



National Preventive Health Surveillance Forum

A healthy Australian society, where the promotion of health is embraced by every sector, valued by every individual and includes everybody

The Great Hall, University House
Australian National University, Canberra

Monday 2 April 2012

REPORT ON PROCEEDINGS

This report is based on presentations and discussions about preventive health surveillance convened by the Australian National Preventive Health Agency. The views expressed represent the experiences of individual participants and not the Agency.

Acknowledgements

This final report is based on a report on the day's proceedings provided to ANPHA by K.J.ROEDIGER on 4 April 2012.

KJR

ANPHA would also like to acknowledge the input of members of the ANPHA National Preventive Health Surveillance Working Group into the planning of the Forum.

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1. Introduction

The Australian National Preventive Health Agency's (ANPHA's) mission includes the provision of technical advice and assistance to all levels of government and across all sectors, to promote health and reduce health risk and inequalities, across the entire Australian community.

The purpose of the National Preventive Health Surveillance Forum (the Forum) was to consult with preventive health policy practitioners and research experts who use and/or report on data, or contribute to the management of preventive health surveillance. The Forum outcomes will inform:

- the development of a strategic vision for Australia's national preventive health surveillance systems to best serve preventive health policy and practice; and
- a review process and paper about Australia's preventive health surveillance systems to guide improvements for prevention and health promotion.

2. Forum structure and planning

The Forum was hosted by ANPHA and was planned in collaboration with ANPHA's Preventive Health Surveillance Working Group. This Working Group comprises representatives from the Australian Bureau of Statistics (ABS), the Australian Institute of Health and Welfare (AIHW), the Department of Health and Ageing (DoHA) and the Public Health Information Development Unit (PHIDU) at the University of Adelaide.

The Forum was facilitated by Associate Professor Peter Sainsbury, from NSW Health. Ms Julie Roediger assisted with the capture and prioritisation of the Forum discussion and provided a report on the day's proceedings from which this final report has been developed.

In response to invitations from ANPHA, 65 public health professionals from the Commonwealth, state and territory health departments, non-government organisations, data collection/reporting agencies and academia participated in the Forum.

The Agenda of the Forum is provided at *Appendix A*; the relevant biographies of those who played a significant role at the Forum (including the facilitator, presenters, and members of the Expert Panel) are presented in *Appendix B*; a list of Forum participants is provided at *Appendix C*; the feedback from Forum participants is provided at *Appendix D*; and the background papers sent to participants prior to the Forum are at *Appendix E*.

The first session clarified the objectives of the day and then focussed on an analysis of the current surveillance system. After an opening address by Ms Louise Sylvan (CEO ANPHA), Professor Louisa Jorm (University of Western Sydney) and Dr Paul Jelfs (ABS) delivered presentations on *The role of surveillance in tackling preventable disease and promoting health*, and *The challenges of collecting and reporting preventive health data: national, jurisdictional and regional needs* respectively. These presentations were followed by a short

question and answer period before forum participants broke into groups to discuss the strengths and weaknesses of the current health surveillance systems in Australia.

The second session began with the group's reporting back on their analysis of the current health surveillance systems. This was followed by a presentation by Ms Lisa McGlynn (AIHW) on the *Analysis and dissemination of surveillance data*. Participants then returned to their group discussions to determine short and long-term investment priorities for the future.

The final session synthesised the results of the first two sessions with a report back on the results of a priority setting exercise of issues arising from the group discussions. Following a synopsis of the priorities that were identified on the day, an expert panel discussion drew out the key issues. Finally, an overview statement was given by the facilitator Professor Sainsbury and a closing address by the Chief Executive Officer (CEO) of ANPHA, Ms Louise Sylvan.

3. Forum outputs

3.1 Open and welcome

Ms Louise Sylvan (CEO ANPHA)

In her opening address, Ms Sylvan emphasised the role of surveillance in tackling preventable disease and promoting health. She underlined the importance of the role of ongoing consistent data collection and the challenges of balancing this against the need to be responsive to changing political priorities.

