

# **Audit of the Preventive Health Workforce in Australia**

Final Report of  
Project Findings

# Acknowledgements

This report has been prepared under the guidance of the Department of Health and Ageing, Population Health Strategy Unit, Population Health Division as well as the Preventive Health Workforce Audit and Strategy Jurisdictional Planning Group (JPG) who have provided ongoing support and have acted as an invaluable liaison between Human Capital Alliance (HCA) and each of the 'Healthy Workers', 'Healthy Communities' and 'Healthy Children's' projects that participated in this project.

We also wish to acknowledge the role the Healthy Living Branch has played in helping to connect the 'Healthy Communities' projects to this project.

Finally, this project would not have been possible without those project managers in each jurisdiction who helped provide data by completing the project survey. We especially wish to acknowledge the significant amount of work that nominated project managers devoted to completing the required survey.

To learn more about this project and to obtain companion publications go to:

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This report was produced with the financial assistance of the Australian Government Department of Health and Ageing. The financial assistance provided must not be taken as endorsement of the contents of this report.

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# Table of Abbreviations

AHPA	Australian Health Promotion Association
AHPRA	Australian Health Professionals Registration Authority
AIHW	Australian Institute of Health and Welfare
ANAPHI	Australian Network of Academic Public Health Institutions
ASCED	Australian Standard Classification of Education
CALD	culturally and linguistically diverse
CHETRE	Centre for Health Equity Training, Research and Evaluation
FTE	Full Time Equivalent
HCA	Human Capital Alliance
HIA	Health Impact Assessment
JPG	Jurisdictional Planning Group
MPH	Masters of Public Health
NCVER	National Centre for Vocational Education Research
NPAPH	National Partnership Agreement on Preventive Health
PHAA	Public Health Association of Australia
RAHC	Remote Area Health Corps
SIG	special interest group
TAFE	Technical and Further Education
VET	vocational education and training
WIA	Workforce Impact Assessment
ACT	Australian Capital Territory
COAG	Council of Australian Governments
LGA	Local Government Area
NGO	Non Government Organisation
NPAHP	National Association of Advisors for the Health Professions
NPHP	National Public Health Partnership
NSW	New South Wales
NT	Northern Territory
OHS	Occupational Health and Safety
QLD	Queensland
UNSW	University of New South Wales
WA	Western Australia

# 1. Executive summary

## 1.1 Introduction

The National Partnership Agreement on Preventive Health (NPAPH) is an agreement between the Commonwealth of Australia and all States and Territories. It seeks to address the rising prevalence of lifestyle related chronic diseases with the aid of a series of initiatives directed at implementing Healthy Communities, Healthy Workers and Healthy Children programs in each of the State and Territory jurisdictions.

Implementation of the NPAPH will clearly have implications for the preventive health workforce—both in terms of the number of workers required and the associated competencies needed. In some quarters there was concern about the adequacy of supply to sustain program work and what could be done to remedy any workforce gaps and to train incumbents and new entrants.

This consultancy is an attempt to promote better understanding of the preventive health workforce required to deliver the NPAPH 'Healthy Children', 'Healthy Workers' and 'Measure Up' Social Marketing initiatives and to perhaps allay or at least give clearer definition to concerns that the preventive health workforce supply may not satisfy demands of the NPAPH. In particular it seeks:

- to assess the current and future adequacy of the preventive workforce in terms of both quantity and competence; and
- to identify specific issues in the workforce and possible options for addressing these issues and any perceived shortfall in preventive health workforce supply.

In order to satisfy the above broad objectives, both qualitative and quantitative information was collected as part of a project methodology that included:

- a literature review;
- a review of secondary data sources, including relevant graduate training and education data sources;
- a description of preliminary information collected during stakeholder consultations about workforce themes, competency sets and the organisational context of preventive health in the different jurisdictions;
- ascertaining stakeholder views about workforce competencies likely to be necessary to support NPAPH initiatives, the levels of the required competencies and how the workforce requirement is likely to be met;
- scoping the type of Healthy Communities, Worker and Children projects that were representative of programs or projects to be funded through the NPAPH and suitability for survey; and
- a national survey of projects selected for collection quantitative data and their analysis.

The figure on the following page provides a summary of these activities and their phasing.

## 1.2 Overview

As indicated in the Project planning outlined above, part of the purpose of the consultancy was to address the timing of implementation of NPAPH initiatives. Throughout the course of the project however, there arose a general agreement amongst preventive health stakeholders about the need for a better understanding of the workforce and the labour market for preventive health services in a broader sense, not strictly limited to the immediate demands of NPAPH implementation.

As a consequence, the project's findings constitute a broader foundational information resource and research base, upon which a preventive health workforce strategy may be developed and further refined in the future.

The project has developed a **draft set of competencies** that are congruent with the work envisaged for the NPAPH and for the delivery of settings-based population health intervention programs. These have been constructed from the available and relevant literature. The stakeholder consultations have largely validated this list, although stakeholders identify certain areas of competence as being potentially more critically required, and/or varying in requirement between locations and intervention sites. These include:

- organisational change / management; program implementation;
- facilitation skills - the ability to lead and coordinate the process of engaging with others to make health promotion/preventive health 'everyone's business';
- ability to drive, coordinate and lead community processes that will connect and empower others; and
- ability to link to policy and broader strategic thinking.

A final list of competencies was agreed with the consultancy project's management structure and subsequently used to construct a survey instrument that was administered to a sample of representative preventive health projects.

**Figure 1.1: Summary of project activities**



The consultancy project also introduced the concept of **levels of competence**, and chose one particular approach in classifying their levels. This incorporates:

- an implementation level (level 1);
- a level associated with project or program management (Level 2); and
- a level associated with strategic direction and leadership in creating appropriate project and program emphasis (Level 3).

There is good support in the literature and amongst stakeholders for conceptualising competencies according to level. The classification model was applied to the final list of competencies and subsequently used to interpret the findings of the survey.

The consultancy has gathered new information on the variation between States and Territories in their respective NPAPH **implementation contexts**. An obvious source of variation is

clearly size: some of the smaller jurisdictions simply do not have sufficient 'critical mass' of preventive health human resources upon which to draw for a sudden and large increase in workforce demand (notably the Northern Territory and Tasmania). Their capacity is undermined further by not having any, or a sufficiently substantial, infrastructure for training and education of preventive health workers. Interestingly, the main concerns as to deficiency in 'critical mass' do not relate to workforce not at the 'coalface' but rather at higher and more specialist levels of prevention. Indeed, these concerns are echoed to some extent even in some of the larger jurisdictions.

Leaving aside the special concerns of the NT and Tasmania, findings from the consultations with stakeholders in each of the other State and Territory jurisdictions highlighted general stakeholder confidence in the **adequacy of the preventive health workforce** to satisfy the overall requirements of NPAPH program.

The survey results largely support the consultation findings. Current indications from this study are that the preventive health workforce is growing fast enough and is flexible enough to adapt to the immediate demands of the NPAPH (and possibly to the implications more broadly of the Preventive Health Strategy) without causing any but **localised limitation to program implementation**. The survey results were affected, however, by its timing and some limitation of process which is discussed in the report. A future survey of 'live', operational NPAPH funded projects may deliver findings that can be accepted with greater confidence and value.

This study introduces a **methodology** for understanding, monitoring and planning for the preventive health workforce that is demand driven and it uses competency requirements as the unit of analysis. The survey questionnaire, modification as required, including editing of the competencies used in the instrument, could be used as a workforce tool and mechanism for data collection and preventive health workforce planning that the Australian National Preventive Health Agency and/or the Health Workforce Agency could adopt. A structure for data collection within a 'Workforce Impact Assessment' framework is also proposed and discussed.

## 1.3 Literature

The literature was gathered from both international and national sources and ultimately focussed on the competencies needed to perform preventive health work. First, an attempt was made to understand the boundaries and nature of the 'preventive health' workforce. Steiber (2005) carefully notes the terms prevention and preventive health care are used to describe a range of activities that have the common goal of reducing the risk of ill-health or disability within an identified population.

The literature largely treats 'preventive health' as a subset or 'domain' of public health. The domain of public health most identified with preventive health is 'health improvement' (e.g. Griffiths, Jewell and Donnelly, 2005) although this is not the language used in Australia to date. Following Steiber, the major work of health improvement is on building the knowledge and skills of communities, on building workforces and their competencies to promote, adopt and sustain healthy lifestyles and on building and strengthening social networks within communities and workplaces.

A significant body of literature, both overseas and Australian was accessed that was at least indirectly pertinent to competencies required of the preventive health workforce. This included studies that explored:

- strengthening workforce capacity for public health in Australia;
- views of Australian health promotion practitioners;
- special needs of health promotion practitioners immediately after their graduate training; and
- needs of more senior practitioners with a higher degree and more than five years practical experience.

Although literature on competency requirements may be construed as identifying sets of competencies that are quite different, in reality they have much in common and are really alternative ways of categorising similar concepts. In general terms, the work of these studies may be synthesised and related to the needs of the NPAPH under three broad headings:

- competencies required to develop and deliver settings based interventions;
- competencies required to conduct social marketing campaigns; and
- competencies required to provide an enabling infrastructure to monitor and evaluate progress made by interventions under NHAPH.

## 1.4 Secondary data sources on the preventive health workforce

The preventive health workforce broadly divides into what may be termed '**direct**' and '**indirect**' workers (Ridoutt *et al* 2001). The former mostly occupy broad roles associated with policy, research and practice — e.g. academic specialists, coordinators (concerned with the design of prevention programs and projects) and certain types of health promotion or public health practitioners. Indirect workers, on the other hand, may not be intrinsically or ostensibly identified as health prevention (or public health or health promotion) workers.

Some of the NPAPH initiatives are likely to be delivered by the indirect workforce who often have no formal connection or association to health disciplines or organisations, but who work closely with populations targeted by NPAPH initiatives. The direct workforce will need to lead and support the indirect workforce to deliver on the directions of the NPAPH.

Due to the fundamental fragmentation of the preventive health workforce along with a lack of clear occupational definition (even for the 'direct' workforce for instance, there is no code for preventive health or even health promotion occupations in the Australian Standard Classification of Occupations and instead these terms are treated as areas of work rather than occupations). There is consequently no 'hard' rule on what precisely constitutes the preventive health workforce.

The absence of clear workforce boundaries (indeed any boundaries) makes any attempt at enumerating the preventive health workforce of limited value. Certain parts of the direct workforce are able to be identified and counted, such as those parts that require registration for their practice (e.g. public health physicians and public health nurses) and those that choose to become members of relevant professional associations (e.g. the Public Health Association and / or the Australian Health Promotion Association). None of these sources is satisfactory for reasons of coverage (incomplete) or accuracy (membership in these classes does not equate directly to participation in the preventive health workforce).

Some understanding of future supply to the 'direct' preventive health workforce may be gauged from an examination of the graduate supply from relevant health promotion and public health undergraduate and masters'-level courses.

## 1.5 Consultations — jurisdictional context of preventive health

The consultations were held with jurisdictional stakeholders during March 2010 about their indicative planning for the likely competency and workforce implications of NPAPH and associated Healthy Communities, Healthy Workers and Healthy Children initiatives. The consultations involved personnel representing all eight State and Territory jurisdictions and the JPG and / or the Healthies Steering Committee. A list of the type of personnel consulted in each jurisdiction is contained in Appendix A. This shows that the bulk of those consulted were government employees, generally closely associated with the policy development and implementation of the Partnership Agreement. A standardised, semi-structured interview schedule was used to ensure, in so far as possible, the consistency of information collected.

The primary aim of the consultations, complementing the literature review, was to develop an agreed list of preventive health competencies. Results of the consultations are summarised in the next section.

In the course of gathering information on competencies, stakeholders were also able to provide some context to preventive health workforce demand and supply issues in each jurisdiction. The more important organisational and administrative factors influencing preventive health work across jurisdictions seem to be:

- The level of jurisdictional control over preventive health resources, which can vary from highly centralised to significantly decentralised. Related to this is the capacity of different jurisdictions within their respective central offices to plan, initiate and manage NPAPH programs. Smaller jurisdictions have less total qualified staff and their flexibility to shift scarcer 'specialist' workforce resources between preventive health work is therefore more limited than larger jurisdictions;
- The degree to which implementation of preventive health programs will rely on 'external' service providers was noted by some stakeholders. It was suggested in some circumstances workforce gaps may need to be filled by contract labour recruited mainly from schools, other government departments, local authorities and NGOs. Employees in the community sector working as program staff are often on a different award structure to staff on administrative or allied health awards in the public sector. Variation in the remuneration required for work in different sectors of preventive health has been highlighted as an issue in attracting and retaining staff;
- The pool of resources upon which jurisdictions can draw—some States and Territories have limited education and training infrastructure for the supply of preventive health workforce. Tasmania and the NT, for instance, have no local health promotion (graduate or post graduate) training infrastructure either in universities or through VET (vocational education and training) pathways;
- Industrial relations and human resource management varies between jurisdictions. In some jurisdictions, there is a reported lack of career structure, which hampers the capacity of employers to retain quality workers; and
- There are cyclical barriers to recruitment, a product of fiscal policies that in some jurisdictions have become manifest as a prohibition on new staff appointments. For each of the States and Territories the nature and degree of the NPAPH implementation challenges vary as a consequence of these different administrative and organisational strengths and capacity.

## 1.6 Competencies necessary to support NPAPH initiatives

The project developed a draft set of competencies from the available and relevant literature and identified themes relevant to the organisational context in each jurisdiction that was congruent with work that was envisaged for the NPAPH. The stakeholder consultations largely validated this list, although a stronger emphasis was placed on certain areas of competence such as:

- organisational change / management;
- program implementation;
- facilitation skills - the ability to lead and coordinate the process of engaging with others to make health promotion/preventive health 'everyone's business';
- ability to drive, coordinate and lead as appropriate community processes that will connect and empower others, and ability to link to policy and broader strategic thinking.

The draft list of principal areas of competence constructed from these sources (is as follows:

**Assess, analyse and communicate population health needs, determinants of health and community expectations**

**Program planning and consultation**

**Community development**

**Partnership building and collaborative working**

**Communication, media and report writing**

**Knowledge of health promotion, health content and organisation change**

**Organisation and management**

**Evaluation and research**

These draft competencies were refined in consultation with the JPG and the Healthies Steering Committee and then used to design a survey instrument administered to a sample of NPAPH projects (see below).

## 1.7 Levels of competency

Stakeholders considered that levels of competency should be defined with reference to the work of preventive health actually performed. They recognised that the preventive health workforce is not a discrete workforce because it embodies many personnel from a wide range of disciplines who work both within and outside the health system. The value of classifying competencies into levels of requirement as well as by specialist level is the capacity to associate specific categories of competence with recruitment and / or training and development processes. This may be useful in identifying and responding to gaps in different types of competence.

Thus various approaches to classifying levels of competence were contemplated, including alternatives that classified competence according either to:

1. broad classes of activity associated with health prevention work consisting of:
  - specialist activities;
  - health professional work that may be undertaken by content experts for whom prevention is part of their role; and
  - activities of the broader workforce for whom prevention again may be just a part of their role;

or to:

2. classes of activity associated with different levels of project management and conceptualisation. differentiated according to:
  - immediate, first implementation level needs;
  - second-level needs associated with project or program management; and
  - third level needs associated with strategic direction and leadership in creating appropriate project and program emphasis.

We adopted the second alternative as it proved easier to apply and likely to be most relevant to implementing NPAPH projects.

Whilst our consultations revealed that there may be discretion in interpreting how levels of competence might be used to differentiate components of the preventive health workforce, they also revealed our 'levels of competence' approach to be congruent with NPAPH settings. There is also support for the principle of distinguishing levels of competence in public health literature in areas concerned with population health and the health promotion workforce. Our approach, for instance, is consistent with a United States study of competencies underpinning public health practice (analogous to preventive health

practice). This validates a design for levels of competence very similar to that used in this study (Council on Linkages, 2004).

The 'levels of competence' model was applied to the list of competencies used in our survey of projects. All 51 competencies were categorised according to levels 1, 2 or 3 (respectively described above). The allocation of specific competencies to various levels quite in this way may be open to criticism, however, because it lacks empirical foundation.

The Consultant acknowledges that its model of specific competency allocation and its application to interpret findings is based entirely on professional judgement. There may be merit in future studies hence verifying and testing the validity of our 'levels of competence' philosophy.

## 1.8 Survey findings

Work to be performed for jurisdictional program activities funded under the NPAPH constituted the unit of analysis for a survey of 'projects'. Projects were selected for participation in the survey, for their resemblance to the scope and target populations of projects planned in the three NPAPH streams of Healthy Communities<sup>1</sup>, Healthy Workers and Healthy Children. As far as possible, projects likely to be implemented in a range of settings were selected – e.g. a rural/urban mix and across all jurisdictions. The initial expectation was to collect survey responses from six projects (two from each of the three stream settings) in each of the eight jurisdictions. This would have amounted to, a total of at least 48 survey responses (16 for each setting type). Ultimately a total of 31 projects were surveyed, fairly evenly distributed within program streams. Whilst overall the respondents included people with both strategic and operational roles, due to the small samples and the choice of respondents at a jurisdictional level, it is difficult to make conclusions about the potential workforce requirements at a state/territory level.

There was difficulty in assigning a high level of confidence to any FTE (Full Time Equivalent) and skill requirement calculations on projected (or very new) projects, therefore only relative competencies have been reported. In addition many of the projects at the time of the survey remained in the initial stages of commissioning, and the categorisation of competencies used for the survey were unfamiliar to many project managers and in some cases did not adequately measure the project scope. Accordingly, the information from the surveys represents a 'best guess' estimate.

The broad findings from the survey concerning the supply and demand of competencies for the direct workforce are that:

- there is variation in the specific competency requirements between projects—even in those in similar settings with similar objectives;
- there is variation between specific competency needs at different stages of projects that is not necessarily synchronised across all projects, even those that are similar;
- most projects generally claim to be satisfactorily endowed with the specific competencies they require;
- in some cases there is evidence of asymmetry between competency needs and availability; and
- notwithstanding the existence of deficiencies in a few specific and often key competencies, projects appeared generally confident that such gaps could be remedied with internally sourced labour or that (if necessary) they could readily avail themselves of external funding to remedy any deficiency.

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<sup>1</sup>Most of the *Healthy Communities* projects were nominated by the Department of Health and Ageing as this stream had been initiated for implementation under the NPAPH around the time of the survey administration. Participation by Local Governments funded under the Healthy Communities initiative was, however, limited due to capacity constraints and the early days of grant implementation.

Some key findings follow from analysis of survey data to isolate specific competencies which are most in demand or for which there is the largest unmet demand (that is where the difference between demand and supply is greatest).

Whilst level 1-type competencies (ones most associated with implementation), dominate the 'top 15' competencies most in demand, Nine of the top fifteen for which a large gap between requirement and current supply has been identified are Level 3 competencies (ones most associated with preventive health specialist competence). It is difficult to conclude from the survey findings that there is a general problem in satisfying the demand of NPAPH projects for a suitably competent workforce. Neither do any specific areas of competence stand out as particular problems. However, because of limitations in the survey process and the early stage at which the survey was undertaken, caution should be exercised about the use of these findings.

