforce capacity can be achieved through direct means,

such as the provision of training, mentoring, fellowship or scholarship programs, or through less direct means of skills transfer such as involvement in collaborative projects (particularly with academic partners), state-wide initiatives or professional networks.¹⁶

Increased capacity to undertake and use research is required at different levels and for different purposes within population health services at the state and local level.¹⁵ For instance, there is an increasing need to ensure rigorous application of appropriate research methodologies to address complex issues. In addition, there are specific issues regarding research capacity in rural areas that relate to smaller staff numbers, greater distances and fewer research institutes (and therefore less direct access to mentoring and partnerships) and to more limited access to training opportunities. Solutions are, to a certain extent, likely to lie in improved use of technologies.

Current actions

Lead NSW Health population health training programs, e.g. Biostatistical Officer Training Program and Public Health Officer Training Program

Support NSW Health population health networks and associated training opportunities, i.e. NSW Health Promotion Research and Evaluation Network, NSW Health Promotion Workforce Development Network, Public Health Informatics and Epidemiology Network, Immunisation Network, Environmental Health Network, Infectious Diseases Network, Biopreparedness Network

Fund schemes and programs that enhance workforce capacity for population health research and encourage academic partnerships, e.g. NSW Health Promotion Demonstration Research Grants Program, NSW Health Capacity Building Infrastructure Grants Program, Healthy Built Environments Program

Hold training sessions, workshops and seminars, e.g. Bug Breakfast, Epi-SIG, Epi Grand Rounds (a monthly communicable diseases journal club), NSW Health Promotion Symposium

Case Study

Building Biostatistical Capacity in NSW – the NSW Biostatistical Officer Training Program

The need for evidence-informed population health and the associated volume of increasingly complex health data has resulted in a growing demand for high-level biostatistical skills within the population health workforce across NSW. In recognition of this need, the NSW Department of Health established a 3 year Biostatistical Officer Training Program in 2000 within the Centre for Epidemiology and Research. The Program aims to increase the biostatistical capacity of the NSW health system.

Trainee Biostatistical Officers are supported financially to undertake the Biostatistics Collaboration of Australia Master of Biostatistics degree through the University of Sydney part-time (through distance learning). The Trainees are employed by the NSW Department of Health to work full-time in six, 6-monthly placements where they apply the biostatistical theory from their coursework to current population health research projects.

Placements are offered in population health research units in NSW Health facilities and allied university departments throughout the greater Sydney metropolitan area. The work placements form part of the assessment for the Masters degree and a portfolio based on work over the 3 years is jointly assessed by the Department and the University. The portfolio is compiled on the basis of work-based competency standards developed for the Program in study design, statistical analysis, data management, professional practice, communication and management.

As well as direct involvement in research studies, other ways in which Trainees increase biostatistical capacity in the NSW health system are through statistical consultancies and the development of statistical analytical tools and reporting systems. The cohort of Trainees provides a statistical consulting service to the Rural Research Capacity Building Program of the Clinical Education and Training Institute - Rural Division to address the particular area of need for biostatistical support in rural NSW.

In 2010 there were 24 Trainees in the cohort and 19 have graduated to date.

What we will do

S3.1.1

Continue to administer current NSW Health training programs:

- Biostatistical Officer Training Program
- Public Health Officer Training Program.

S3.1.2

Establish the Aboriginal Population Health Training Initiative, including:

- competency-based work placements
- Master of Public Health qualifications for graduates.

S3.1.3

Establish a NSW Health population health research fellowship program that:

- produces high quality population health research that will deliver new knowledge in NSW Health population health priority areas

- supports the use of that research in NSW Health policy and practice
- builds the capacity of researchers, NSW Health and other organisations in NSW to conduct policy-relevant population health research
- allows rural Fellows to be based in their local area.

S3.1.4

Facilitate access for NSW Health staff (at the state and local level) to research training opportunities offered through external organisations, including training to improve:

- quantitative and qualitative research skills
- grant writing
- writing for publication.

S3.1.5

Include local research personnel in research and evaluations relating to NSW Health state-wide population health programs, where possible.

S3.1.6

Support workforce development opportunities, where this is possible within existing resources, including:

- researcher-policy-maker or researcher-practitioner exchanges
- enrolment of NSW Health staff in research study, including Masters courses, Doctoral courses and units of study offered by universities
- placement of research students in NSW Health policy and practice environments.