In clarifying the objectives of the day, Ms Sylvan highlighted the need to identify key priorities for the short-term - including for upcoming challenges such as directing investment in analysis of the data collected by the ABS that will soon be available from the Australian Health Survey - as well as establishing a shared vision of preventive health data infrastructure for the long-term. Specific objectives for the day included identifying data gaps and emerging needs. The need for analysis of data about health behaviours and their context is critical to better inform preventive health measures.

Ms Sylvan reminded participants that Australia has previously invested in the national discussion of these objectives and asked participants to go beyond a statement of requirements to develop strategies to address outstanding issues. Outcomes of the day could be expected to capture ideas for how the data collection, analysis and sharing of information to inform preventive health measures should occur. Participants were encouraged to develop cogent arguments that could be used to encourage action on the vision that is generated today – essentially to make the link between data collection and achieving better health for Australians. We can't make good decisions about prevention activity without understanding the prevalence of risk factors and without being able to evaluate the impact of interventions on these risk factors at a population level over time.

The opening address closed with Ms Sylvan thanking the National Preventive Health Surveillance Working Group for the work they have already done and their on-going assistance to ANPHA.

3.2 Role of surveillance in tackling preventable disease and promoting health

Professor Louisa Jorm (University of Western Sydney)

Professor Jorm outlined key issues for collecting and reporting preventive health data. She challenged participants to question familiar messages, to move beyond historical approaches and to question how what we collect is used.

Professor Jorm noted that, despite increases in the volume of data being collected, there are still problems with data quality and analysis. For example, routine surveillance of ethnic disparities in health often use numerators and denominators from different sources with different quality of enumeration of country of birth. She indicated that a more rigorous analysis of the quality of country of birth data might help to better understand the healthy migrant effect.

Professor Jorm emphasised the need to shift the focus from communication and dissemination of data to increasing the use of evidence that informs and drives policy action, which there seems to be a lack of. This shift should involve the following:

- Improved access to evidence;
- High quality evidence relevant to policy needs;
- More interaction between evidence generators and decision makers; and
- Increased decision maker capacity for using evidence.

While access to data is improving and may even be overwhelming, the primary challenge is to increase their use, rather than the quantity of product.

Data that explain how the interventions are actually working on the ground makes the data more relevant to policy makers. The current system is good at measuring health status and health determinants, but not in establishing causal relationships or measuring the uptake and effectiveness of interventions.

She noted that data collectors are often passive in the cycle, with poor interaction between people working with coding standards and those working with evidence.

She also noted the emergence of new opportunities for statistical use, such as the use of aggregated electronic health records. For example, height and weight are not collected in either hospital, Medical Benefits Schedule (MBS) or Pharmaceutical Benefits Scheme (PBS) data, but will be collected as part of the e-health records.

The debate about accessing data from e-health records for research purposes is continuing. Professor Jorm highlighted that the primary focus of the collection and use e-health data is seen as clinical care use. The term *secondary use* of e-health data for research purposes is affecting the discussion about consent, coding and structure of the e-health records in such a way that only the clinical care use is being considered and taken into account.

3.3 Challenges of collecting and reporting preventive health; national, jurisdictional and regional needs

Dr Paul Jelfs (Australian Bureau of Statistics)

Dr Jelfs addressed the demand for information on small geographical areas to support understanding and ownership amongst the community and to enable individual communities to relate their circumstances to broader outcomes. He noted that lifestyle factors are not just smoking, risky alcohol consumption and obesity, but also housing quality and density, as well as other demographic factors. Even with a broad range of data, it is difficult to establish the link between risk and outcomes.

Dr Jelfs outlined the relative advantages and disadvantages of the different types of data sources, (including surveys and administrative data collections), as described below:

- The Census is the key data source for base populations, hence the focus on the Indigenous population in the 2011 Census.
- Surveys can be detailed, but are expensive and time consuming, so it is hard to provide adequate data for small geographical areas or conditions with low prevalence. Survey data can either be self-reported data (which is poor for some issues such as mental health, height and weight), or objective data (which is potentially invasive, expensive and complex, meaning that only limited data can be collected). Surveys of any kind include sampling error.
- Administrative data, which is not collected for research purposes, can be used for statistical analysis. However, its use raises issues of inconsistencies between collections and with its application to statistical questions.
- Some data items might move between sources over time. This is the case of height and weight data, which used to be survey-based, but is being incorporated into administrative data.