The survey findings may be interpreted in the light of reservations evident about certain key competencies. Areas most at risk in the future include:

- implementation: carrying out effective and efficient strategies to ensure the greatest possible improvements in health;
- catalysing change: enabling change and empowering individuals and communities to improve their health; and
- measure (or assess) progress in building and maintaining the partnership(s) across the period of implementation of the program.

## 1.9 Implementation Issues and Workforce Supply

Smart deployment strategies rather than skills development may be most relevant for addressing specialist (Level 1) competencies that are in relatively short supply. The 'capacity building' effort to underpin the preventive health workforce may therefore have less to do with the absolute size of the workforce than with machinery to better ensure 'just in time' delivery of critical competencies to satisfy the phasing of specific planning, policy and program / project requirements.

One option to satisfy 'specialist' preventive health workforce requirements may be a series of high level workshops in each jurisdiction to link this group directly to the implementation of the NPAPH projects and to establish some nationally-agreed indicators as tests of adequacy. Such a process may run the risk of devaluing the skills required. Incorporating workers with levels of specialist competence more effectively into service / project planning processes may at least in the short term assist in estimating workforce demand with greater precision.

Both the direct and indirect or Level 2 workforces, linked with specific projects are likely to need training 'on the spot' through mechanisms for professional development customarily available to them in their locations or workplaces. An issue for jurisdictional planners and administrators (including the Commonwealth) is to find the highest possible level of aggregation for this training so as to minimise the risk of many small, dislocated and varied training interventions occurring around the implementation of the same type of project and types of competencies. Such duplication could clearly be inefficient and risk compromising quality.

From a workforce planner's perspective, the preventive health workforce is an ideal workforce to **manage**. Because of its historical evolution and its evolved culture, the preventive workforce is probably the most flexible of all health professional workforces. This is epitomised by its strong philosophy of equality, manifest in different types of labour contributing to like activities, little or very weak demarcation lines and an established practice of drawing appropriate expertise from non-health sectors. In addition, while not explored fully in this study, there appears to be a growing supply of new workforce entrants at the undergraduate and postgraduate level.

## 2. Background

### Introduction

The NPAPH is an agreement between the Commonwealth of Australia and all States and Territories (COAG National Partnership Agreement on Preventive Health, 2009) constructed to:

“... address the rising prevalence of lifestyle related chronic diseases by:

- laying the foundations for healthy behaviours in the daily lives of Australians through social marketing efforts and the national roll out of projects supporting healthy lifestyles; and
- supporting these projects and the subsequent evolution of policy with the enabling infrastructure for evidence-based policy design and coordinated implementation.”

Due to the nature (intended scale and reach) of projects that are proposed under the NPAPH, it is important to understand and if possible, quantify the adequacy of the workforce associated with the requirement to support and sustain implementation of these projects. The consultancy process to undertake this task is outlined in the Project Plan<sup>2</sup> and is summarised again in the diagram below.

**Figure 2.1: Summary of steps in the consultancy process**



<sup>2</sup> The Project Plan can be found in the Appendices file which accompanies this report or on the HCA website [www.humancapitalalliance.com.au](http://www.humancapitalalliance.com.au)

The main purposes of the consultancy, as determined by the Project Plan, were to:

- build an understanding of the context of preventive health effort in the jurisdictions and where NPAPH effort fits;
- delineate the nature and scope of the work required under NPAPH and the competencies that will be required by the preventive health workforce to deliver work under the NPAPH;
- provide a proper understanding of how and when initiatives and individual projects (NPAPH work) will roll out in each jurisdiction; and
- identify the specific concerns of each of the State and Territory NPAPH partners with regard to workforce capacity.

These purposes were addressed by collecting information from:

- consultations with stakeholders in each jurisdiction;
- a review of relevant literature;
- analysis of available secondary data; and
- a survey of current or newly commenced (under NPAPH funding) projects delivering preventive health services.

This is the Final Project report generated from the findings of the consultancy. The Final report contains the findings of the major project activities including the **consultations, literature review, analysis of secondary data** and the **project survey**.

As indicated in the Project's planning stages outlined above, part of the purpose of the consultancy was to address the timing of implementation of NPAPH initiatives. Throughout the project, however, a consensus emerged amongst preventive health stakeholders as to a broader need for a better understanding of the workforce and the labour market for preventive health services, not limited to the immediate demands of NPAPH implementation.

## Preventive health workforce planning

The workforce planning methodology used in undertaking this project is outlined in the Project Plan (see Appendix K). Unlike most other health professions, very few studies have been conducted on the preventive health workforce. Those studies that have been attempted have largely been descriptive and focused only on workforce supply (e.g. Rotem, O'Connor, Bauman, Black, Dewdney and Hodgkinson, 1995) or focused on specific parts of the workforce (e.g. Ridoutt, Cook, Gadiel and Wise, 2001). The low number of workforce studies has partly been attributable to inherent methodological difficulties, including problems in defining workforce boundaries and a lack of easily accessible comprehensive or comparable data sources.

Ridoutt, Gadiel, Cook and Wise (2002) developed an approach to studying preventive health workforce that was **demand driven** that collected data on **skills and competencies** as opposed to data on persons. An overview of the demand driven process is provided in Figure 2.2, which shows that the starting point is the population and their needs.

The workforce planning approach used in this consultancy project adopts the demand-driven model and starts by recognising that preventive health workforce demand is primarily created and established at the **project level**. Project interventions generally involve multiple strategic actions that are conducted over a long period. These interventions are planned in consideration of the goals and objectives that the projects aim to address. 'Projects' may be time-limited (for instance, a three-year smoking cessation campaign) or long term (for instance, recurrently funded monitoring of cigarette sales to underage customers).

Figure 2.2: Overview of the new approach to preventive health workforce planning

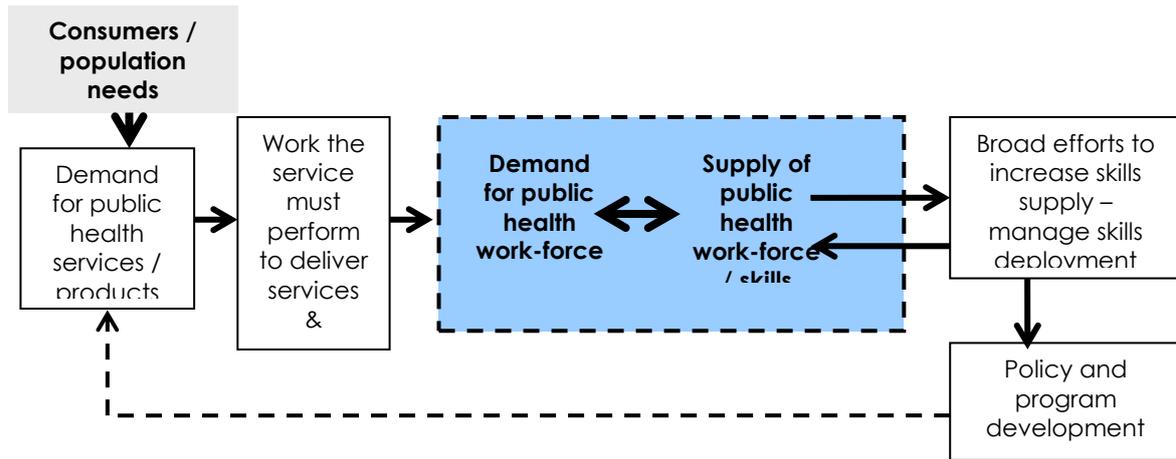
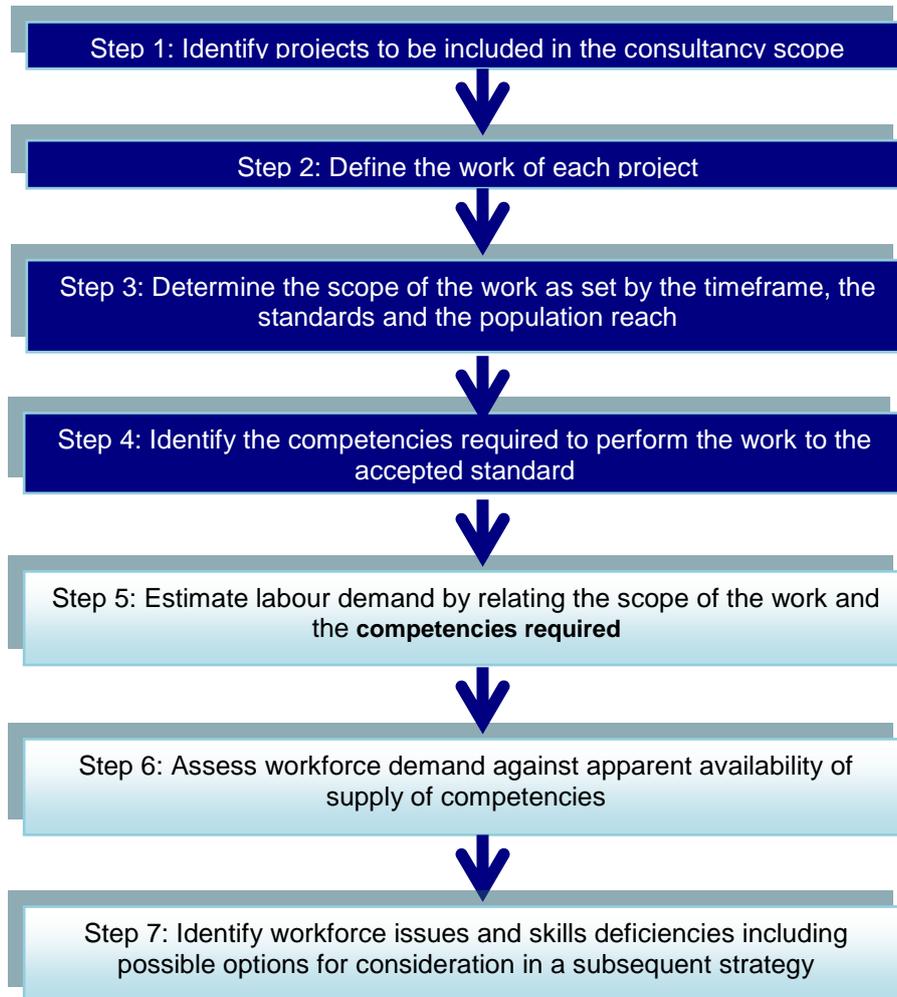


Figure 2.3: Summary of workforce planning steps illustrating the operational process adopted for collecting the data



## Report structure

The consultations, review of literature and secondary data and the program survey could have been reported in various ways. An obvious approach would be to report on the main themes arising from each of the major project activities. It was nevertheless decided to remain as close as possible to the methodology described in the Project Plan and to report how each activity satisfied the steps of the methodology (shown in Figure 2.1).

Table 2.1 shows where this report deals with each methodological step and how each step in turn relates to the purposes of the consultancy.

**Table 2.1: Summary of relationship between consultancy purposes / processes and reporting section**

Consultancy purpose or process	Chapter / section
Build an understanding of the context of preventive health in the jurisdictions and where NPAPH is relevant	Chapter 4
Describe the nature and scope of work required under NPAPH and the competencies required by the preventive health workforce	Chapters 3, 4, 6 and 7
Provide understanding of how and when initiatives and individual projects (NPAPH work) will commence in each jurisdiction	Limited, Chapter 4
Identify specific concerns of each of the State and Territory NPAPH partners about workforce capacity	Chapters 4, 8
Consultation with stakeholders in each jurisdiction	Chapter 4
Literature review	Chapter 3
Analysis of available secondary data	Chapter 5
A survey of current or newly commenced projects (under NPAPH funding) delivering preventive health services	Chapter 7

# 3. Literature review

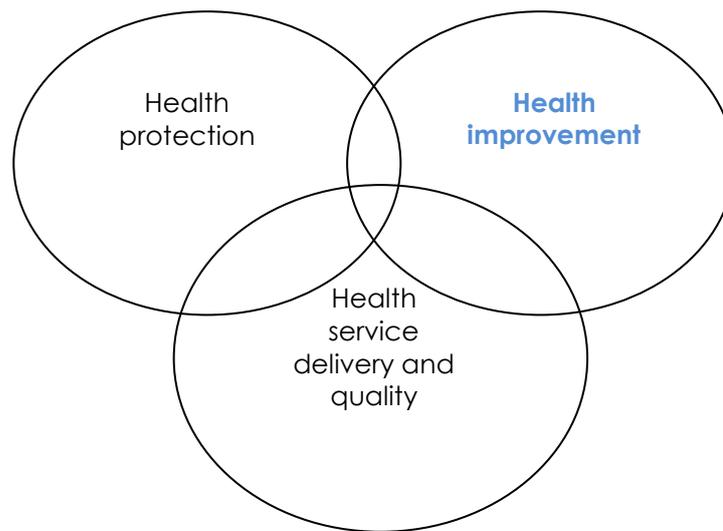
## Work required under the NPAPH

The literature was gathered from both international and national sources and ultimately focused on the competencies needed to perform preventive health work. There was no literature on the preventive health workforce in Australia<sup>3</sup>. However, a significant body of literature, both overseas and Australian, was accessed that was at least indirectly pertinent to the competencies required of the preventive health workforce.

Public health broadly encompasses preventive health activities at strategic, management and implementation levels across primary, secondary and tertiary prevention levels. Many countries have tried to define public health with reference to the identified core function of a public health system.

The simplest definition is embodied in a model of public health proposed by Griffiths, Jewell and Donnelly (2005) which conceptualises three domains of public health. Based on the historical importance of the control of communicable disease, health education and the role of hospital and community services, the set relationship between the three domains of public health practice is illustrated in the Venn diagram in Figure 3.1 below.

**Figure 3.1: The three domains of public health practice**



Griffiths et al define the 'health improvement' domain as covering activity to reduce inequities and engaging with individuals and their families within communities to improve

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<sup>3</sup>It is useful here to discuss, without getting into protracted debate, the definition of 'preventive health'. Steiber (2005) carefully notes the terms prevention and preventive health care are used to describe a range of activities with the goal of reducing the risk of ill-health or disability within an identified population. She links these terms most closely with 'health promotion', and in a workforce planning sense the preventive health workforce is probably most closely associated with the 'health promotion' workforce. However enough ambiguity is associated with the workforce boundaries to cause controversy in any exclusive association of the term 'health promotion' with 'preventive health'. Other related terms are 'population health' and 'public health'. These terms, along with 'health promotion', will be used cautiously in this report.

health through adopting healthier lifestyles. They define 'health protection' as prevention and control of infectious diseases, response to emergencies and dealing with environmental hazards. The Health service delivery and quality is defined as including service delivery, promoting effective clinical practice, clinical governance, service planning and prioritising and appropriate research and evaluation.

A related framework which is commonly used to describe preventive health, is in delineating levels of primary, secondary and tertiary prevention measures (*Encyclopedia of Public Health*, 2008) Primary prevention refers to the prevention of diseases before their biological onset (e.g. immunisation, risk factor reduction). Secondary prevention refers to the early identification and remediation of diseases while asymptomatic (e.g. screening, diagnostic testing) and tertiary prevention refers to measures that delay or reduce severity of disease progress, incidence of recurrence and complications following disease onset.

The NPAPH provides funding to reduce the risk of chronic disease by reducing the prevalence of overweight and obesity, improving nutrition and increasing levels of physical activity in adults, children and young people, including focusing on smoking cessation and reducing harmful and hazardous alcohol consumption.

The work under the NPAPH includes:

- implementing and delivering a range of programs to support behavioural changes within the population in, and through various settings e.g. pre-schools, schools, workplaces and communities;
- social marketing aimed at adults to reduce obesity and tobacco use; and
- enabling infrastructure to monitor and evaluate progress made by these interventions. (NPAPH, 2009).

In the context of the NPAPH, and referring back to Griffith et al., the closest definition of the work is that of *health improvement*, with a major emphasis on health education – on building the knowledge and skills of communities and workforces to adopt and sustain healthy lifestyles. Some of the projects implemented under the auspices of NPAPH will include components to build or strengthen social networks within communities or workplaces.

Work required to deliver the objectives of the NPAPH in the first instance will primarily be the responsibility of public health, preventive health or health promotion workforces within the health sector. NPAPH work will nevertheless also be carried out by other health workers (especially allied health workers with specific content knowledge such as nutritionists) and a workforce employed in sectors other than health, including NGOs, education, private sector providers, councils, etc.

## Competencies for preventive health work

Various studies have aimed to develop a comprehensive list of preventive health work competencies both within Australia and internationally. Our purpose is to identify a comparable list of competencies that will be required for work undertaken under the NPAPH.

Despite the availability of a significant body of literature on what constitutes public health work, there are no universally recognised public health competencies (Slonim, Wheeler, Quinlan and Smith, 2010), although several countries have agreed on reasonably comprehensive lists to support specific purposes (for instance, accreditation of schools of public health in the USA). Development of an agreed set of core public health competencies for all public health practitioners would provide a "platform of transferable knowledge", conducive to a flexible workforce that would be able to deal with emerging issues (Bennett 2010).

In 2007, HCA developed a list of competencies for the Public Health Education Research Program (PHERP), "*the HCA 2007 competencies*", which was established to strengthen workforce capacity for public health in Australia. The clear intent of these was to set the development and assessment of competence in the context of public health practice within the workplace. A taxonomy was developed of five main areas of work or practice based on

the core public health functions as defined by the former National Public Health Partnership (September 2000). Competencies for each of five separate areas of practice thus underpin the competency standards in this document viz.

- health monitoring and surveillance;
- disease prevention and control;
- health protection;
- health promotion; and
- health policy planning and management.

These competency groups are then supported by two separate areas of underpinning competencies, namely: *Apply research methods* and *Apply professional practice*. The areas of practice most in keeping with the NPAPH work appear to be 'health monitoring and surveillance', 'health promotion' and selected units of competency in 'health policy planning and management'. The competencies within these specified areas can be found at Appendix C. It should be recognised that the competencies for health promotion were the most contested both during the Delphi Study undertaken for this work, as well as during subsequent consultations.

In 2009, the Australian Network of Academic Public Health Institutions (ANAPHI) developed a set of foundation public health competencies<sup>4</sup> for Masters of Public Health (MPH) graduates. This competency set further refined the HCA 2007 competency groupings to include a sixth area of practice of 'evidence-based professional population health practice'.

Furthermore all elements of competency described in each area of practice within the ANAPHI 2009 document, differentiated between generic and specialist skills. Competencies in Aboriginal and Torres Strait Islander Health were integrated across each area of practice.

More narrowly focused (and perhaps more closely related to the NPAPH context), Shilton et al (2007) conducted research that involved four hundred Australian health promotion practitioners in 2005-6 to establish a core set of competencies for the health promotion workforce in Australia. This yielded eleven areas of practice as follows:

- needs and determinants;
- planning and consultation;
- community empowerment;
- policy, advocacy and environment;
- partnership building;
- education and media;
- communication;
- knowledge;
- organisation and management;
- evaluation and research; and
- use of technology.