S3.1.7

Improve communication among NSW Health population health networks regarding research training opportunities, including:

- engaging funded research centres in networks
- promoting professional development events hosted by the various networks (and other training opportunities conducted by Centres in the Population Health Division) to other networks
- placing the networks' email lists on the NSW Department of Health learning and development distribution list for upcoming courses.

S3.1.8

Improve the use of technologies to ensure equity of access to research training opportunities, such as:

- web-conferencing.

Strategy 3.2 Develop and maintain population health research infrastructure

Research infrastructure for population health research has two main components:

- infrastructure funding for research organisations to cover essential institutional resources underpinning research that are not covered by research grants
- datasets and research assets (such as record linkage infrastructure and large scale cohort studies) which provide opportunities for analyses on large population samples at low cost.

Improved knowledge of the research focus of NSW Health-funded research centres and of how to access existing data and research assets will enhance opportunities for collaborative population health research in NSW. In particular, data linkage projects offer great potential for research into policy-relevant issues spanning prevention, detection and management of disease.

Current actions

Support the Capacity Building Infrastructure Grants Program which provides infrastructure funding to NSW research organisations that undertake public health and health services research

Provide infrastructure funding for research centres, e.g. Physical Activity, Nutrition and Obesity Research Group at the University of Sydney, an Injury Prevention Research Centre at the University of NSW

Provide direct or indirect infrastructure funding for NSW research assets, e.g. Centre for Health Record Linkage, 45 and Up Study (via core funding to the Sax Institute), Population Health Research Network

Streamline the e-CHO, i.e. revise the user interface for the electronic version of the NSW Health Chief Health Officer's Report

Invest in the SAS® Enterprise Business Intelligence server to streamline access to the Health Outcomes Information Statistical Toolkit (HOIST), i.e. revise the user interface for HOIST

Invest in ArcGIS and Quicklocate products to allow analysis of data in relation to geographical position and geographical features

Case Study

Cigarette Smoking and Tooth Loss in a Cohort of Older Australians: The 45 and Up Study

Data for longer periods after smoking cessation are scarce, and evidence regarding the possible effect of environmental tobacco smoke on tooth loss is limited. The 45 and Up Study provided an opportunity to investigate the relationship between edentulism (loss of all teeth) and self-reported smoking, long-term smoking cessation and exposure to environmental tobacco smoke.

Variables such as the number of teeth remaining and the smoking habits of approximately 100,000 NSW residents were recorded using a self-completed questionnaire. Other important socio-demographic variables were also recorded. A detailed description of the methodology used can be found elsewhere.¹

Findings from this study confirm that cigarette smoking is an important risk factor for tooth loss. Current smokers were at more than twice the risk of experiencing complete tooth loss compared with never smokers. Although there were clear benefits of smoking cessation, elevated risk attributable to smoking persisted for several decades, especially in heavy smokers.

This study provides further evidence of the important role oral health professionals should play in smoking prevention and supports the NSW Policy Directive PD 2009_046: Smoking Cessation Brief Intervention at the Chairside: Role of Public Oral Health/Dental Services.

¹ Arora M, Schwarz E, Sivaneswaran S, Banks E. Cigarette Smoking and Tooth Loss in a Cohort of Older Australians: the 45 and Up Study. *J Am Dent Assoc* 2010;141(10):1242-9.

What we will do

S3.2.1

Continue to fund and periodically review current infrastructure programs and initiatives, such as:

- the Capacity Building Infrastructure Grants Program
- Population Health Division-funded research centres - subject to ongoing relevance (to identified population health research priorities) and performance
- current research assets.

S3.2.2

Publish an outline of the major datasets held by the Department of Health (and links to dataset websites) on the NSW Department of Health Research website, that will include:

- data custodians
- questions, data items, data format
- whether they can be linked to other datasets
- how to request the data (and limitations on access)
- guidelines on the use of the data
- existing and new initiatives that provide instruction on how to use datasets
- ethical considerations.

S3.2.3

Publish an outline of the major infrastructure assets supported by the Population Health Division (and links to research asset websites) on the NSW Department of Health Research website, including the types of information listed under S3.2.2.

S3.2.4

Publish a description of the work focus of Population Health Division-funded organisations (and links to the organisations' websites) on the NSW Department of Health Research website.