In all cases, collection of data for small geographical areas is expensive and difficult, with sub-populations geographically scattered. Deriving *synthetic estimates* to overcome these limitations is difficult and time-consuming. However, new collection processes and technologies, such as smartphone medical applications and pedometers may help with this issue.

3.4 First plenary discussion

The plenary session began with a clarification of how ANPHA will progress the Forum outcomes. ANPHA will continue to work with the Preventive Health Surveillance Working Group to progress the Forum's findings, and will publish a report on the Forum proceedings on its website by June 2012, welcoming feedback on the report. ANPHA may also choose to provide advice to their Minister on this issue. The possibility of reconvening stakeholders on a regular basis (e.g. through a workshop every 18 months) to guide progress in the area of preventive health surveillance was also mentioned.

Participants agreed that Australia has good health data, health status and health services and, while improvement is desirable, Australia is at a very high level. Despite this, the media might be creating an alternative perception that the health system is in crisis. The question

was raised that perhaps health data professionals are contributing to this negative view of health by focussing only on health problems instead of success stories.

The characterisation of the statistical use of e-health data for research purposes as being a 'secondary' use was identified as an impediment to the development of access to this potential data source. This notion of e-health data being used for research as a secondary purpose of its collection has affected the structure of the consent model and data structures, making research use less likely. It was suggested that *multiple uses* was a preferred term, rather than *secondary uses*. It was noted that perhaps the public already believe that much of the health data collected is being used in aggregate analysis for the improvement of health services. It may be of benefit to the debate if research was commissioned on public expectations of how population health data will be used.

In further discussion of the effect of language about analysis of data, it was noted that the term *synthetic estimation* is hard to sell. Many non-statisticians regard *synthetic* to mean that the data estimates derived from such a process are actually not reflective of any true estimation. It was further noted that other adjustments made to data during analysis, such as age standardising and the weighting of survey data in analysis, do not attract the same negative perceptions. Given that raw data is almost never presented to the public it was suggested that the word *synthetic* was redundant and could be dropped.

It was noted that there was a widely held perception that behaviours were changing quickly, rendering data out-of-date before it was published; the National Nutrition Survey was mentioned as an example. In addition, available time series often indicate that in fact behaviours do not change quickly and that data professionals have a role in correcting this misperception. The reality that politicians and policy makers get anxious when data are old was reiterated along with the suggestion that timeliness might be improved if data collection and analysis were rationalised.

Finally, the participants were asked to identify examples of good models for use of health data to inform the policy process. Canada, Scotland and England were identified as having models that might be useful to investigate further.

In terms of integrating available data, Australia is not generally well placed for this work due to the current consent models and legislative restrictions. However, ABS is currently exploring integration of data sources. The Department of Veterans Affairs was identified as having comprehensive data that has been used to make policy adjustments in areas such as suicide prevention, family support and support for elderly veterans.

3.5 Current state of health surveillance in Australia

Participants discussed the strengths, weaknesses and data gaps within the current health surveillance system in nine discussion groups. These groups were asked to identify both a strength and a weakness for reporting in plenary sessions. A consensus emerged that the primary strength was the breadth, depth and quality of the data presently available, with the strong brand quality of ABS as well as availability of time series and longitudinal data also being mentioned.

Opinions on weaknesses and gaps were more varied. Responses from the group discussions were captured as action items. Each discussion group was asked to identify

their first and second priorities from the resultant list of actions, with the results displayed in *Table 1* below. A weighting system of two points for a first priority (blue dot) and one point for a second priority (red dot) has been used to derive a ranking.