In 2009, the Australian Health Promotion Association (AHPA) developed a set of core competencies specifically for health promotion practitioners emerging from graduate level training. These include core competencies around the following:

- program planning, implementation and evaluation including:
  - needs (or situational) assessment competencies;
  - program planning competencies;
  - competencies for planning evidenced-based strategies;
  - evaluation and research competencies;
- partnership building competencies;
- communication and report writing competencies;

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<sup>4</sup>Genat, B., Robinson, P., Parker, E., (2009) "Foundation Competencies for Master of Public Health Graduates in Australia" Australian Network of Academic Public Health Institutions (ANAPHI) pages 7-19 and 25-28.

- technology competencies; and
- knowledge competencies.

The AHPA national competencies framework for senior generalist practitioners with more than five years' experience and having achieved a higher degree level provides for competencies in several specialist areas of practice:

- health promotion program research and evaluation;
- social marketing and communication;
- culturally and linguistically diverse (CALD); and
- Aboriginal and Torres Strait Islander.

It is important to note that although these lists of competencies look different, they are really different ways of categorising similar concepts. For instance, most of the Shilton *et al* and the AHPA competencies relate well to the HCA competencies of health promotion (2007), but a few belong to policy and management and health monitoring, with a few more specifically related to the underlying professional competencies in the HCA list.

Barry *et al* (2009) discuss the need to develop a competent international health promotion workforce which was addressed at the Galway Conference in June 2008. The Galway Conference sought international agreement on competencies for health promotion work that resulted in the acceptance of broad domains of core competency as follows:

1. **Catalysing change:** *enabling change and empowering individuals and communities to improve their health.*
2. **Leadership:** *providing strategic direction and opportunities for participation in developing health public policy, mobilising and managing resources for health promotion, and building capacity.*
3. **Assessment:** *conducting assessment of needs and assets in communities and systems that leads to the identification and analysis of the behavioural, cultural, social, environmental and organisational determinants that promote or compromise health.*
4. **Planning:** *developing measurable goals and objectives in response to assessment of needs and assets, and identifying strategies that are based on knowledge derived from theory, evidence and practice.*
5. **Implementation:** *carrying out effective and efficient, culturally sensitive and ethical strategies to ensure the greatest possible improvements in health, including management of human and material resources.*
6. **Evaluation:** *determining the reach, effectiveness and impact of health promotion programmes and policies. This includes utilising appropriate evaluation and research methods to support programme improvements, sustainability and dissemination.*
7. **Advocacy:** *advocating with and on behalf of individuals and communities to improve their health and wellbeing and building their capacity for undertaking actions that can both improve health and strengthen community assets.*
8. **Partnerships:** *working collaboratively across disciplines, sector and partners to enhance the impact and sustainability of health promotion programmes and policies."*

Battel-Kirk *et al* (2009) conducted a recent international literature review on health promotion competencies aiming to identify frameworks and core competencies. The following list was identified, which includes many domains common to most frameworks:

- assessment;
- planning and consultation;
- implementation;
- evaluation and research;
- knowledge – principles, values and ethics;
- communication;
- policy, advocacy and strategy development;
- organisation and management;
- working with communities, community empowerment;
- partnership building and collaborative working; and

- strategic leadership.

Table 3.1 below tabulates the Consultant team's meta-analysis of the literature on the common preventive health / health promotion competencies and synthesises them in relation to each of the different components of work of the NPAPH viz:

- competencies required to develop and deliver settings based interventions;
- competencies required to conduct the social marketing campaigns; and
- competencies required to provide the enabling infrastructure to monitor and evaluate progress made by interventions under NPAPH.

The design of Table 3.1 acknowledges that the NPAPH affirms most people choose their lifestyle and that to change lifestyle people need knowledge and skills. There is an explicit statement in the NPAPH that funding cannot be disbursed to address the social determinants of health. Some jurisdictions expressed concern over the adoption of this narrow principle as it differed from the more holistic philosophy that addresses both the determinants of health and their risk factors. Despite this, some jurisdictions reported that there would be interrelationships between many NPAPH projects and broader and more fundamental complementary initiatives funded at the jurisdictional level.

**Table 3.1: Summary of competencies required for preventive health work**

Summary of competencies required for preventive health work
<b>Assess, analyse and communicate population health needs, determinants of health and community expectations</b>
<ul style="list-style-type: none"> <li>• conduct assessment of needs and assets in communities and systems including behavioural, cultural, social, environmental and organisational factors that promote or compromise health in populations;</li> </ul>
<ul style="list-style-type: none"> <li>• identify, source, review and interpret needs assessment data from the following sources:               <ul style="list-style-type: none"> <li>○ relevant literature;</li> <li>○ surveillance systems and screening programs;</li> <li>○ local, state and national data;</li> <li>○ community members and stakeholders; and</li> <li>○ academic and practitioner specialists;</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• recommend specific actions based on the analysis of information;</li> </ul>
<ul style="list-style-type: none"> <li>• analyse key health indicators for Aboriginal and Torres Strait Islander Peoples ;and</li> </ul>
<ul style="list-style-type: none"> <li>• analyse key indicator of social determinants of health for Aboriginal and Torres Strait Islander Peoples</li> </ul>
<b>Program planning and consultation</b>
<ul style="list-style-type: none"> <li>• develop appropriate, realistic and measurable goals and objectives in response to assessment of needs and assets;</li> </ul>
<ul style="list-style-type: none"> <li>• identify strategies that are based on knowledge derived from theory, evidence and practice;</li> </ul>
<ul style="list-style-type: none"> <li>• critically analyse relevant literature;</li> </ul>
<ul style="list-style-type: none"> <li>• involve community members and stakeholders in program planning and evaluation;</li> </ul>
<ul style="list-style-type: none"> <li>• apply culturally-relevant and appropriate approaches with people from diverse cultural, socioeconomic, and educational backgrounds, and persons of all ages, genders, health status, sexual orientation and abilities;</li> </ul>
<ul style="list-style-type: none"> <li>• develop logical, sequenced and sustainable health programs based on theory and evidence;</li> </ul>
<ul style="list-style-type: none"> <li>• develop and coordinate production of appropriate program support materials;</li> </ul>
<ul style="list-style-type: none"> <li>• identify resources (skills, personnel, partner contributions, money) available/necessary to develop, implement and evaluate a sustainable program;</li> </ul>
<ul style="list-style-type: none"> <li>• develop, review or critique policies that promote health within and outside the health sector; and</li> </ul>
<ul style="list-style-type: none"> <li>• Utilise health impact/equity assessments to evaluate planned programs for unintended consequences</li> </ul>

<b>Summary of competencies required for preventive health work</b>
<b>Community development</b>
<ul style="list-style-type: none"> <li>• implement strategies that empower other professionals and community members to undertake health promotion;</li> <li>• facilitate program ownership and community sustainability;</li> <li>• assist, support and build capacity in service providers and clinical workers to adopt health promotion methods and programs;</li> <li>• understand and apply community development processes;</li> <li>• work in partnership to devolve programs to community; and</li> <li>• contribute to the development knowledge of health promotion practice of others.</li> </ul>
<b>Partnership building and collaborative working</b>
<ul style="list-style-type: none"> <li>• working collaboratively across disciplines, sectors, community, key stakeholders, gatekeepers, target group and partners to enhance the impact and sustainability of health promotion programs and policies.</li> <li>• Identify practical tools to help describe, assess and manage effective partnerships</li> </ul>
<b>Communication, media and report writing</b>
<ul style="list-style-type: none"> <li>• write reports for a variety of audiences and purposes including: <ul style="list-style-type: none"> <li>○ papers for peer reviewed journals;</li> <li>○ in-house reports;</li> <li>○ program plans and update reports;</li> <li>○ professional audiences;</li> <li>○ lay audiences;</li> <li>○ submissions, grants or applications for funding;</li> <li>○ interviewee skills for radio and TV;</li> </ul> </li> <li>• develop, apply and evaluate appropriate social marketing strategies</li> <li>• prepare media releases and appropriate media campaigns;</li> <li>• communicate verbally and listen reflectively;</li> <li>• present to a range of audiences and tailor communications to consider cultural and other differences (culture, gender, age, ethnicity; health literacy);</li> <li>• be able to articulate health promotion jargon into salient language;</li> <li>• apply interpersonal skills (facilitate meetings, negotiation, team work, motivation, conflict resolution, decision making and problem solving skills); and</li> </ul>
<b>Knowledge</b>
<ul style="list-style-type: none"> <li>• demonstrate, examine and apply knowledge of health and health promotion, inequalities and inequities in health including the concept of the social gradient and relevance to practice, the action areas for health promotion, as well as the determinants of health (biological, behavioural and socio-environmental);</li> <li>• apply knowledge of the structure and function of the human body to health and issues diseases;</li> <li>• Knowledge of behavioural change and self management theories and interventions</li> <li>• examine and synthesise information on different health issues/topics, diseases and prevention;</li> <li>• apply knowledge of epidemiology to health issues;</li> <li>• demonstrate knowledge of the health system and broader systems that impact on health;</li> <li>• demonstrate knowledge of organisational development and change;</li> <li>• demonstrate and apply knowledge of capacity building in health and other sectors; and</li> <li>• stay abreast of national and international developments in the health promotion field.</li> </ul>
<b>Organisation and management</b>
<ul style="list-style-type: none"> <li>• providing strategic direction and opportunities for participation in developing health public policy, mobilising and managing resources for health promotion and building capacity;</li> <li>• implementation: carrying out effective and efficient, culturally sensitive and ethical strategies to ensure the greatest possible improvements in health, including management of human and material resources;</li> <li>• catalysing change: enabling change and empowering individuals and communities to improve their health;</li> <li>• manage projects effectively including resource management, achieving and reporting</li> </ul>

Summary of competencies required for preventive health work
progress within budget and on time;
<ul style="list-style-type: none"> <li>• demonstrate leadership skills;</li> </ul>
<ul style="list-style-type: none"> <li>• facilitate meetings;</li> </ul>
<ul style="list-style-type: none"> <li>• coordinate volunteers;</li> </ul>
<ul style="list-style-type: none"> <li>• demonstrate business skills such as budget planning and reporting and contract management; and</li> </ul>
<b>Evaluation and research</b>
<ul style="list-style-type: none"> <li>• incorporate evaluation into the planning of health promotion programs;</li> </ul>
<ul style="list-style-type: none"> <li>• determine the reach, effectiveness and impact of health promotion programs and policies including utilising appropriate evaluation and research methods to support program improvements, sustainability and dissemination;</li> </ul>
<ul style="list-style-type: none"> <li>• identify (culturally) appropriate evaluation designs and methods applicable to health promotion for specific population groups where required;</li> </ul>
<ul style="list-style-type: none"> <li>• design evaluation plans that incorporate process, impact and outcome measures;</li> </ul>
<ul style="list-style-type: none"> <li>• select evaluation instruments</li> </ul>
<ul style="list-style-type: none"> <li>• interpret evaluation findings;</li> </ul>
<ul style="list-style-type: none"> <li>• monitor programs and adjust objectives and strategies based on the analysis of evaluation data;</li> </ul>
<ul style="list-style-type: none"> <li>• apply and interpret descriptive statistical methods and analyses;</li> </ul>
<ul style="list-style-type: none"> <li>• critically analyse quantitative and qualitative data to report on program effectiveness;</li> </ul>
<ul style="list-style-type: none"> <li>• communicate evaluation findings;</li> </ul>
<ul style="list-style-type: none"> <li>• coordinate validation of instruments;</li> </ul>
<ul style="list-style-type: none"> <li>• prepare evaluation research proposals for funding; and</li> </ul>
<ul style="list-style-type: none"> <li>• prepare ethics approvals.</li> </ul>

## Factors influencing competency requirement

Competency frameworks most often adopt a broad and comprehensive approach to the listing of competency requirements and do not attempt to differentiate between competency categories. Frameworks are designed with a particular target workforce in mind: for instance, the 'new graduate population' or the 'public health research population'. All the competencies that *might* be required of the defined population are accordingly identified and listed.

The reality is that competency requirements vary significantly in their type, the frequency of their deployment and their potential range proficiency. It has been shown elsewhere that to perform the majority of individual jobs and roles well employers require only a small proportion of the total competencies listed within a general competency framework (Selby-Smith and Ridoutt, 2005).

In terms of the preventive health workforce some of the factors that will influence competency requirements are those that determine the work and include:

- the way preventive health work is structured in a State or Territory;
- the organisation, and the type and 'level' of work an organisation performs;
- the extent and structure of remuneration available and skills recognised/rewarded under each award or individual contract or workplace agreement;
- the main functions / area of practice of the job; and
- the way work is organised within an organisation.

There is little in the literature on how the requirement for competence changes in different contexts. A recent study by Cicuttini et al (2010) explored the skills and knowledge requirement of the public health workforce in Victoria in three different organisational settings. Table 3.2 below identifies the top six (public health content-related) knowledge and skill areas mentioned by employers in each of the three organisational settings.

**Table 3.2: Public health knowledge & skill requirements across different organisation settings**

Government organisations	Public health research organisations	Non-government organisations
Information & knowledge management	Information & knowledge management	Information & knowledge management
Program evaluation	Program evaluation	Program evaluation
Capacity building	Capacity building	Capacity building
Program development		Program development
	Epidemiology	Epidemiology
Infection control	Biostatistics	Surveillance & monitoring
Health promotion	Policy development & analysis	

Whilst there are some conspicuous differences in competency requirements, there is also a surprising competency overlap, represented by shaded cells for different organisation types.

The authors also compared areas of skill and knowledge in the three organisational settings for which perceived shortage was greatest (Table 3.3).

The greater differentiation here may reflect differences in the type of work, but it is still remarkable that deficiencies in program evaluation, information and knowledge management and submission writing skills were common to all settings.

**Table 3.3: Perceived public health skill & knowledge deficiencies across organisation settings**

Government organisations	Public health research organisations	Non government organisations
Information & knowledge management	Information & knowledge management	Information & knowledge management
Program evaluation	Program evaluation	Program evaluation
Submission writing	Submission writing	Submission writing
epidemiology	epidemiology	
leadership		leadership
Capacity building	health economics	sociology and cultural awareness
project management	biostatistics	
	policy development	

## 4. Stakeholder consultations

### Program activities included in survey sample

The work to be performed under the NPAPH will take the form of funded activities within a set of jurisdictional projects, implemented according to an agreed implementation plan. These activities form the unit of analysis for the survey in Step 5 of the consultancy process (see Figure 2.1) of the agreed implementation plan.

Stakeholders in each jurisdiction were asked to consider and identify program activities that could be potentially included in the survey sample. At the time the interviews were undertaken, funding to LGAs whose proposals had been accepted for the **Healthy Communities** pilot had not been announced and arrangements for the Healthy Children and Healthy Workers initiatives had yet to crystallise.

In the case of the Healthy Communities pilot, an announcement was pending<sup>5</sup> and there was little issue with the capacity for 'real' project activities to be surveyed. In the case of **Healthy Workers** and **Healthy Children** projects these are not due to commence until July 2011 when national NPAPH funding commences. Implementation plans for these projects are due by 30 September 2010 with a commencement date of 1 July 2011. Hence, stakeholders were asked to identify analogous independently-funded project activities in their respective jurisdictions that were already underway and that were types of projects likely to be supported through NPAPH. These could then be used as indicators for the prospective workforce implications and competencies required for NPAPH initiatives.

Examples of project activities that would readily fit with **Healthy Children** activity criteria have been favoured in several jurisdictions and may well provide models for future initiatives. Many jurisdictions such as NSW, Queensland and WA have a multitude of such programs—and many are LGA, or at least more broadly community based, thus allowing overlap in the projects supported between the 'community' and 'children' settings<sup>6</sup>. For instance the ACT has a single, all-embracing 'healthy community' program in which much of the NPAPH energy can be focused—ostensibly therefore providing a better chance that desired population health outcomes will be achieved.

Tasmania similarly, has only one Healthy Communities pilot site, although this takes in 9 local government areas and a quarter of the state's population. This will be enveloped, however, by Healthy Workers and Healthy Children's initiatives covering the State in its entirety. In South Australia the OPAL program, is a community based childhood obesity prevention initiative that has been implemented at ten local government pilot sites and is acknowledged by other jurisdictions as a likely 'best practice' Healthy Children project (which is coincidentally community based).

The NPAPH policy framework for the Healthy Children program offers further criteria for projects to be funded. Some key principles underlining best practice for projects suitable for children and young people identified in the framework were:

- *Well established project planning and implementation...* this ensures the identified needs and interests of children are met.

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<sup>5</sup>In fact an announcement came from the Minister for Health's office on the 29<sup>th</sup> March 2010 identifying the 12 successful program activities.

<sup>6</sup> NSW does have several examples of programs suitable for the HC initiative but suggest caution in stating that they are community- based. Some are currently being delivered in only one AHS but they are settings based not community-based programs.

- *Recognition of the role of the family and community and involvement in key activities.*
- *A focus on good nutrition and physical activity.*
- *Structural support for healthy lifestyles ... including safe places and spaces for physical activity and increased access to healthy food.*
- *Effective and consistent communication of the aims and purpose of the program to build positive engagement.*
- *Monitoring and evaluation of all program components.*

Most jurisdictions consulted regard the **Healthy Workers** projects as a greater challenge because evidence of the effectiveness of interventions in workplace settings is weak—especially in small workplaces with greatest needs. The ACT have embarked on a structured approach to understanding more about workplace interventions, including the projects and conditions that are most conducive to good outcomes. Several other jurisdictions are adopting similar approaches, although not quite as structured. ACT already supports an effective workplace based suicide prevention program which they are keen to expand into occupational settings—notwithstanding the exclusion (or at least the absence of overt interest) in mental health within the NPAPH.

The NT reported an interest in work-based approaches because it thought this could give prominence to men's health in particular (along the lines of the Tiwi 'Bomber' footballer initiative). Queensland believes that workplace settings provide an ideal environment for implementing smoking control and management policies. Tasmania is seeking to enhance its cross sector work on the promotion of workplace health and wellbeing.

As for Healthy Children projects, there is a NPAPH Policy Framework for Healthy Workers to guide workplace setting projects. It identifies key factors emerging from international and national literature that can determine the success and sustainability of workplace preventive health projects, including:

- *Management involvement and support from senior management through to middle and line managers across an organisation.*
- *Integrated workplace health promotion with existing business planning and values.*
- *Well established project planning and implementation.*
- *Effective and consistent communication of the aims and purpose of the program.*
- *Monitoring and evaluation of all program components.*

## Competencies for NPAPH work

Stakeholders were asked about the major competencies required to deliver NPAPH program activities. An abbreviated list of HCA 2007 competencies was distributed to them as a prompt. At this point discussions were directed simply to competencies required rather than as to how these might be obtained and deployed (or outsourced). The mode of contracting was regarded as a later consideration, bearing in mind, however, that competency needs would have to be met by health authorities working in partnership with other sectors as part of implementation activities funded under NPAPH.

A wide range of competencies were identified as being required. The more commonly mentioned were:

- change management / organisational change competencies, reorienting the system – these were seen to be potentially essential in working with employers but possibly too in other areas if hard won outcomes from programs were to be sustained, organisational development competencies essential when brokering partnerships and engaging others at the organisational level, including those outside health. One stakeholder noted:

“This is a very important limitation at recruitment – people do not have this skill set. Development of these competencies will require a balance of training and on-the-job experience to be optimally developed.”