Strategy 3.3 Foster links and partnerships for collaborative population health research

Effective partnerships for population health research underpin many of the strategies and actions in this document. Long-term programmatic engagement between researchers and policy-makers and practitioners has the greatest potential for enhancing the quality and relevance of population health research in NSW. Partnerships are particularly important for smaller population health services to promote skills development and increase success in attracting research funding.

Improved communication, which forms a large part of the program of work described in this Strategy, will foster better links for population health research: within the NSW Department of Health, between the NSW Department of Health and local population health services, between rural and metropolitan areas, with other government departments (e.g. education, employment, transport), with universities, and with community-managed organisations and other research organisations.

There is potential to enhance all of these links and partnerships, but a particular area of need is the improved communication and collaboration between NSW Health and university research departments, to support the alignment of NSW Health and university research agendas and capacities. Enhanced dialogue between academics and government about the benefits of involvement in policy-relevant research should underpin the development of such partnerships.

Another key area of work is to foster collaboration on population health research initiatives with branches of the NSW Department of Health that sit outside the Population Health Division, such as the Mental Health and Drug and Alcohol Office.

Improving links and partnerships through existing NSW Health professional networks is also important. These networks provide opportunities for exchange of ideas, foster research collaborations, prevent duplication of effort, reduce isolation and provide a critical mass for advocacy for population health research. There is potential for enhanced promotion of, and increased engagement in, these networks as well as the exploration and exploitation of synergies between networks.

Current actions

Support NSW Health population health networks, e.g. NSW Health Promotion Research and Evaluation Network, NSW Health Promotion Workforce Development Network, Public Health Informatics and Epidemiology Network, Immunisation Network, Environmental Health Network, Infectious Diseases Network, Biopreparedness Network

Encourage NHMRC Partnership Projects and ARC Linkage Projects which require collaboration between researchers and practitioners

Provide support for the Sax Institute that has, as part of its core business, meetings, seminars and workshops to facilitate exchange between researchers and policy-makers

Provide mutual support for population health research initiatives across Divisions within the NSW Department of Health, e.g. the Mental Health and Drug and Alcohol Office and the Population Health Division provided reciprocal input into the development of the respective research documents (i.e. this Strategy and the NSW Mental Health Research Framework), thus ensuring complementarity

Promote the use of tools such as Confluence and Sharepoint to foster collaborations among NSW population health networks

Case Study

Paakintji Kiira Muuku: Evaluation of the Smokers Program – a Partnership Approach

Maari Ma Health Aboriginal Corporation manages the health care services in far western NSW under a unique management agreement with Greater Western Area Health Service. The Area Health Service also has a partnership with the University of Sydney Department of Rural Health through the Centre for Remote Health Research. The Greater Western Area Health Service Population Health Unit worked with Maari Ma and the university to further develop the partnership to support the project.

The Paakintji Kiira Muuku project evaluates the Smokers Program implemented by Maari Ma and Greater Western Area Health Service staff across the region as part of Maari Ma's Chronic Disease Strategy. The Smokers Program intervention is an evidence-informed intensive intervention for smoking cessation delivered through primary health care services.

A mixed methods evaluation of the Smokers Program was undertaken that included: audits of clinical notes, client surveys, assessment of quit status, organisational and case manager interviews and focus groups with community members and service providers. The project has resulted in the smoking intervention being incorporated into usual service provision with smoking status recorded, ongoing support to clients and referral to a general practitioner as required.

A number of strategies strengthened the partnership including significant discussion, decision-making and provision of direction for the project through the Advisory Group. All partners took part in the regular working group meetings that provided a forum for discussion of issues, problem solving and guidance for the day-to-day implementation and monitoring of the project. Smoking cessation intervention training has been funded and provided by both Maari Ma and Greater Western Area Health Service with invitations to staff from both organisations to attend. In addition, the project officer was jointly funded from the partner organisations and located within Maari Ma to enable close support for service provision and evaluation. The partnership built mutual trust, with key components being defined roles for each of the partners within the project, shared governance and decision-making.

What we will do

S3.3.1

Conduct negotiations with relevant universities regarding issues around population health research funding and partnerships, including:

- intellectual property issues
- infrastructure levies for different types of research contracts between universities and the Population Health Division.

S3.3.2

Encourage collaboration with external organisations on NHMRC Partnership Grants, ARC Linkage Grants and other grant opportunities, including:

- promoting processes for development of partnership grants with NSW Health (see guidelines below).