- a suite of management competencies for managing competing agendas among the different sectors, managing when the workforce is transient, conflict resolution, leadership competencies, organisational competencies, project management, mentoring, coaching people to get where you want others to go, to lead the process – help them develop the competencies and own the process;
- a range of related competencies to do with building and applying evidence-based practice. This included collecting and disseminating information on 'what works' to promote health and prevent disease, evaluation to ensure programs are 'evidence based' and/or 'evidence generating', the ability to critically look at evidence and public health/health promotion models and theory to extract priority strategies that are likely to be effective, ability to collect and assess expert opinion, ability to distinguish and use different types of evidence:
  - health data, monitoring, risk factors and trends;
  - local data, demographic and other;
  - needs assessment data;
  - evidence of effectiveness of intervention (what works);
- communication competencies, particularly across cultures and organisations. In particular, cross cultural competencies needed, building and maintaining respect for Aboriginal health workforce, valuing and public respect for the Aboriginal health workforce, working with groups rather than with individuals (this applies, particularly, to clinicians who are more used to working with individual clients);
- capacity building competencies to strengthen the health sector and community capacity to promote health;
- a range of competencies related to building relationships including ability to consult with communities, conduct needs assessments and assess these, conducting consultation and advocacy to garner support, brokering partnerships and collaboration. Partnership building is considered vital to get others on board with prevention. Community engagement, agency engagement – strategic approach dependent on program needs and requirements (it was noted in one jurisdiction that these skills are now required at a Lower level than previously when they were only a requirement of senior people);
- policy development competencies - the ability to pull relevant information together to develop policy options and program options. Important if we are to have evidence-based approaches. Important also not to resort to program level effort so quickly, but first understand the context in which successful programs might be constructed, skill in being able to apply traditional health promotion knowledge to new settings – that is 'translation' skills;
- competencies to understand and manage quality assurance and innovation;
- knowledge and understanding of relevant content – including content knowledge related to NPAPH program priorities was essential i.e. physical activity, nutrition, obesity, tobacco, alcohol;
- skills in advocacy, both in terms of mobilizing community and professionals and also working with media and influencing decision makers and stakeholders.

The above list correlates reasonably with the literature but tends to emphasise a range of competencies as much to do with designing and setting up projects as implementing them. Stakeholders were asked their opinion about competencies from the above list might be the more critical and difficult to obtain. They identified, in no particular order, the following:

- program implementation skills;
- quality assurance to determine what is required for work;
- strategic skills;
- abilities to link to policy;
- gathering evidence and interpreting – human life sciences;

- principles of health promotion [for workers not in the health sector or in clinical roles] - the idea of comprehensiveness. Integrating educational, policy and environmental strategies in best practice ways;
- thinking across disciplines and avoiding vertical siloing;
- community engagement;
- facilitation skills - the ability to lead and coordinate the process of engaging with others to make health promotion/preventive health 'everyone's business';
- ability to drive, coordinate, facilitate and lead as appropriate community processes that will connect and empower others;
- organisational development; and
- cultural competency.

Stakeholders noted that satisfying competency requirements for NPAPH program activities will not generally be through recruitment of 'fully' competent individuals; the full set of requisite competencies will be rather acquired or developed within a **team**, and increasingly 'team competency' will be discussed.

## Different required levels of competency

The consultation data identified a major interest in 'levels' of competency requirement associated with different components of the public health system. Concern was expressed that the focus of the workforce audit might be on only that part of the system that was directly receiving funds—the implementation component, for want of a better description.

In describing the workforce that will perform the work of NPAPH, stakeholders consulted felt that the preventive workforce should be defined by the work actually done (e.g. community development, social marketing, knowledge translation, etc) rather than by professional affiliation. Stakeholders recognised that the preventive health workforce is not a discrete workforce because it embodies many personnel from a wide range of disciplines who work both within and outside the health system.

One way of conceptualising levels of competency likely to be necessary for delivery of the NPAPH was offered by QLD stakeholders. The competencies are as follows:

- immediate, first level **implementation** competencies directly required for delivery of preventive services at the 'grass roots' level. The greatest quantitative call on competencies (that is, number of workers) will be felt at this level;
- second-level competencies associated with **project management** and delivery of contractual obligations in settings where work may have been outsourced; and
- third level competencies associated with **strategic direction** and leadership on appropriate program emphasis.

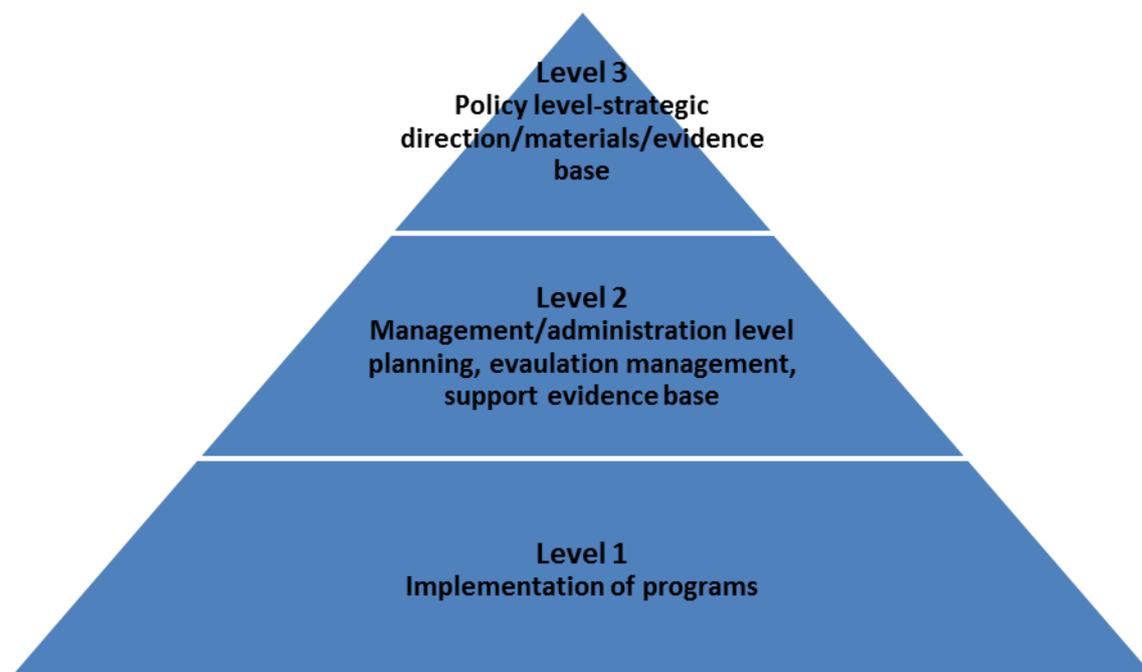
These three levels of competence are illustrated in Figure 4.1 below (in reverse order illustrating the proportional order of magnitude of requirement).

While the bulk of labour requirements are thought to be at the 'implementation' level, the stakeholder group interviewed appeared to be more concerned with competency requirements at the higher levels. At 'level 3' in the system, for instance, the following competencies were identified:

- program (as distinct from project) management and outsourcing skills and an ability to lead a team remote from central office;
- a capacity to design and conceptualise programs, policies and goals;
- facility in the use and construction of evidence bases;
- a capacity to engage in research partnerships;
- an ability to develop and implement social marketing and communication strategies at local community and broader population levels;

- organisational change / change management skills that may be applied especially in workplace settings;
- knowledge of NGO governance principles;
- quality assurance skills; and
- sensitivity to equity issues in population health.

**Figure 4: Levels of competence**



The first and second level competencies, outside the public health arena, are more likely to be associated with non-specialist health professionals and with the broader prevention workforce peripheral to health. Some of these personnel will have acquired their competencies through formal training in preventive health. Others will have acquired their competencies through many years of experience, possibly supplemented by training in VET-type programs (such as Certificate 4 in Population Health) and some yet may need to be trained to acquire them from scratch. With the exception of Tasmania and ACT, most jurisdictions reported reasonable access to the necessary training infrastructures.

In general terms, the third level specialist competencies were reported to be in shortest supply. The volume of work at the apex, moreover, seems destined to grow proportionately as additional funding is progressively applied to starting up new NPAPH programs.

## **Administrative & organisational context**

Data on the broader organisational set up and administrative context for prevention work in each jurisdiction was not a focus of the stakeholder consultations but collected 'incidentally' and therefore are unlikely to reflect the true complexity of each jurisdiction's context. Some jurisdictions provided additional data and clarification on specific issues, but in the limited time frame available, this too was necessarily simplified. Nevertheless the data available do facilitate a better understanding of current preventive health competencies and why certain jurisdictions might emphasise certain types of potential competency gaps. More importantly, it might also help inform any future jurisdictionally specific responses to the ultimate findings of this study (for instance derived from the survey of preventive health projects). In this section some of the key contextual factors affecting several if not all jurisdictions are briefly described. In Appendix E some notes on each jurisdiction are provided.

Stakeholders were generally enthusiastic about the NPAPH initiative, but because interviews were undertaken in the preparatory stage of implementation planning, they displayed some understandable caution about programs to be pursued, the work involved and the workforce required.

The challenges associated with the developmental stages of the NPAPH are compounded because stakeholders recognise that NPAPH will necessarily be implemented both within and outside of the health system. In the case of the latter, there will be a heavy dependence on the likes of teachers in schools, local government officers, OHS experts, etc.—yet with health authorities ultimately remaining responsible for achieving the targets.

For each of the States and Territories though, the nature and degree of the NPAPH challenges vary as a consequence of different administrative and organisational strengths and capacity. The main characteristics of the organisational and administrative context for preventive health services across jurisdictions that seem to be important are:

- The level of centralised control over preventive health resources. Some States and Territories historically have significant influence over the program direction and even the processes used to implement projects at an operational level. NSW, for instance, have a state-wide network of public health and health promotion units distributed across Area Health Services. The structure of the regional or area-based preventive health resources, still within the health system, facilitates responsiveness to central priority setting. Other jurisdictions exert influence more conceptually and by dint of evidence for particular approaches. These different structures will probably have implications for competency gaps; for example one might expect contract management type competencies to be more prevalent in a centralised organisation context than in a decentralised one.
- An associated context issue is the capacity of different jurisdictions within the central office structure to plan, initiate and manage NPAPH projects. Smaller jurisdictions have less total qualified staff and therefore the flexibility afforded them to shift resources between preventive health work is generally considerably less than for larger jurisdictions. This potential problem was tacitly acknowledged through additional 'infrastructure' funding arrangements under the NPAPH, although some jurisdictions argued that the actual disbursement of this funding may not have addressed the core problem.
- The degree to which implementation of preventive health programs will rely on 'external' service providers. All jurisdictions to some extent it seems will need to engage resources outside of government salaried workforce. In some cases this is a natural part of the intent of the program (for instance to engage and partner with other types of workforce such as teachers, child care workers, employers, council workers, etc.). In other cases the reliance on external resources is a necessity since rapid expansion of capacity in response to the influx of funding is best undertaken through third party 'contracted' organisations (for instance relevant non government organisations and private company service providers). The extent to which external resources are used will influence the competency requirements, for instance contract management competencies may emerge in some jurisdictions as a gap.
- The pool of resources upon which jurisdictions can draw. Some States and Territories have very limited education and training infrastructure for the supply of preventive health workforce. That is, limited or no supply of undergraduates or postgraduates from suitable health promotion or public health courses, and limited training capacity even within the VET sector. Tasmania certainly expressed great concern about the supply of workforce from the tertiary education sector. This could influence the distribution of competence between and within jurisdictions.
- The industrial relations and human resource management varies between jurisdictions. In QLD a new EBA includes preventive health / public health practitioners with allied health people in the same broad classification. They are now all called 'health practitioners'. Within this framework, there is demarcation between the workforce

who must have at least undergraduate qualifications relevant to preventive health work, and other workforce sectors that will at best be less 'specialised'. This will influence competency requirements when compared with say other jurisdictions where the qualifications requirements are less prescribed. In different jurisdictions also, and even within jurisdictions, clear competency requirements can be detailed in job descriptions whereas elsewhere these can be quite loosely identified.

# 5. Understanding preventive health workforce from secondary data

## Service modalities

The preventive health workforce is a broad amalgam with boundaries that are difficult to articulate. As in most areas of public health, the preventive health workforce is significantly heterogeneous. Public health and health promotion differ from most other types of health service delivery where single or only a few health disciplines are involved, and the focus is on individuals receiving the service. The health promotion and public health workforce comprises a small number of 'specialist' health workers, complemented by many different categories of personnel from a range of disciplines who work both within and outside the health system, sometimes apparently in 'non health' occupations.

The preventive health workforce accordingly broadly divides into what may be termed '**direct**' and '**indirect**' workers (Ridoutt *et al* 2001). The former mostly occupy broad roles associated with policy, research and practice—e.g. academic specialists, coordinators (concerned with the design of prevention programs and projects) and certain types of health promotion or public health practitioners. Indirect workers, on the other hand, may not be intrinsically or ostensibly identified as public health or health promotion workers or associated with preventive health. Because of program linkages, their work may nevertheless have a profound effect on the outcomes of population health interventions—as in the case, for example, of teachers, social workers, youth workers and the like. Due to the lack of clear occupational definition, there is consequently no 'hard' rule on what precisely constitutes the preventive health workforce

## Vocational classification according to field of education

A convenient starting point for formally classifying the preventive health workforce is to consider its stratification according to the field of education classification. This is a component of the *Australian Standard Classification of Education (ASCED)*, employed by the Australian Bureau of Statistics (ABS, 2001). It is a statistical classification that seeks to group persons according to vocational emphasis and the potential application of their fields of education, coded according to the content of their training and attainment.

Members of the preventive health workforce involved in each of the NPAPH's three population health intervention settings are broadly covered in the fields of ASCED's two-digit classifications of health, Education, Management and Commerce, and Society and Culture. The content of their training may then be further classified with greater precision with reference to the four- and six-digit codes, to more explicitly associate workers with areas of preventive health intervention (directly) or with activity with linkages to preventive health interventions (indirectly).

**Direct** preventive health workers closely associated with the health system are likely to possess formal training in one or more of public health, health promotion clinical medicine, allied health, health administration or the caring and welfare areas. As shown in Table 5.1, the content of their training is covered predominantly by the four-digit ASCED codes representing *public health, Other Health, Medical Studies and Nursing*. At the six-digit level these would translate into designated occupations such as health promotion, Epidemiology, Indigenous Health, Welfare Studies, General Practice, Medical Studies NEC, Community Nursing, etc.

**Table 5.1: Elements of the preventive health workforce, classified according to Field of Education from the ASCED**

'DIRECT' PREVENTIVE HEALTH WORKER CATEGORIES BY CONTENT OF TRAINING					
<b>Four-digit ASCED code (Narrow field of education)</b>	<b>Public Health</b>	<b>Human Welfare Studies and Services</b>	<b>Other Health</b>	<b>Business &amp; Management / Information systems</b>	<b>Medical Studies / Nursing</b>
<i>Six-digit ASCED code (Detailed field of education)</i>	Occupational Health & Safety	Social Work	Nutrition & Dietetics	Public & Health Care Admin- istration	General Practice
	Environmental Health	Children's Services	Human Movement	Database Management	Community Nursing
	Indigenous Health	Youth Work	Paramedical Studies		
	Health Promotion	Counselling	First Aid		
	Community Health	Welfare Studies	Health, NEC		
	Epidemiology	Human Welfare Studies & Services, NEC			
	Public Health, NEC				
'INDIRECT' PREVENTIVE HEALTH WORKER CATEGORIES BY CONTENT OF TRAINING					
<b>Four-digit ASCED code (Narrow field of education)</b>	<b>Public Health</b>	<b>Human Welfare Studies and Services</b>	<b>Sport and Recreation</b>	<b>General Education projects</b>	<b>Social Skills projects</b>
<i>Six-digit ASCED code (Detailed field of education)</i>	Indigenous Health	Children's Services	Sport & Recreation Activities	General Primary & Secondary Education projects	Parental Education projects
	Community Health	Youth Work			

Source: ABS (2001)

**Indirect** workers would be covered predominantly by four-digit ASCED codes such as *Sport and Recreation*, *General Education projects* and *Social Skills projects*. At the six-digit level these in turn would translate into occupations such as Primary and Secondary Education, Parental Education, etc.

Some **direct** and **indirect** workers may also be drawn from not immediately obvious areas such as Indigenous Health, Education, Community Health, Children's Services and Youth Work which are classifications that cover both **direct** and **indirect** preventive activities.

## Scope of the preventive health workforce

The vast majority of the preventive health workforce that is expected to be responsible for the delivery of the projects under the auspice of the NPHP is estimated to be of **indirect** personnel who often have no formal connection or association to health disciplines or organisations, but who work closely with populations targeted by NPAPH initiatives. However, it is anticipated that, through the implementation of the NPAHP programs their preventive health role can become more meaningful and effective through interaction with and leadership from members of the **direct** workforce, and within the context of defined preventive health strategies formulated under initiatives such as the NPAPH.

The extent of the indirect preventive health workforce and its productivity is hence in many respects a product of the 'reach' of the specialist workers in the direct workforce's activities within a target population. As indicated by ASCED codes, the heart of the direct workforce are specialist personnel with formal training in public health and its associated disciplines, especially health promotion. Some of its members will consist of persons with clinical roles, including GPs, nurses and allied health workers with training or a special interest in public health; it will also include public health physicians, public health nurses and others with training in public health medicine such as occupational health experts (many of whom will include persons with backgrounds in biosciences).

It is impossible to estimate, accurately, the size of the indirect workforce that might be engaged in preventive health activity. Most teachers, or youth workers, or social planners working in local government, for example, will not play significant roles in a NPAHP auspiced program. Instead, because the direct preventive health workforce has a direct, mandated leadership role in NPHP initiated projects; it has been decided to attempt to enumerate the various layers and components of that workforce.

## Enumeration of the preventive health workforce

### *Registered components of the preventive health workforce*

Even for the direct workforce, information is incomplete and relevant only to some fairly specific components. The best information available on the direct workforce is for medical practitioners and nurses that specialise in public health—which may include preventive health activities<sup>7</sup>—for whom professional registration is required.

The number of professionally active **doctors** is periodically estimated from surveys of registered practitioners administered at the time of registration renewal and collated and analysed by the Australian Institute of Health and Welfare (AIHW). Respondents who declare public health to be their sphere of interest would represent no more than a small fraction of the total doctor workforce.

Table 5.2 shows that 416 doctors worked mainly as public health physicians in Australia in 2007. These would be classified as full time public health doctors and would represent specialists who were Fellows of the College of Physicians (admitted via the Australasian Faculty of Public Health Medicine) who had specialised in an area of public health. An unspecified number of other Fellows were working part time in public health (e.g. possibly mainly as tertiary teachers and administrators). Standardising the total hours of these part time doctors on the weekly workload of those that worked full time ( $4927 \div 34.1$ ), suggests that they may have represented some 144 FTEs, bringing the total number of FTE public health physicians in Australia to about 560.

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<sup>7</sup> In a recent study by HCA of the public health physician workforce for instance it was found that most of the work performed by public health physicians was in communicable diseases often in response to a problem that had already arisen (see Madden, Ridoutt and Day, soon to be published).

**Table 5.2: Public health physician workforce, 2007**

Public health physicians working mainly in public health	416
Average hours worked per week in public health by public health physicians working mainly in public health	34.1
Total public health hours per week worked by other public health physicians	4,927
Part public health physicians estimated as FTEs	144
Total FTE public health physicians estimated as FTEs	560

Source: AIHW (2010a)

Doctors other than public health physicians also work in public health. Table 5.3 shows that there were 263 full time public health specialist doctors working in Australia in 2007 plus a further 300 doctors working part time. The majority of non-physician public health medical labour is likely to be involved in public sector medical administration. Some may also have postgraduate degrees in public health such as a Master of Public Health or health administration.

**Table 5.3: Other public health doctor workforce, 2007**

Public health specialists	Full time	Part time
With specialist training in public health	123	168
Practising as public health specialists	140	132
Total	263	300

Source: AIHW (2010a)

Doctors specialising in public health could be working at strategic points of the NPAPH initiatives rather than at the coal face (as in the case of GPs). Hence their relatively small number (some 1% of all registered medical practitioners) should not necessarily be taken as an indication of under endowment

As for doctors, numbers of **public health nurses** are obtainable from periodic surveys of registration renewals with the data again analysed by the AIHW. Table 5.4 shows that nurses who describe their work as being in public health divide between clinical nurses and community nurses. In 2007 there were a total of 4,457 full time public health nurses and 1,136 who were part time.

Nurses working in the area of health promotion were the smallest category of full time public health nurses (22% of the total, full time; and 33%, part time). "Health education/disease management" public health nurses (the largest single category, overall) would be of less relevance to NPAPH initiatives since they are likely to concentrate in areas such as chronic disease; nurses classified simply as "public health" are likely to be mostly in communicable diseases or administration, some of whom may be concerned with supervising projects such as immunisation and supporting young mothers.

**Table 5.4: Public health nurse workforce, 2007**

Area of practice	Clinical nurses		Community nurses		Total
	Full time	Part time	Full time	Part time	
Health education/disease management	799	176	939	195	2109
Health promotion	402	151	579	175	1307
Public health	792	199	946	240	2177
Total	1993	526	2464	610	5593

Source: AIHW (2010b)

### Non- Registered components of the preventive health workforce

Unlike many other allied health professions where registration is a requirement and the profession can therefore be more readily enumerated, health prevention professionals are not registered and no prospect for this appears likely in the foreseeable future<sup>8</sup>. Individuals will often signify their own engagement in a discipline through their membership of a professional association or society. These membership numbers may be useful as a proxy measure of numbers in occupations which aren't registered. Membership numbers for the AHPA and the Public Health Association of Australia (PHAA) are therefore one useful proxy measure for a key part of the **direct** preventive health workforce.

Both these professional associations were presented with four questions in regard to their membership numbers as a very rough proxy for size of the direct workforce. These questions were:

1. What is your current membership number?
2. What percentage of the total workforce involved in health promotion do your registration numbers represent?
3. What is the overlap of persons registered at both associations (AHPA and PHAA)?
4. Trend membership numbers-from current to going back the last five or so years?

**AHPA** represents the health promotion profession and professional community. This profession is arguably the closest approximation of the 'preventive health' profession – at the very least health promotion is an extremely large subset of the preventive health workforce. AHPA 'membership' comprises full individual members, student members, corporate (organisational) members as well as subscription agencies who act as third parties for libraries, hospitals, departments, etc. These are both national and international.

Full individual membership is the best proxy for actual participation in the health promotion workforce nationally. The AHPA has 590 individual members in Australia which account for 53.3% of their total membership (inclusive of all categories, excluding overseas and subscriptions).

There are another 237 corporate members (i.e. NGOs and Government organisations where most health promotion workers are employed). Corporate memberships can encompass quite a few health promotion professional employees in one corporate membership, some of whom will have individual membership independently and others who will access AHPA activities only through the corporate membership. In theory, if conservatively only one health

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<sup>8</sup> The newly formed Australian Health Practitioner Regulation Agency (AHPRA) has a mandate to nationally register 12 professions only (which does not include the 'preventive health' workforce) and no plans before 2012 to register any further professions.

promotion worker is estimated per corporate membership, this would add another 237 'members', making the total workforce estimate 827.

Over the last five years AHPA membership has been mostly stable.

The AHPA provided anecdotal information that due to the lack of career structure and an appropriate award structure in each jurisdiction for those in health promotion, there has been a transition of some of their members to PHAA as the public health area of work is more readily recognised and has better job and career opportunities. These transitions are mostly by mid-career professionals.

**The PHAA** currently has 1,662 members (as at the end of August 2010). The PHAA has a variety of membership categories with a graduated fee structure. Membership comprises organisational (corporate) and individual members. Of the 1,662 current members 124 are member organisations and 1,538 are individual members.

The PHAA believes that it can validly claim to be broadly representative of the total workforce involved in health promotion. The PHAA was engaged by the National Preventative Health Taskforce to coordinate its 2009 national consultation process for the development of the National Preventative Health Strategy, *Australia: The Healthiest Country by 2020*.

While the PHAA has a strong focus on health promotion and prevention, it is also representative of a broad range of interests across the public health sector as a whole. Members of PHAA include: **frontline health workers** and service providers (doctors, nurses, community health workers, Aboriginal health workers, those working in alcohol and other drug treatment services, etc.); **academics and researchers** working in public health and related fields; **public health policy-makers** and administrators in both government and non-government organisations; those working in **advocacy roles** in public health and related fields in the non-government sector (e.g. peak bodies); **consumers** of public health services and community members with an interest in public health; as well as those working specifically in the areas of health promotion and prevention. The PHAA has no simple mechanism for distinguishing preventive health (or even health promotion) professionals from the rest of their public health membership.

Membership of the PHAA has been growing strongly and consistently over the past few years. This positive trend is expected to continue. The PHAA membership reported in the two most recent Annual Reports were:

- 1,294 in June 2008; and
- 1,466 in June 2009.

There is likely to be some membership cross-over between the AHPA and the PHAA. The PHAA has a special interest group (SIG) for health promotion and the AHPA is aware that some of their members belonging to both organisations. However, the extent of the overlap is unknown.

## Tertiary completions and enrolments relevant to preventive health

Further insight into the **direct** preventive health workforce can be gained from undergraduate and postgraduate student enrolments and graduations from Australian universities in areas such as community health, health promotion and epidemiology.

Data on University enrolment and graduation is relevant to estimating gross increments to the stock of available non-clinical public health workers on which preventive health initiatives could draw. These data are set out in Table 5.5 for the years 2004 - 2008. It will be noted that numbers completing postgraduate degrees in this period grew by some 36% (to 899 in 2008) and those completing undergraduate degrees by 16% (to 573) and the stock of undergraduate students increased by 42% (to 3,604).

**Table 5.5: Enumeration of university public health completions**

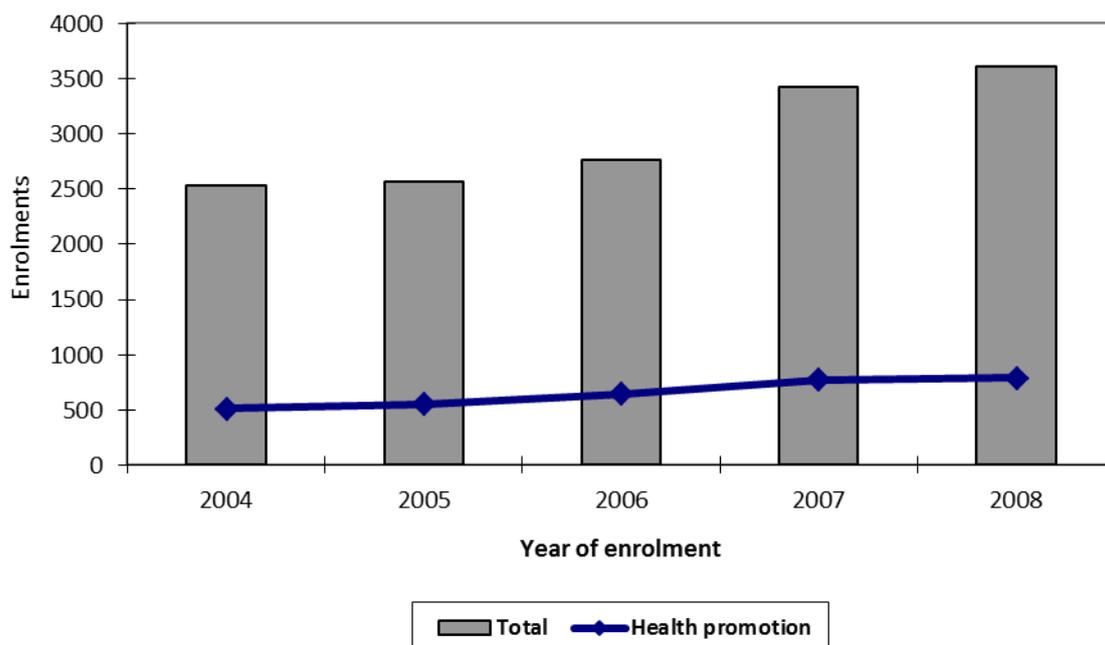
Field of education (Code)		Health Promotion (061307)	Community Health (061309)	Epidemiology (061311)	Public Health (061300) <sup>1</sup>	Public Health NEC (061399)	Total
Masters completions	2004	16	92	46	387	120	661
	2005	14	156	66	407	93	736
	2006	9	142	64	388	132	735
	2007	12	126	57	416	127	738
	2008	17	77	69	608	128	899
Bachelors completions	2004	118	2	.	325	47	492
	2005	115	1	.	354	66	536
	2006	105	1	.	314	66	486
	2007	104	1	.	423	62	590
	2008	121	.	.	422	30	573

<sup>1</sup> Separate classification to capture FOE coding changes and anomalies

Source: University Statistics Section, Department of Education, Employment and Workplace Relations, Canberra

The moderate growth in undergraduate completions contrasts with larger growth in the total undergraduate enrolments of 42% (from 2,531 to 3,604 in 2008) and even larger growth in health promotion undergraduate enrolments of 55% (from 510 in 2004 to 791 in 2008, see Figure 5.1). The student enrolment growth indicates the likelihood of a steady rate of increased growth in the public health specialist workforce albeit at entry level, in line with the population growth, that is reflected across all tertiary education sectors.

**Figure 5.1: Enumeration of university public health course enrolments**



The increase in undergraduate enrolments in tertiary training of public health workers may in part be a reflection of competitive supplier behaviour between the 31 Australian universities

that now offer courses in this area—especially the campuses of Deakin, La Trobe, Curtin, Griffith, Queensland University of Technology, Edith Cowan and Flinders in the non-specific field of “Health Science” which includes health promotion as an area of specialisation but, can also include areas such as naturopathy, leisure and health and emergency management.

Vocational courses in population health at Certificate and Diploma levels are taught at Australian Technical and Further Education Commission (TAFE) colleges and other Registered Training Organisations (including many State Health Authorities and regional health services), but little in the way of meaningful recent data are available on activity in these courses from the National Centre for Vocational Education Research (NCVER) ,—apparently due to issues that include definitional problems and software incompatibilities (NCVER, 2010). No information is available on the workforce stock of those with vocational training.

New entrants are likely to represent an approximation of net workforce accretion: replacement needs are presumed not to be significant because most public health training opportunities are a comparatively recent phenomenon and the workforce is therefore expected to be comparatively young with a low proportion of retirees<sup>9</sup>. The potential size and continued growth of the preventive health workforce, along with the likely future composition of the workforce (comparatively young) suggests there are likely to be sufficient numbers of qualified professionals in the direct, specialist workforce. However, this does not mean that the distribution of the workforce will be equitable or even that existing positions will be filled readily or sustainably. In a related fashion, the distribution of senior members of the workforce with higher levels of competence and experience is likely to be problematic, particularly outside metropolitan areas. How the future workforce is managed and mentored quickly to a higher level of maturity may be more important considerations. These issues are discussed later in this report.

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<sup>9</sup> An exception to this general observation is likely to be the public health physician workforce which has been shown to have an older workforce profile.

# 6. Competencies required for preventive health

## Scope of competencies for preventive health

As discussed earlier in this report, because of difficulty in accurately defining personnel in preventive health, NPAPH stakeholders consulted felt that their workforce should be defined by the work actually done (e.g. community development, social marketing, knowledge translation, etc.) rather than by the content of their training and professional affiliation. The content of work required supporting programs and projects can then translate into a demand for labour; this may in turn be compared with such data as are available on labour supply and used to calibrate training requirements.

The character of the work done or the content of output delivered, may be described most propitiously with reference to the competencies which are applied to tasks performed, recognising that like competencies used in identical tasks may be applied by personnel transcending differing professional and educational backgrounds. Sometimes the way in which work is structured in a State or Territory may also influence competencies demanded or supplied.

A large number of potential preventive health competencies were identified first, through a literature review and second, through consultation with selected stakeholders. The principal areas of competency recognised through these processes included:

- Assess, analyse and communicate population health needs, determinants of health and community expectations
- Program planning and consultation
- Gathering & building an evidence base for actions
- Community Development
- Partnership building and collaborative working
- Communication, media and report writing
- Knowledge of health & health promotion
- Program implementation
- Organisation development and management
- Evaluation and research

## Classification of competencies into levels

A strong desire from stakeholders consulted to categorise competencies into various 'levels' was noted. Various criteria for categorising included by levels of requirement, by types of worker ('direct' and 'indirect'), and by level of work. The concept of demarcation and differentiation within the preventive health workforce has been extensively canvassed in the recent past (e.g. Rotem et al., 1995; Ridoutt, et al, 2001; Shilton, Howat, James, Hutchins and Burke, 2008) with suggestions to categorise by type of worker (e.g. direct / indirect, specialist / generalists, policy / management / implementation), by type of work, by workforce participation and by professional capacity. It is a logical extension to seek to similarly classify preventive health competencies.

There is considerable value in classifying competencies, especially into levels of requirement, but possibly equally importantly into degrees of speciality. It is especially useful to associate specific categories of competence with recruitment and / or training and development processes, and to be able to develop optimally efficient responses to identified gaps in

different types of competence. Shilton, *et. al.* (2008) noted that the value of differentiating classes or segments of the workforce is that training needs and opportunities are very different for each segment:

*"Each of these groups [in a classification designed by the authors] has different needs and requires variable competence to perform their health promotion roles."*

One way of classifying levels of competency is to link them to three broad classes of activity associated with prevention along the following lines:

- **specialist activities**, for which prevention is the major or only part of the role. These activities are likely to be in defining programs and conceptualising projects, engaging with partners, procuring partners and building capacity in other agencies. They would also extend in some jurisdictions to managing contracts with external agencies;
- **health professional work** that may be undertaken by content experts for whom prevention is part of their role or who in some cases (after considerable 'on-the-job' and limited formal training) may have been shifted over to full time preventive roles. These activities may include the roles of allied health workers, nurses, pharmacists, GPs, Aboriginal community workers and Aboriginal health workers, etc—many of whom will require specialist support and training. Workers in this broad level of activity may 'graduate' to preventive health work incrementally, and for them a competency based approach to building their capacity may be much more appropriate than a traditional course / content based approach. Competencies also support retrospective acceptance of this learning journey through recognition of 'prior learning' and 'current competence' processes; and
- **activities of the broader workforce** for whom prevention may be part of their role—including work in schools (teaching and teaching assistance), work in sporting and recreational settings (coaching, personal training, fitness leadership, exercise physiology), NGO work (caring, social work, nursing, volunteering), work in occupational settings (associated with OHS and corporate responsibility), work encountered in other government departments, etc.—all of which will be located generally outside the formal health system and will require levels of specialist support and training more intensive than work undertaken by non-specialist health professionals.

This last group (and possibly much of the second group) includes competencies likely to be possessed by many people that could be classified as **indirect** preventive health workers, as discussed above, and for whom their preventive health roles were not their core business. In some jurisdictions, considerable work will be required by the health sector to develop and maintain the relationships necessary with other sectors to enable their 'health' work to be carried out.

Competencies from other **indirect** personnel such as those working in advertising, lobbying, journalism, town planning, engineering, etc. are also likely to be relevant to the last group. These may be competencies held by personnel that the system will need to 'buy in'. A consideration here will be locating people in these fields who are 'health-sensitive or aware'.

An analogous, but alternative way of conceptualising levels of competency necessary for delivery of the NPAPH projects, raised during the consultations and discussed briefly earlier in Chapter 5, could be as follows:

- immediate, first level **implementation** competencies directly required for delivery of preventive services at the 'grass roots' level. The greatest quantitative call on competencies (in terms of demand for workers) will manifest at this level.

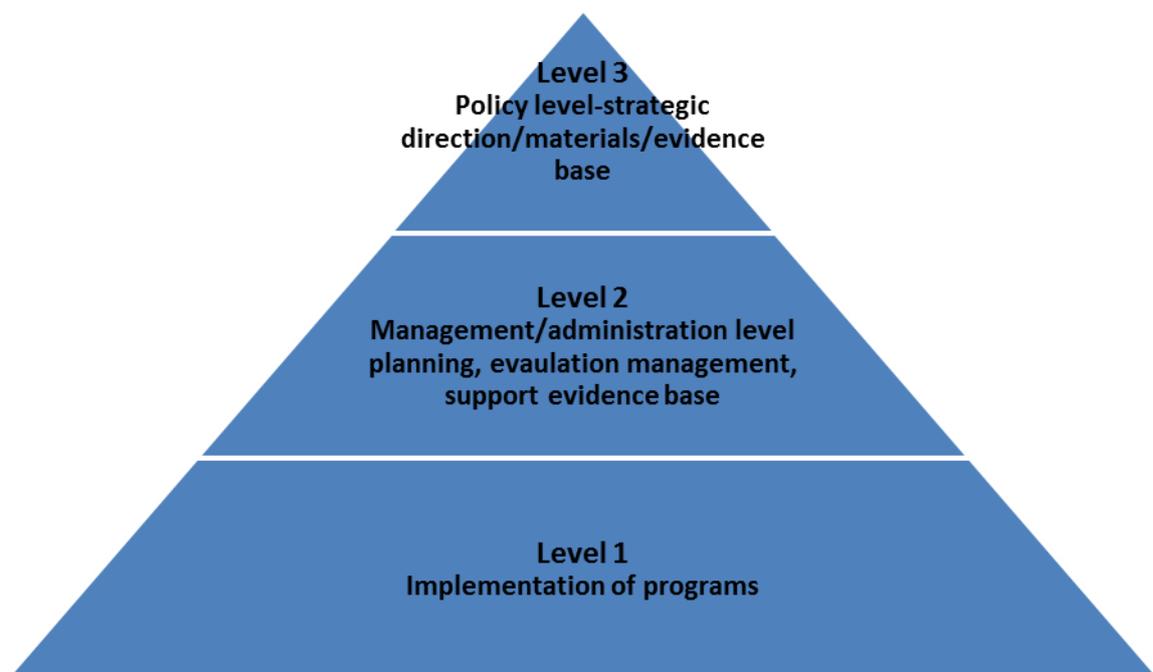
Because the bulk of labour requirements are likely to be associated with competencies for first level, 'implementation' needs, much of it may be filled by the **indirect** workforce, from outside the public health arena and often even outside the health sector. Some observers though believe implementation roles will be increasingly assumed by the graduates from degree level preventive health relevant

courses, the increased supply of which has already been discussed. In this case these competencies could be supplied by the 'direct' workforce, in so far as the people possessing these competencies might have embarked on a career exclusively within preventive health. While not a major contributor yet, 'direct' workforce resources trained in the VET sector could also become important at the level of program implementation;

- second-level competencies associated with **project or program management** and delivery of contractual obligations in settings where work may have been outsourced. Some second-level project management and delivery competencies will have been acquired by personnel from various other sectors, skilled either through formal training in project/program administration, or through clinical and preventive health courses. Other personnel will have acquired second-level competencies through many years of experience either within or outside the health sector and possibly supplemented by training in VET-type programs (such as Certificate 4 in Population Health); and some yet may need to be trained to acquire them from scratch; and
- third-level competencies associated with **strategic direction** and leadership in creating appropriate project and program emphasis. Level-three work at the apex of the pyramid relies on competencies which are more likely to be filled exclusively by the **direct** (more experienced), specialist workforce and (where higher level local autonomy occurs at the program level) will be of great consequence to program leadership and to the projects they fund.