S3.3.3

Strengthen collaboration and partnerships with those who are likely to be affected by research by involving representatives:

- on research project advisory committees
- in the conduct of research where possible
- in the interpretation and dissemination of results.

S3.3.4

Continue to work collaboratively with the Mental Health and Drug and Alcohol Office on preventive population health research initiatives.

S3.3.5

Hold a biennial research showcase to promote:

- links and partnerships with external agencies
- exchange of ideas about research priorities, needs and use of research evidence.

S3.3.6

Publish an organisational chart for the Population Health Division and roles of Population Health Division Centres and Branches on the NSW Department of Health Research website.

S3.3.7

Publish a list of official networks supported by the Population Health Division on the NSW Department of Health Research website, that will include:

- terms of reference
- membership requirements
- opportunities to join the network and access network events.

S3.3.8

Promote the NSW Department of Health Research website and relevant NSW population health research initiatives:

- to relevant Department of Health branches, local population health services and relevant agencies external to NSW Health, through:
 - a population health research email service
 - a population health research wiki (such as Confluence or Sharepoint).

Development of joint research initiatives with NSW Health is most successful when all partners are involved early in the development of the proposal and partner contributions are clearly defined. Guidelines for developing partnership grants are included here for the information of organisations interested in working with NSW Health in this regard.

Guidelines for development of partnerships with NSW Health for NHMRC Partnership Grants and ARC Linkage Grants

- Approach the potential NSW Health partner before developing the proposal to ensure that it has ample opportunity to contribute to the proposal.
- Ensure that the intended topic for the partnership grant is aligned to the key research priorities of the relevant NSW Health policy area.
- Demonstrate that the project will impact on population health policy, services or programs.
- Ensure that the partners will have sufficient research skills, including biostatistical and epidemiological expertise.
- Guarantee availability of resources from all partners before developing the proposal.
- Ensure that resource contributions are carefully negotiated and that appropriate budgets are agreed for the full term of the grant.
- Consider using a knowledge broker to assist in defining the research question and establishing transparent mechanisms for decision-making about resource commitment.
- The proposal will be enhanced if there are existing and ongoing links with the NSW Health partner outside of the project proposal.

Implementation, evaluation and reporting

The actions in this document will be implemented in a staged manner. For example, actions to improve communication about population health research (highlighted in green in Table 1) will take precedence, along with development of the population health research fellowship program, the priority research projects across the Population Health Division and local population health services and the training module for using research evidence.

The implementation of actions in the document, particularly those designed to improve communication and foster partnerships, may lead to new opportunities which can strengthen and support population health research. A review at 2 years will allow these new initiatives to be built into the Strategy.

In order to measure progress in relation to the aim and objectives of the Strategy, information will be collected annually (for the preceding 12-month period) about research funded and conducted by the Population Health Division and local population health services in relation to the following indicators:

- Increased proportion of research projects that address at least one of the identified NSW population health research priorities (relevance)
- Increased number of peer-reviewed journal publications (quality)
- Increased number of, and income from, successful competitive research grants (from schemes listed on the Australian Competitive Grants Register) (quality),
- Increased number of instances of use of population health research evidence in NSW Health policy and practice (use of research).

The Strategy does not have an overall indicator of success regarding research capability. This objective will be assessed through monitoring of relevant actions within the document.

In addition, two process measures will be used:

1. A report will be produced and disseminated annually outlining progress on the implementation of actions in the Strategy
2. Interviews will be conducted with researchers and research users in NSW (at 2 years and 5 years) to assess whether they have used the Strategy document, how they have used it, whether they have taken part in or been engaged with any of the actions within the document and what effect the actions have had on their research and use of research.

A mid-term report on progress and a final report on the impact of the Strategy will be produced and disseminated to state and local population health services and relevant agencies external to NSW Health.

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- NSW Department of Health Centre for Epidemiology and Research
- NSW Department of Health Centre for Health Advancement
- NSW Department of Health Centre for Health Protection
- NSW Department of Health Centre for Aboriginal Health
- NSW Department of Health Centre for Oral Health Strategy
- NSW Department of Health Mental Health and Drug and Alcohol Office
- All Area Health Services in New South Wales
- Universities and other research institutions in NSW
- A range of community-managed organisations with interests in population health
- The Sax Institute.