This interpretation of preventive health competencies is illustrated in Figure 6.1 below; with levels of requirement inverted to highlight that the overall quantum at the implementation level (at the base of the pyramid) is likely to be considerably greater than at the higher levels of conceptualisation and strategy.

**Figure 6.1: Levels of competence required for different levels of the preventive health workforce**



Some of the characteristics of one level could apply to another level in certain circumstances—for instance, if work were organised more or less at a national or even state level instead of at a local or community level. Level 3 competencies especially could also apply to the second-level of competence requirement in a more decentralised program implementation structure. Contract management and outsourcing for level-three competencies may be important to the success of NPAPH activities, especially in so far as within each of the three broad program setting areas, multiple differentiated projects are

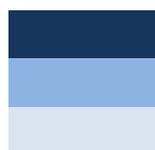
being funded. It is possible that some of the level-three competencies will be derived from formal postgraduate level training, for instance from a Master of Public Health or related course.

Alternative ways of classifying competencies according either to broad classes of activity or to levels of competence can be synthesised as in the matrix in Figure 6.2.

**Figure 6.2: Relationship between alternative criteria in defining competency for the preventive health workforce**

<i>Levels of competence</i> <i>Principal competency associated with broad classes of activity</i>	<b>Level 3</b> <b>Program and project leadership</b>	<b>Level 2</b> <b>Project management</b>	<b>Level 1</b> <b>Implementation at 'grass roots'</b>
<b>Specialist activity</b>			
<b>Health professional work</b>			
<b>Broader activities not always or necessarily formally associated with health</b>			

Key:



primary role

Important role

Occasional role

The diagonal of the matrix is indicative of correlation between definitions of competency using either criterion for its classification. However, because some clinical work may occur at the grass roots level (such as health screening), it will be noted that competencies associated with health professional work are likely to straddle those for project management and implementation (conversely those for implementation may straddle competencies for broader non-health activities and for some health professional work). Also as noted earlier, some specialist activity may be required at the project management level if funded projects are implemented as entirely discrete entities.

The matrix in Figure 6.2 has some support in the Australian literature. It parallels closely the work of Shilton, et al. (2008) who studied the closest approximation of the 'preventive health' workforce when they examined the health promotion workforce. They portrayed the health promotion workforce also in nine quadrants, defined on the vertical axis by **level of specialisation** (specialist, generalist and the broader intersectoral workforce) and on the horizontal axis by **level of seniority or experience** (Manager, practitioner or graduate).

A similar concept underpins the competencies developed for public health work in the United States of America by the *Council on Linkages between Academia and Public Health Practice*. These competencies were developed over several years and involved the input of over 1000 public health professionals. Similar to the competencies considered here for preventive health work, the competencies are divided into the following eight domains: Analytic Assessment Skills, Basic Public Health Sciences Skills, Cultural Competency Skills, Communication Skills, Community Dimensions of Practice Skills, Financial Planning and Management Skills, Leadership and Systems Thinking Skills, Policy Development/Program Planning Skills. Each competency is assessed and assigned to one or more of three levels of worker expertise as follows:

- **Front Line Staff:** Individuals who carry out the bulk of day-to-day tasks. Responsibilities may include basic data collection and analysis, fieldwork, program planning, outreach activities, programmatic support, and other organizational tasks.
- **Senior Level Staff:** Individuals with a specialised staff function but not serving as managers. They have increased technical knowledge of principles in areas such as epidemiology, program planning and evaluation, data collection, budget development, grant writing, etc. and may be responsible for coordination and/or oversight of pieces of projects or programs.
- **Supervisory and Management Staff:** Individuals responsible for major programs or functions of an organization, with staff who report to them. Increased skills can be expected in program development, program implementation, program evaluation, community relations, writing, public speaking, managing timelines and work plans, presenting arguments and recommendations on policy issues.

These are not the same categories as those presented in Figure 6.2 (or those offered by Shilton, et al, 2008) but there are similarities. The Council on Linkages (2004) further attempts to delineate possession of competence by assigning levels of skill to each competency based on the job category of the public health professional. The three skill levels are:

- **Aware:** Basic level of mastery of the competency. Individuals may be able to identify the concept or skill but have limited ability to perform the skill.
- **Knowledgeable:** Intermediate level of mastery of the competency. Individuals are able to apply and describe the skill.
- **Proficient:** Advanced level of mastery of the competency. Individuals are able to synthesise, critique or teach the skill.

The preference in this study is to assume that skill level, or proficiency level, is more a characteristic of the individual worker than an inherent element of the competence. To some extent this reflects the different ways competence is conceptualised in North America compared with the way it is understood mostly in the United Kingdom and Australia (Human Capital Alliance, 2005).

## Allocating levels to specific competencies

In the subsequent section the specific list of competencies developed and used to survey NPAPH projects (or more specifically in the majority of cases projects that could be funded under the NPAPH) is described. Each specific competency is allocated to a 'Level' of competence, the value for doing this having been outlined in the previous section and is supported by Shilton, et al (2008). The levels of competence classification approach adopted has been described, and consists of three levels – Level 1, Project implementation; Level 2: Project management; Level 3: Program and policy leadership.

Support for the concept of levels and for the levels developed and employed is strong. There are numerous references in the literature to levels of competence in the public health, population health and health promotion workforces. The consultations supported several ways of perceiving levels of competence as a means of differentiating components of the preventive health workforce, and provided evidence of high face validity for the approach chosen to levels of competence. Finally, a well researched list of competencies to underpin public health practice in the United States (closely related to preventive health practice) has included a levels of competence design very similar to that used in this study (Council on Linkages, 2004).

Still, the use of the levels remains controversial and justified largely by professional judgement and high levels of face validity. The allocation of specific competencies to various levels is more controversial still, since there is little previous work on the use of levels in this way.

The Consultant accepts that allocation of specific competencies to different levels in this study as in Table 6.1 and used subsequently to interpret findings and suggest certain directions has been undertaken entirely based on the professional judgement of the team.

There would be genuine value in future studies testing and attempting to assess the construct validity of the classification approach. Of course, if experience in using these competencies and competency levels as NPAPH projects are funded and implemented could be properly captured and linked to the type of workers used, this would be an invaluable means of building the evidence base around competence use.

## Specific competencies used to survey preventive health demand

From the broad framework for classifying competencies that the preventive health workforce is likely to possess, the Consultant was able to develop broad groups or principal areas of competence and their associated individual sets relevant to Healthy Worker, Healthy Children, and healthy community settings (Table 6.1). It is important to note that individual competencies were only allocated at **one** classification level. Some of the less 'specialist' competencies (not specific to preventive health work), for example F1: "Write reports for a variety of audiences and purposes" and H6: "Facilitate at meetings" might be argued to be required at several classification Levels, but have only be defined as at Level 1. As a result, the findings should be viewed with caution.

**Table 6.1: Summary of the principal competency list (with number of associated specific competencies) used in the survey of projects**

Principal competencies	Number of associated specific competencies	Classification of competence level
Assessing the needs and determinants of health	4	Level 2/3
Project planning and consultation	9	Level 2/3
Community empowerment	3	Level 1/2
Partnership building and collaborative working	4	Level 2/3
Communication	6	Level 1/2/3
Knowledge requirements for preventive health	9	Level 1/2
Organisation and management	8	Level 2/3
Implementation	3	Level 1
Project evaluation	5	Level 3

Nine principal areas of competency are summarised in Table 6.1 together with the number of their respective associated specific competencies (51 in all). The Table also broadly defines principal competencies according to the 'level of competence' taxonomy discussed above and highlighted in the horizontal axis in Figure 6.2.

Principal areas of competency were used as a first step in calibrating the demand for preventive health labour, by way of their incorporation in a survey of workforce needs in a number of projects distributed across each of the three NPAPH settings. The survey's findings are discussed in Chapter 7.

Table 6.2 links specific sets of competencies to principal areas of competency. Specific competencies were modified from the form they assumed after the first phase of the study in order to create a more manageable survey process<sup>10</sup> and to remove ambiguity from the

<sup>10</sup> The survey process was necessarily long and complex, and challenging for many respondents. It was constructed more like a planning guide than a questionnaire and indeed over time may assume this

survey questionnaire. It will be noted that specific competency levels may vary within principal competency areas.

**Table 6.2: Broad competency groups and their associated individual competency sets used to survey project competency needs, classified by 'level of competence'**

Broad competency group	Individual associated competency sets	Classification of competence level
B. Needs and determinants of health	B1: Conduct assessment of needs and assets in communities and populations	Level 3
	B2: Identify, source, review and interpret needs assessment data	Level 3
	B3: Assess, analyse and communicate determinants of health	Level 3
	B4: Analyse key comparative health indicators for Aboriginal and Torres Strait Islander peoples	
C. Project planning and consultation	C1: Develop appropriate, realistic and measurable goals and objectives in response to assessment of needs, assets and determinants	Level 3
	C2: Identify strategies that are based on knowledge derived from theory and evidence from research and practice	Level 3
	C3: Access and critically analyse relevant literature	Level 3
	C4: Involve community members and stakeholders in program planning	Level 3
	C5: Apply culturally-relevant and appropriate approaches with people from diverse cultural, socioeconomic, and educational backgrounds	Level 3
	C6: Identify resources (skills, personnel, partner contributions, money) available/necessary to develop, implement and evaluate a sustainable program	Level 3
D. Community empowerment	D1: Engage community members in the design, implementation and evaluation of the project	Level 2
	D2: Implement evidence-based actions to build the capacity of community members, health workers, and service providers to work together to promote health	Level 2
	D3: Measure (or assess) progress in empowerment across the course of program development and implementation	Level 3
E. Partnership building and collaborative working	E1: Articulate the benefits to all potential partner organisations of working together to implement a program to promote health	Level 3
	E2: Negotiate agreements with partner organisations that specify the roles of each in implementing a program and in maintaining the partnership	Level 3
	E3: Establish an explicit structure and process to maintain the relationships among partners, including securing necessary resources	Level 3

status. Changes to the competencies used in the survey were intended to minimise the questionnaire complexity wherever possible.

Broad competency group	Individual associated competency sets	Classification of competence level
	E4: Measure (or assess) progress in building and maintaining the partnership(s) across the period of implementation of the program	Level 3
F. Communication	F1: Write reports for a variety of audiences and purposes	Level 1
	F2: Apply mass media strategies and prepare media releases	Level 1
	F3: Communicate verbally and listen reflectively	Level 1
	F4: Present to a range of audiences and tailor communications to consider cultural and other differences (culture, gender, age, ethnicity)	Level 1
	F5: Be able to articulate health promotion jargon into salient language	Level 3
	F6: Apply interpersonal skills (facilitate meetings, negotiation, team work, motivation, conflict resolution, decision making and problem solving skills)	Level 1
G. Knowledge for preventive health	G1: Demonstrate, knowledge of health inequalities including the concept of the social gradient	Level 2
	G2: Demonstrate knowledge of the determinants of health (biological, behavioural and socio-environmental)	Level 3
	G3: Apply knowledge of health promotion models and principles	Level 2
	G4: Apply knowledge of the structure and function of the human body to health and issues diseases	Level 2
	G5: Demonstrate knowledge of the influence of policies and environments on health	Level 2
	G6: Examine and synthesise information on different health issues/topics, diseases and prevention	Level 2
	G7: Demonstrate knowledge of the health policies and systems and broader systems that impact on health	Level 2
	G8: Demonstrate knowledge of organisational development and change	Level 2
H. Organisation and management	H1: Provide strategic direction and opportunities for participation in developing health public policy, mobilising and managing resources for health promotion and building capacity	Level 2
	H2: Implementation: carrying out effective and efficient strategies to ensure the greatest possible improvements in health	Level 2
	H3: Catalysing change: enabling change and empowering individuals and communities to improve their health	Level 2
	H4: Manage projects effectively including resource management, achieving and reporting progress within budget and on time	Level 1
	H5: Demonstrate leadership skills	Level 3

Broad competency group	Individual associated competency sets	Classification of competence level
	H6: Facilitate meetings	Level 1
	H7: Coordinate volunteers	Level 2
	H8: Demonstrate business skills such as budget planning and reporting and contract management	Level 1
I. Implementation	I1: Quality assurance to determine work required	Level 2
	I2: Demonstrate program implementation skills	Level 1
	I3: Develop and coordinate production of appropriate program support materials	Level 1
J. Program evaluation	J1: Ability to identify appropriate evaluation design & methods	Level 3
	J2: Apply relevant tools for evaluating health promotion projects	Level 3
	J3: Interpret evaluation findings and adjust objectives and strategies appropriately	Level 3
	J4: Knowledge of the type of evidence used for program evaluation and its collection and analysis	Level 3

## Qualifiers to understand competency use

A number of ways were employed in the survey process to categorise preventive health competency requirement and usage and to better understand the demand drivers. These considerations went beyond quantifying competency requirements (in terms of full time equivalent days).

Survey respondents were asked how they intended to source the skills / competencies that they indicated were required. This question was an attempt to understand how difficult the competency might be to obtain. Four choices of 'recruitment' source were offered:

- In house / staff;
- Outsourced;
- Contracted;
- A combination of the above sources.

The assumption was that many competencies could be comparatively easily found or developed 'in-house', using existing staff resources. This could potentially indicate that a requirement (even if it might be quantitatively high) would not be so difficult to satisfy. By contrast, if a requirement for a competency needed to be satisfied through outsourcing (providing the work to another organisation with the necessary competence) or through contracting (obtaining the competence from outside the organisation for a short period of time), it might then signify that the competence were less available and more difficult to acquire.

Competency requirements were also assessed against the phase at which they were likely to be required during a project. The project stages as used in the survey instrument are broken

down into seven standard project management stages commonly used in project management terminology; these seven stages are as follows:

1. Program design and plan;
2. Program initiation;
3. Communicate Project Plan to project team and stakeholders;
4. Initial start up of program;
5. Project rollout and stakeholder engagement;
6. Project completion and reporting; and,
7. Evaluation.

It was assumed that different competencies might be used more or less frequently at different stages of project maturation. Thus, some competencies in high demand might be required throughout all stages and therefore it could be more readily available. On the other hand, a competence whose requirement were relatively small but specific to a single stage of work (for instance the program design and planning stage), might prove difficult to access because of its highly specialised characteristics.

# 7. Report on the findings of the survey

## Background

Projects were selected for participation in the survey on the basis of their similarity to the scope and target populations of those planned for the three NPAPH streams: *Healthy Communities*, *Healthy Workers* and *Healthy Children*. As far as possible, projects likely to be implemented in a range of settings – e.g. rural/urban – and across all jurisdictions were also selected. The initial expectation was to collect survey responses from six projects (two from each of the three settings) in each of the eight jurisdictions—a total of at least 48 survey responses (16 for each setting type).

*Healthy Communities* projects were nominated by the Department of Health and Ageing as this stream has already been cleared for implementation under the NPAPH. Participation by Local Governments funded under the *Healthy Communities* initiative was limited due to capacity constraints and the early days of grant implementation. As the *Healthy Workers* and *Healthy Children* streams were not yet implemented, comparable existing projects were nominated for inclusion in the Survey by State and Territory members of the JPG.

The survey instrument included questions about the extent of labour inputs required to deliver the projects, and collected data on:

- the projected duration of participating projects;
- the proposed intervention settings: Workers, Communities or Children;
- target populations and their location in either metropolitan, rural or remote environments; and
- the contact name and position of project managers.

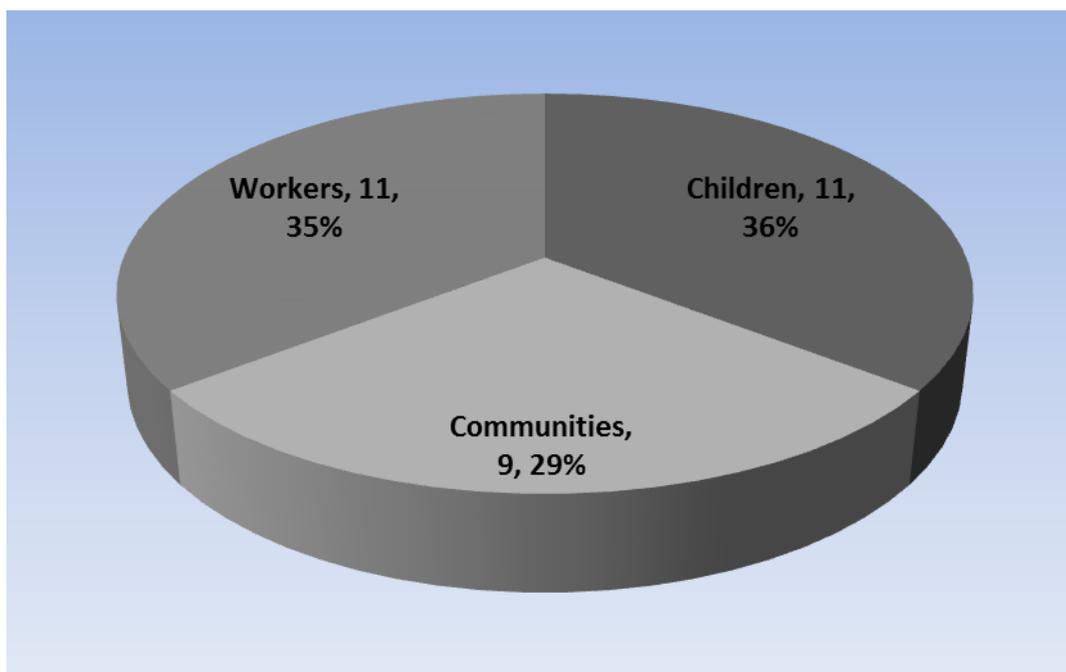
The survey instrument also asked respondents to identify the competency sets and skills required by personnel carrying out work and activities for their projects. The survey instrument is reproduced in [Appendix G](#).

Data gathered also attempted to identify the stages of a project at which various competencies and skill sets would be required. Respondents were asked to assign FTE estimates to the skills required and to provide information on 'how much' of the required skills they currently had on hand. Where a gap between required and available competence was identified, respondents were asked how they might source the required skills.

The difficulty of assigning such precision to the FTE and skill requirement calculations on projected (or very new) projects is acknowledged. Many projects surveyed are relatively new, still in the stage of commissioning, and the categorisation of competencies used for the survey were unfamiliar to many project managers. Accordingly, the information gathered from the surveys are likely to represent a 'best guess' estimates.

## Characteristics of projects surveyed

Although it was aimed to include forty-eight survey participants distributed evenly across the three intervention streams and the jurisdictions, a total of 31 responses, was achieved distributed across the three program streams as shown in Figure 7.1.

**Figure 7.1: Distribution of projects surveyed by type of setting**

Nationally, the projects surveyed were relatively evenly distributed between the 'Children', 'Communities' and 'Worker' program settings (Figure 7.1). However the distribution between jurisdictions and within jurisdictions between program streams varies considerably.

**Table 7.1: Distribution of projects surveyed by State / Territory**

State/Territory	Frequency	Type of program		
		Communities	Workers	Children
ACT	5	-	2	2
NSW	2	-	-	2
NT	1	-	1	-
QLD	6	2	2	2
SA	2	2	2	-
TAS	6	2	2	2
VIC	1	1	-	-
WA	8	2	2	3
<b>Total</b>	<b>31</b>	<b>9</b>	<b>11</b>	<b>11</b>

The wide variation across States and Territories possibly reflects variation in the size of individual projects and/or population coverage. The great majority of projects surveyed (87%) are located in metropolitan areas. Because many of the projects surveyed have a wide geographic footprint, a significant proportion is also located in rural (71%) and remote (48%) areas. Of the projects surveyed there is much overlap in their coverage of metropolitan, rural and remote settings in that one project may cover all three classifications, or a combination of any two or just one. The overlap of projects surveyed is shown in Table 7.2:

**Table 7.2: Locational coverage of project surveyed**

Project coverage	No
Project covers all three classifications (metropolitan, rural and remote)	12
Project covers metropolitan and rural settings	7
Project covers rural and remote settings	2
Project covers metropolitan settings only	8
Project covers rural settings only	2
Project covers remote settings only	1

While the three broad settings classifications largely identify the target groups for projects surveyed, some projects target quite narrow sub-populations within the broader setting classification (for instance, 'Worker' projects targeting only construction workers, or 'Community' projects targeting only specific sub-population groups (e.g. Indigenous communities).

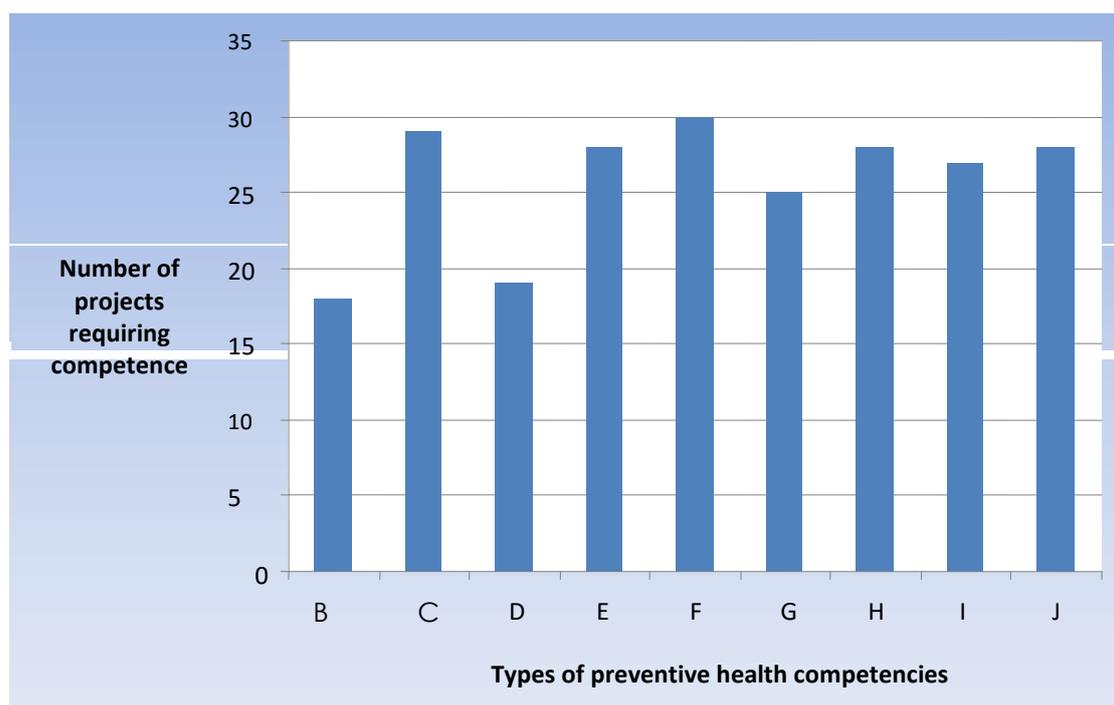
The 'Communities' setting in particular, is often more open and projects under this classification can either be narrow, focussing on individuals with, for example, poor risk factors (e.g. obesity) or existing health problems (e.g. type 2 diabetes) and respond by changing lifestyle behaviour in those individuals. Other projects take a broader population approach, attempting to change community cultures or build community capacity to address their population's preventable health problems. Brief descriptions of each of the 31 projects surveyed are provided in Appendix H.

Most of the programs studied had commenced within the last three years (71%) although some of the projects nominated and surveyed had been operational for up to 10 years.

## Requirements for principal competency areas by all projects

The requirement for competence in the principal competency areas by the projects surveyed is shown in Figure 7.2 below. All nine competency areas were used by **at least** half of the projects surveyed. Competencies most commonly used across all program settings were:

- C: 'Project planning and consultation',
- E: 'Partnership building and collaborative working',
- F: 'Communication',
- H: 'Organisation and management'; and
- J: 'Project evaluation'.

**Figure 7.2: Number of projects surveyed employing the nine broad competencies areas**

*Key: preventive health competencies*

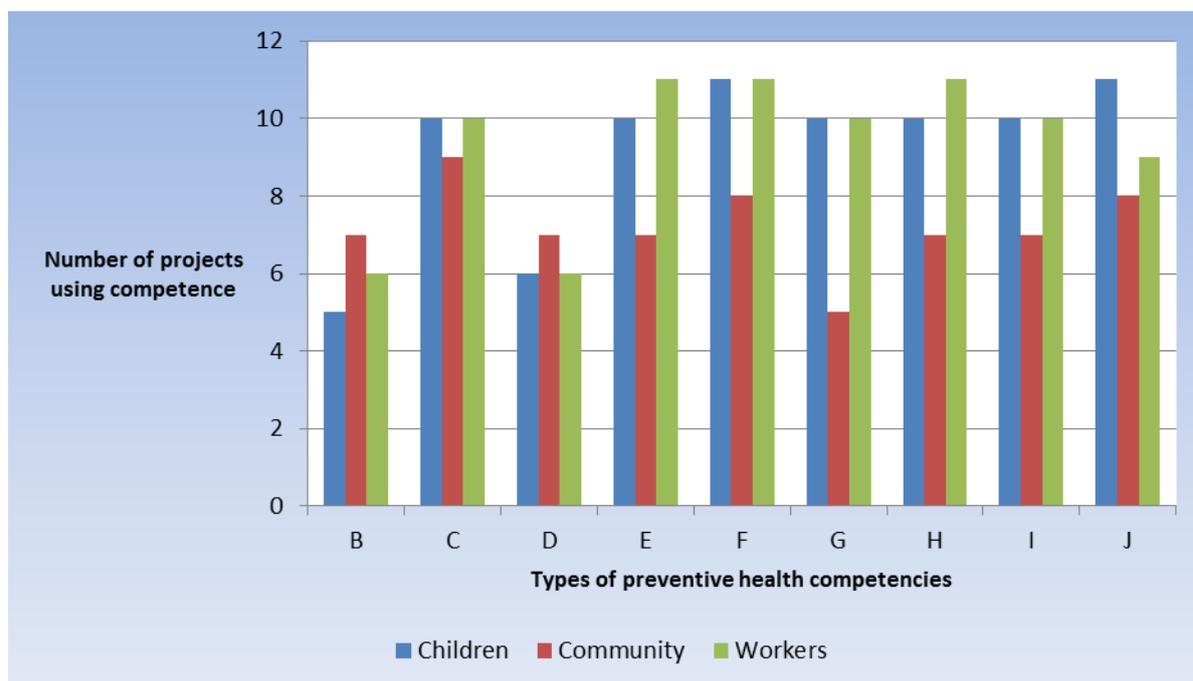
- B = Assessing the needs and determinants of health
- C = Project planning and consultation
- D = Community empowerment
- E = Partnership building and collaborative working
- F = Communication
- G = Knowledge requirements for preventive health
- H = Organisation and management
- I = Implementation
- J = Project evaluation

### **Principal competency area use by program setting type**

The competency areas used by projects varied little across the three program setting areas (see Figure 7.3), but with some variation in the relative importance weighting across the competency areas. In *Children's setting projects*, the most important competency areas appeared to be F: communication and J: program evaluation.

In *Community setting projects*, the most important competency area appeared to be C: project planning and consultation. In the *Worker setting program*, the most important principal competency areas appeared to be E: Partnership building and collaborative working, H: organisation and management and F: communication.

Figure 7.3: Number of projects surveyed employing principal competencies by setting



*Key to preventive health competencies*

- B= Assessing the needs and determinants of health
- C= Project planning and consultation
- D= Community empowerment
- E= Partnership building and collaborative working
- F= Communication
- G= Knowledge requirements for preventive health
- H= Organisation and management
- I= Implementation
- J= Project evaluation

The principal competence area of B: 'Assessing needs and determinants of health', is the least used of the nine principal areas of competence by the projects surveyed. A higher proportion of 'Community' setting projects use this competence area than other project types, possibly reflecting the broader range of population groups that Community setting projects are designed to cover. They are also more likely to be 'starting from scratch', whereas other project types are often building on previously developed project methodologies for their target population groups.

It is difficult to conclude from the survey findings that there is any general problem evident in satisfying the requirements of NPAPH projects for suitably competent workforce, or the extent of this problem (should it be identified). Nor do any specific areas of competence stand out as particular problems. However, limitations in the survey process (discussed in the next Chapter) and the early stage at which the survey was undertaken may be a reason to be cautious about the data and findings and to categorically rule out future or even current potential problems.

Perhaps the survey findings can be applied best to list those specific competencies around which some concerns might be raised and for which a 'watching brief' might be appropriate. These include:

<u>Specific competence</u>	<u>Cause of concern</u>
Implementation: carrying out effective and efficient strategies to ensure the greatest possible improvements in health	Highest quantitative gap between requirement and supply. Comparatively low proportion of surveyed projects who nominated this competency believe they can satisfy need through 'in-house' labour supply.
Catalysing change: enabling change and empowering individuals and communities to improve their health	One of the competencies most required, with significant absolute size of gap between requirement and supply (although not a significant 'relative' gap size). Very low perceived 'in-house' capacity to satisfy requirements.
Measure (or assess) progress in building and maintaining the partnership(s) across the period of implementation of the program	Highest relative size of gap between requirement and current supply. Requirement for this competency is almost exclusively concentrated in project rollout and stakeholder engagement phases.

Ironically the first two specific competencies of concern are Level 2. This is surprising because Level 2 competencies are under-represented in the top 15 of both the total quantitative requirement and gap competencies lists. Both of these specific competencies are from the principal competency area of organisation and management. The third specific competency is a Level 3 competency.

## 8. Discussion

### Adequacy of competency supply

Findings from the consultations with stakeholders in each of the State and Territory jurisdictions reported in Chapter 4 highlighted general stakeholder confidence in the adequacy of the preventive health workforce to satisfy the overall requirements of NPAPH program. Tasmania and the Northern Territory were notable exceptions.

In Tasmania there is no local supply of new graduate preventive health workforce and very limited new supply from VET sector training arrangements. Stakeholders expressed concern especially about the limited current pool of 'Level 3' type competence—generally directly supplied only from suitably qualified professionals (health promotion graduates, public health masters, etc).

In the Northern Territory the requirements for preventive health workforce, particularly in comprehensive primary health care settings within remote Aboriginal communities, are somewhat unique. There is a strong desire to build an indigenous preventive health workforce, but work recently undertaken in the NT to review the Aboriginal Health Worker workforce (Ridoutt, Pilbeam & Lee, 2010) suggests that the pool from which this workforce might be recruited and trained is very shallow. Some consultations also revealed a difficulty in finding suitable workforce in rural and remote areas, but this was often interpreted as either a structural problem (being able to fund attractive, 'whole' positions) or a problem with maldistribution of the preventive health workforce.

The survey results largely support the consultation findings. While some large relative gaps for specific competencies were found between surveyed project requirements and current perceived supply, these gaps could largely be attributed to a very small number of projects. Each were 'start up' projects and therefore at the beginning of their recruitment phase. In truth, the survey results were affected by the timing and some process limitations which are discussed below. A future survey of 'live' NPAPH-funded projects might be better placed to deliver more conclusive findings.

### Limitations of the survey approach

A merit of the method underlying our survey is that it relies on an examination of work that projects are actually performing (or propose to perform) in order to deliver NPAPH program objectives. It is therefore demand driven (assuming that there are no financial constraints) and differs from models that attempt to consider the adequacy of health labour in terms of supply-driven 'workforce development' philosophies (e.g. Rotem et al 1995).

Modelling workforce demand simply as a function of the work actually being done, however, implies that the current work reflects 'best practice' and evidence of effectiveness. It assumes that all projects are supported by quality leadership and management. In reality, projects cannot necessarily be assumed to be managing their labour on principles that deliver optimal outcomes at least cost. Many projects could be susceptible to the risk of poor practice, or favouring a managerial style that is easiest to implement, in preference to methods that are likely to be the most cost effective.

Ideally methods of estimating the adequacy of labour that is demand-driven should be controlled for evidence of managerial efficiency and the adoption of best practice principles. Ideally too, the survey would be completed by preventive health workers competent at the program and project leadership level. This was not possible in this study.

A second limitation of the survey data is the size of the sample project population surveyed (31) as well as the general limitations of self-reported data. Provided it were representative, the comparatively small sample could still be considered adequate to analyse the broad features of the future workforce. There is reason, however, to doubt the sample population's

representativeness. A number of 'old' projects may not have placed much importance on 'up front' competencies such as those associated with assessing needs and project planning; and some very 'new' projects may not have been able to properly assess their future needs.

Regardless of the issue of representativeness, the small sample imposed restrictions on the degree of micro analysis that could be performed. For instance, any attempt to penetrate reasons for the variation in competency requirements of projects from different settings or from different geographic locations was not possible.

Potential differences between competency requirements for practitioners and providers in rural and metropolitan projects are an important consideration. Shilton et al (2003) have identified significant variations in perceived essential competencies required by rural health promotion practitioners. The reasons are unclear, but lack of local leadership, mentorship and higher level health promotion management is likely to be a factor. Rural practitioners are consequently often called upon to perform 'higher level' tasks than their metropolitan counterparts. The consultations reported in Madden, Ridoutt & Day (2010) also noted that rural projects tend to rely more on the indirect workforce to satisfy their workforce requirements.

## Sources and limitations of secondary data

The extent and quality of data on the personnel likely to participate in the preventive health workforce is unreliable as there is no data collection agency with specific responsibilities for the preventive workforce. The role of prevention is often ill-defined; it means different things to different people and its work is frequently confused with responsibility for chronic care (e.g. TSO 2007, p 17).

Primary prevention is related to whole-of-population measures, such as immunisation, food quality standards, drinking water treatment, OH&S standards, etc. Secondary prevention includes population disease screening projects, and prevention of both communicable disease outbreaks (health protection) and chronic disease. Tertiary prevention is focused on treatment (Stieber, 2005).

For the purposes of this study, the focus was on the workforce associated with a specific subset of primary prevention measures or population health interventions. The results are therefore derived or demand-driven from a sub-set of projects that may not be representative of broader preventive health practice in Australia. The results, which are based on actual work performed (or to be performed), may also not represent best practice. Taken as a whole, these initiatives lack focus on environmental interventions, policy interventions and have a prominent focus on Aboriginal and Torres Strait Islander people.

Lack of definition of the work of preventive health furthermore causes complications in the collection of data on its workforce. Preventive workers are often in job share situations and they may be fractional appointments with other unrelated responsibilities. There are consequently difficulties in precisely defining the quantum both of prevention workforce availability and need. This is especially likely to be a problem with the indirect workforce (located in both health and other sectors) but it may also be relevant to some health professional activities including that provided by the 'direct' workforce.

The best data are currently and potentially available on categories of preventive health workers that are obliged to maintain professional registration. Information has been collected periodically as self-reported information through State and Territory registration agencies from surveys of registrants renewing their registration. The data collected are collated, cleaned and analysed by AIHW. In recent years the AIHW has had sufficient resources to analyse data collected only from renewing nurse and doctor registrants.

The surveys administered through registration authorities to renewing registrants seek much detailed information covering areas of work, employment and areas of 'specialisation'— and while there are some pertinent questions in both the medical and nursing survey questionnaires, there is considerable scope for including additional questions that could shed better light on preventive work. Moreover, the processes of registration have changed significantly since July

2010 with the formation of the Australian Health Professionals Registration Authority (AHPRA) and the introduction of national registration for ten health professions viz.: medical practitioners, nurses and midwives, physiotherapists, pharmacists, podiatrists, psychologists, dentists, chiropractors, optometrists and osteopaths<sup>11</sup>. The collection and analysis of workforce data from each of these ten professions will be guaranteed in the near future by Health Workforce Australia, the new national health workforce agency, whose role includes:

*"... the provision of comprehensive, authoritative national workforce planning, policy and research advice to Ministers, Governments and key decision makers in the health and education sectors."*<sup>12</sup>

The questions currently in the medical practitioner and nursing and midwifery surveys seeking information on work performed in the area of prevention (or at least public health) could easily be extended to the surveys to be used with the other professions, nearly all of which could report on their varying levels of engagement in preventive health initiatives in each of the NPAPH program settings.

Ideally, improved questions to current or potential preventive health workforce participants should be incorporated in future surveys at the time of registration renewal processes. For instance, there is no discrete reference to the term 'prevention' in any of the current medical practitioner survey questions about fields of doctor work (or other questions). In trying to interpret a possible connection with prevention, researchers must rely on definitions such as 'public health physician', many of whom are solely concerned with policy or public health diseases—even though 'preventing or ameliorating public health threats' (which could be far removed from preventive health) is included under the possible responsibilities of a public health physician.

Whilst preventive health is a specialist field of activity, all questions about 'specialist' work are explicitly directed at specialist areas of clinical practice that require Medicare Australia's specialist recognition codes. Neither does the word 'prevention' appear as an explicit area of practice in the nursing questionnaire, although it could perhaps be considered as principally covered by the term 'health promotion'.

It is likely also that a significant proportion of the direct preventive health workforce which is employed in designated Health Promotion Officer or public health roles is not registered. Instead they signify their engagement in a discipline through their membership of a professional association or society. These membership groups could also become sources of data to inform preventive health competencies.

## A possible richer data future

Looking towards the future, it seems inevitable that the collection of preventive health workforce data and defining appropriate criteria for their collection will be more centrally coordinated. Candidates for this role would obviously be Health Workforce Australia but it might also include the proposed National Preventive Health Agency or both. Whoever assumes responsibility, they will need to expand workforce data collection activities beyond the narrow confines of surveys of renewing registrants. While these are useful, they provide only a picture of workforce supply, and are incomplete in that many practitioners in health promotion and public health are not registered. To properly address the needs of data on workforce demand (and coincidentally also improve understanding of supply<sup>13</sup>) an alternative process is required that builds an understanding from a micro rather than a macro level.

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<sup>11</sup> Others are to be added to this list in 2011 and 2012.

<sup>12</sup> <http://www.hwa.gov.au/sites/uploads/CSSP%20Discussion%20Paper.pdf> accessed 12 August, 2010

<sup>13</sup> It would be helpful if health workforce survey questionnaires could include a short question about competencies which health professionals believe they possess and that are relevant to preventive health work. This would provide what used to be termed a 'skills audit', a useful starting point for consideration of whether staff resources are adequate for the work to be performed.

The survey instrument adopted for this project could be a reference point for further development of comprehensive data collection. As we have discussed above, because of the imprecise division of labour in preventive health activities, it is instructive to focus on the application of competencies in an understanding of the health labour market. The data obtained through the survey from the 31 surveyed projects was rich and highly informative. A workshop conducted in Victoria with regional preventive health service / program managers that tested the principles of preventive health workforce planning embodied in the survey instrument [but using a more tactile approach], also provided very supportive feedback. Widespread application of the survey methodology could therefore be envisaged to generate a more comprehensive picture of demand for preventive health workforce. This may also be extremely helpful in addressing the collection of data on indirect preventive workers whose normal activities may not be intrinsically or ostensibly associated with prevention.

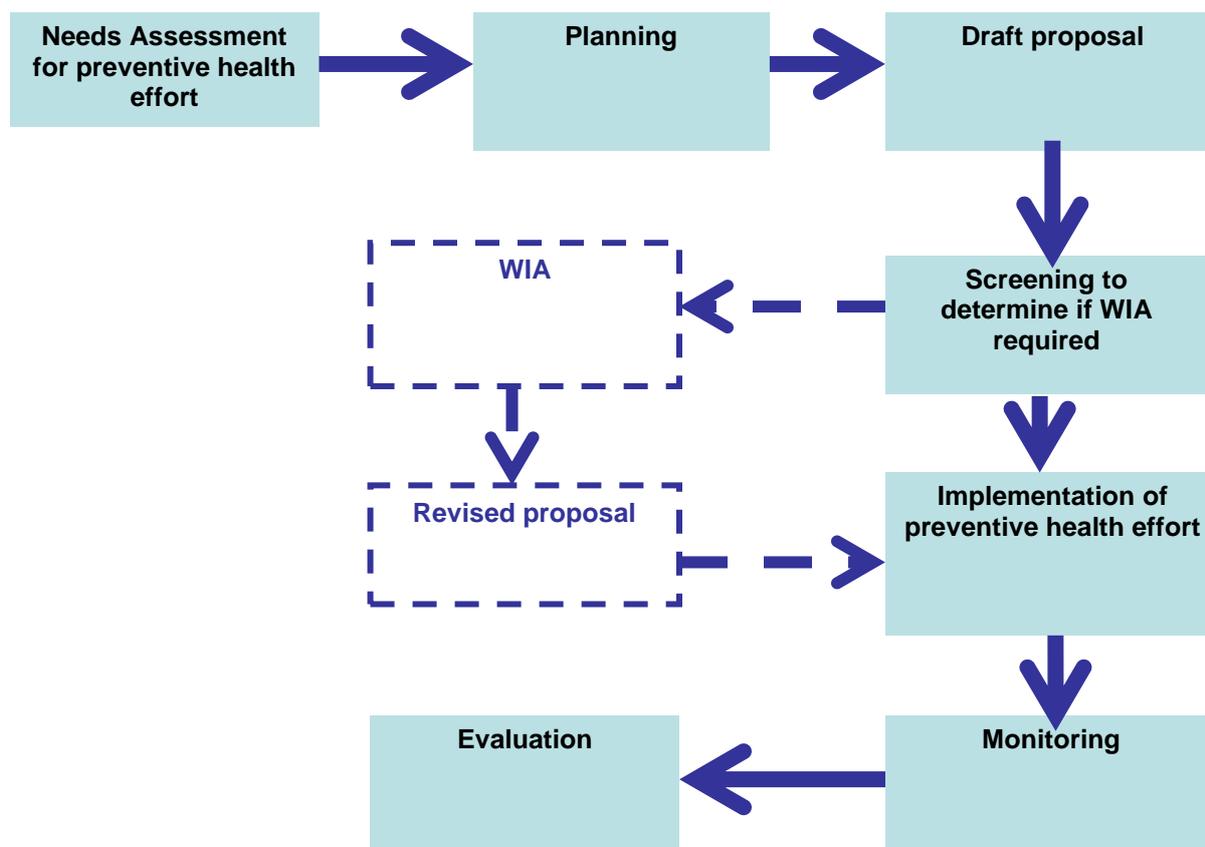
Preventive health workforce data collection ideally needs to be undertaken routinely and compulsorily. During this project mechanisms for collecting workforce data as an integral part of service planning were canvassed, but nevertheless received varying degrees of enthusiasm. An obligation to collect data retrospectively (that is, on existing program activity) attracted little support; and on the ground data collection should add innate value and be able to 'sell itself', some stakeholders considered that compulsory provision of data could never be justified.

Conceptually, the area of Health Impact Assessment (HIA) (Harris, Harris-Roxas, Harris, & Kemp, 2007) provides a strong philosophy for the timing and mode of health prevention data collection. HIA is considered to be both a health protection and health promotion (prevention) tool. It broadly attempts to undertake assessments of both health hazards and health benefits of a 'proposal' and the potential ways in which health and wellbeing can be both protected and promoted. According to Harris et al. (2007) a HIA:

- Assesses plans, projects, programs or policies **before** they are implemented.
- Predicts the health **impacts** of these proposals, including:
  - assessing the severity and likelihood of the identified positive and negative impacts;
  - determining whether these are direct or indirect impacts, and
  - assessing the distribution of impacts.
- Recommends **mitigation** measures:
  - to maximise positive health impacts and minimise negative health impacts; and
  - to engage decision makers so that they consider health impacts and the determinants of health in their deliberations.

One may accordingly propose a Workforce Impact Assessment (WIA) tool as a derivative of the HIA model that could analogously be used (prior to implementation) to assess plans, policies, programs / projects in terms of workforce implications. An overview of where a WIA might fit is provided in Figure 8.1.

**Figure 8.1: Conceptualisation of a WIA process that could integrate with planning and implementing preventive health activity**



A postscript on preventive health workforce data collection concerns data on vocationally trained preventive health workers who have gained TAFE college certificates and diplomas. Such data as there are from NCVET indicate that enrolment and graduation activity in appropriate qualifications (e.g. those from the Population Health Training Package) is very low. This could imply that the qualifications are unattractive to either direct or indirect preventive health workers—or perhaps their prospective employers.

There are clearly matters of administrative concern, however, in relation to NCVET collection activities that need to be resolved. These difficulties preclude a proper analysis and therefore insight into consideration of the relative uptake of VET level preventive health learning opportunities.

## Development of new workforce supply

Historically, accretions to the 'direct' preventive health workforce have originated from four major sources: (1) health professionals in acute care services who, through on-the-job training or limited in-service training, informally transfer their labour (almost imperceptibly) to the preventive health workforce; (2) health professionals who have deliberately prepared for a formal transfer to preventive health work, generally through completion of postgraduate studies (such as a Master of Public Health); (3) non-health professionals (e.g. teachers) who have formally prepared for a formal transfer to preventive health work generally through completion of postgraduate studies (such as a Master of Public Health); and (4) those who make a career choice in preventive health, facilitated by completion of a relevant undergraduate course of study (e.g. degree in health promotion).

Most current participants in the preventive health workforce would have entered through the first pathway. In the long run, supply from this source is effectively unlimited. On a very crude level of analysis, if between only 2% and 3% of the acute care workforce shifted its labour to preventive health, it would more than double the size of the preventive health workforce. In practice of course, even this small proportional shift would require preventive health employment to become more (or at least as) financially attractive as that in acute care. This source of supply also has short run limitations. Generally unless and until this labour is willing to undertake relevant further studies, it can only satisfy competency requirements at Level 2 or Level 1 ('program management' and 'implementation').

New specialist or Level 3 preventive health workforce competencies would probably need to be sourced from those completing relevant postgraduate studies and from relevant graduate supply, but mentored or guided into specialist competence capacity. As shown in earlier chapters, new graduate supply is growing rapidly and may be expected to keep pace with, and satisfy immediately foreseeable competency requirements.

Smart deployment strategies rather than skills development may most relevant for addressing specialist competencies that are in shortest supply. 'Capacity building' may thus have less to do with the absolute size of the workforce than machinery to better ensure 'just in time' delivery of critical competencies to satisfy the phasing of specific planning, policy and program / project requirements.

Our suggestion for the 'specialist' preventive health workforce is that there should be a series of high-level workshops in each jurisdiction to link this group directly to the implementation of NPAPH projects and to establish some nationally-agreed indicators to assess progress.

The indirect or Level 2 workforce, linked with specific projects is likely to need training 'on the spot' through mechanisms for professional development customarily available to them in their locations or workplaces. An issue for jurisdictional planners and administrators (including the Commonwealth) is to find the highest possible level of aggregation for this training so as to minimise the risk of many small and dislocated training opportunities occurring around the implementation of many like projects drawing on similar types of competencies.

Fractionated training platforms could contribute to significant variation in the quality of training, and thereby the competence of workers charged with performing similar if not equivalent work. On the other hand, seeking too high a level of aggregation of training in the cause of greater quality assurance and efficient use of training resources could lead to delays in competence development and compromise 'just-in-time' deployment of skills required for project implementation.

## Fostering new supply

As previously noted, a significant new supply of appropriately skilled undergraduates and postgraduates is already entering the preventive health workforce and is scheduled to increase over the coming years as a result of enrolments already in train. Precisely where these new workforce entrants will integrate is still being negotiated, but it is likely they will initially perform mostly implementation roles and hence operate at Level 2 ('project management') or even Level 1 ('implementation at grass roots') levels of competency. Regardless of their prospective role, keeping new sources of competency supply productively in the preventive health workforce long enough to obtain a sufficient return on investment remains a challenge. Three areas of possible concern / potentially positive action were noted in the consultations:

- Security of employment: many stakeholders in different jurisdictions noted the sometimes short term and insecure conditions of employment in preventive health work, particularly at the project implementation level. Because of funding constraints, employment is invariably on a contract basis, on terms governed by the term of project funding (rarely more than three years). Some jurisdictions considered it might be valuable to establish a flexible and deployable preventive health workforce (with Level 2 or program management / implementation competencies) under quasi labour hire-type arrangements with a single

'group employer' infrastructure. The employing entity would then ensure continuity of employment (although possibly not continuity of place of employment); it could offer a career path and appropriate remuneration as each worker's competence grew; it could invest in short and long term competency development; and it could attend properly to a range of important human resource management considerations, including performance management. Funded programs and projects (in the government, non government, local government or even private sector) could contract with the labour hire entity to secure an appropriate workforce, and for the term of their funding arrangements become the 'host employer'. Importantly, host employers would also benefit by satisfying their competency requirements sooner and more conveniently, and with greater confidence in the quality of the workforce resources. Moreover, 'vacancies' that arise in the latter stages, of the funding cycle that are historically difficult to recruit against, could be filled with less stress. The Commonwealth has recently (and successfully) established a prototype for such infrastructure in the Northern Territory in the form of the Remote Area Health Corps (RAHC) which delivers primary health care workforce (albeit on quite short term contracts) into remote Aboriginal primary health care services<sup>14</sup>.

- Career structures: an attendant problem of fixed, often short term employment contract arrangements is that preventive health workers end up moving from job to job, but with no apparent logic to their career progression. Employment choices made can often be forced, and inappropriate to promotion or progression say from Level 1, to Level 2 and ultimately Level 3 (if desired) competence levels. Some jurisdictions have moved to more comprehensively applied job classification and remuneration structures, which are competency based. This is an important prerequisite to providing a direction to career pathways and supporting career progress.
- A lack of mentorship and leadership: as the size of the preventive health workforce grows, professional leadership is emerging as an important issue (this can apply equally to those in the indirect workforce and new supply to the direct workforce). With a very young workforce coming through, poor leadership and / or inadequate mentoring can lead to perpetuation of less effective practice. In South Australia some key preventive health projects have built in supernumerary Level 3 staffing arrangements. This assists in accommodating proper mentoring arrangements for the new graduate workforce and thus builds a new layer of the 'specialist' preventive health workforce through the 'training' processes of project implementation. Mentoring benefits not just efficient and correct development of competence, but can also help young preventive health professionals better determine and embark upon their career pathway. A broader role for professional associations and the role of the proposed National Preventative Health Agency in career pathways and progression, mentoring and competency development, still needs to be clarified.

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<sup>14</sup> <http://www.rahc.com.au/>

## 9. Conclusion

The project developed a **set of draft competencies** congruent with work that is envisaged for the NPAPH. Competencies were assembled from the literature as well as constructed from **themes** relevant to the organisational context of each jurisdiction. Although stakeholder consultations largely validated the list that developed, some emphasis was placed on competencies that included:

- organisational change / management;
- program implementation;
- facilitation skills;
- the ability to lead and coordinate the process of engaging with others to make health promotion/preventive health 'everyone's business';
- ability to drive, coordinate and lead as appropriate community processes that will connect and empower others; and
- ability to link to policy and broader strategic thinking.

Many identified areas of competence hence became the basis for designing the program survey instrument.

Healthy Communities program activities were funded with effect from May 2010 and with Commonwealth encouragement, a number of these projects participated in the survey. In the case of the Healthy Children program, a range of 'proxy' projects was identified in all jurisdictions but one. In regard to Healthy Workers, a greater challenge was envisaged, but most jurisdictions were confident about identifying appropriate examples of existing workplace-based preventive health initiatives for the survey. This enabled the survey to fulfil its pivotal role in ascertaining competence requirements for NPAPH program activity and in identifying competencies which might prove difficult to obtain and to appropriately deploy.

**Steps 1 - 4** of the consultancy gathered new information on the variation of NPAPH **implementation contexts** between States and Territories. An obvious source of variation is size. Some smaller jurisdictions simply do not possess sufficient 'critical mass' of preventive health / public health human resources upon which to draw for a sudden or large increase in workforce demand. Their capacity is constrained further in the lack of any, or a sufficiently substantial infrastructure for training and education of preventive health workers. The main deficiencies of small scale are manifest in elements of the workforce that are used at higher and more specialist levels of the preventive health system, rather than at the 'coalface'. Indeed, these shortcomings may sometimes even be apparent in some of the larger jurisdictions. Full appreciation of the effects of scale necessitated sound conceptualisation of NPAPH program activity and logical design for Program Survey sampling.

We have shown that another source of variation between jurisdictions is the level and means of controlling central planning and in setting policy goals of what actually occurs at the program activity ('coalface') level. Some jurisdictions have a history of exerting influence over local preventive health / health promotion activity by linking funding to uniform stringent compliance criteria. Other jurisdictions have tolerated more flexible implementation arrangements, exerting their control with the aid of broader policy and education / promotion guidelines. Jurisdictions with greater levels of devolution may have greater difficulty in deploying competencies appropriate to managing highly prescriptive NPAPH programs.

From a workforce planner's perspective, the preventive health workforce is an ideal workforce to manage rather than plan. Because of its historical evolution and its evolved culture, the current preventive workforce is undoubtedly the most flexible of all health professional workforces. This is reinforced by its strong philosophy of equality in contribution from different forms of labour, little or weak demarcation lines (that govern classes of labour that can perform specific tasks) and an established practice of drawing appropriate expertise from non-health

sectors. In addition, while not explored fully in this study, there appears to be a growing supply of new entrants to the workforce at the undergraduate and postgraduate level.

Current indications from this study are that the preventive health workforce is expanding fast enough and is flexible enough to adapt to the immediate demands of the NPAPH (and possibly to the implications more broadly of the Preventive Health Strategy) without causing any but localised limitations to program implementation.

A methodology for understanding, monitoring and planning for the preventive health workforce that is demand driven and uses competency requirements as unit of analysis has been introduced in this study. It builds on work undertaken on planning for public health workforces by Ridoutt, *et al.* (2004), and offers a pragmatic and useful template. The survey questionnaire, with modification (as required), including fine tuning of competencies, could lend itself for data collection and preventive health workforce planning by the Australian National Preventive Health Agency and/or the Health Workforce Agency. In an earlier section, a structure for data collection within a 'Workforce Impact Assessment' framework was proposed and discussed.

The results of the survey in this study hint at problems with the distribution of the current workforce in relation to the populations that are intended to be 'engaged' by the NPAHP. The distributional issue for preventive health is similar to clinical medicine, with distance from central metropolitan locations creating barriers to recruitment and retention. Remote and disadvantaged communities may hence be obliged to rely on a leaner and potentially less competent workforce. Workforce distributional problems are difficult to resolve with workforce planning intervention. They are more amenable to workforce management solutions. We might argue that most preventive health workforce problems can be resolved through proper deployment and management of existing ('in-house') human resources with only very targeted additional training effort. In terms of immediate investment, the best options might be those that improve capacity to manage the workforce such as:

- infrastructure that enhances the mobility of preventive health workforce and its capacity to deliver required timely competencies in the short and medium term;
- mechanisms for ensuring that workforce quality (in terms of required competencies) is uniformly high; and
- infrastructure that permits optimal competency to develop efficiently across the workforce.

Some examples of infrastructure investment have already been canvassed in earlier sections of this report.

Notwithstanding the focus on workforce management, some targeted investment in the supply of preventive health workforce would be appropriate. There are specific locations where required competencies are difficult to source and which could be supported through increased training. For instance, in Tasmania there are no relevant undergraduate (or even VET) courses, that might supply the preventive health workforce. It is difficult to see how Tasmania's supply requirements might be fully satisfied from other jurisdictions. The Northern Territory is in a similar position. As well, a closer examination of the development of Level 3 ('specialist') competencies might be advisable to evaluate specific training interventions.

Finally, it is worth contemplating the scale of work necessary during the term of the NPAPH to yield measurable health gain (superior quality of life or avoidance of premature death or both). Estimating the incremental personnel that will need to be 'enrolled' in projects such as those proposed under the NPAHP and estimating where they are, would be helpful in adding to the work completed as part of this study. This might then contribute to illuminating and further evaluating the incremental demand for preventive competence required for securing defined long term health goals.

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