The general feeling among participants was that there is a lack of planning, strategy and consistent funding for preventive health surveillance in Australia. This is reflected in the first and third most popular actions as listed in *Table 1*, which advocate the implementation of a multi-disciplinary systems approach to planning and collection, as well as better mechanisms to drive action in accordance with strategic plans for surveillance and use of data.

Other common themes included standardisation and rationalisation of data structures as well as collection methodologies (second and fifth most popular actions respectively). Improving knowledge transfer between data analysts and policy-makers, as well as improving statistical literacy among users of data were also mentioned during the report back, although the action to train more analysts received only one secondary vote. More specific actions widely endorsed were to increase investment in primary care data collections and to update the *Burden of Disease and Injury in Australia* report, which was published by AIHW in 2003.

Table 1: Voting on key actions for the current health surveillance system

	Score
Implement a multi-disciplinary systems approach to planning and collection	24
Promote use of common data structures and collection methods across national and state/territory collections	20
Better mechanisms to drive action in accordance with strategic plans e.g. knowledge transfer	19
More investment in burden of disease, especially the attributable fractions	19
Better primary care data	17
Rationalise investment in data collection to reduce over-laps. Also question whether we need to have certain outputs	14
Collect better data on uptake and effectiveness of public health interventions - who it works for and why	13
Preserve the continuity and quality of long-term data collections (security of funding)	7
Improve statistical literacy amongst the public, policy makers and the media	5
Improve accessibility of data, including for the public	5
Promote data linkage e.g. e-health; linking across surveys	4
Collect better (and standardised) costing data on	3
- cost of the collection system,	
- cost of interventions and	
- industry expenditure to promote unhealthy choices	
Ensure that we continue to have longitudinal as well as cross-sectional health data and use it.	3
Develop a strategy for use of voluntary data such as e-health records	1
Collect data on factors of health for sub-populations	1
Train more analysts	1
Determine which data are needed at the local level. This includes local data collection versus interpreting local data from national surveys	0

3.6 Analysis and dissemination of surveillance data

Ms Lisa McGlynn (Australian Institute of Health and Welfare)

Ms McGlynn outlined the AIHW's long history in preventive health surveillance, tracking trends and patterns in risk factors and related chronic diseases, including the National Monitoring Centres for cancer, cardiovascular disease, diabetes and chronic kidney disease. She outlined the prevention opportunities as a continuum, from preventing risk factors, disease and complications or recurrence, to the role of both individual and population level services across that spectrum.

There is a need to use the existing data when available, and perform the full range of analysis, from summary to in-depth, as well as comparisons, including over time, among population groups and international comparisons.

Using overweight and obesity as an example, Ms McGlynn demonstrated the utility of various presentation methods for prevalence data, such as the continuous distribution for the whole population, splits by different socio-economic groups, international comparisons and combinations of various risks. She complemented this with the presentation of impact and services data which would be appropriate for an audience of decision-makers.

In discussing the surveillance cycle, Ms McGlynn emphasised the importance of engaging with key stakeholders, including policy makers, academics and health promotion practitioners, as well as producing a range of products (in the form of data, indicators of analytical outputs, in print or web published and other interactive products) to suit the varying information needs of different audiences.

She underlined the role of data professionals in helping people understand the data by supplying context and meaning beyond the presentation of the numbers. Important contextual elements include quality statements which address the limitations of data, frequency, context and interpretation.

She summarised her presentation by noting the need to:

- monitor outcomes and services;
- provide the information in the most useful form;
- consider social determinants; and
- implement an information strategy covering the priorities and planned approaches, addressing the poor availability of primary health care data.

3.7 Priorities for investment in surveillance systems in the short and long-term regarding data collection and use

Groups discussed the priorities for investment in surveillance systems in the short and long-term regarding data collection and use. Groups were asked to identify a single area for future investment. Although early discussion distinguished between short and long term investment opportunities (and is noted in *Table 1*), this distinction was not maintained throughout the discussion.

Responses from the group discussions were captured as potential areas for investment. Participants were asked to identify their first and second priorities from the resultant list, which are presented in *Table 2*. A weighting system of two points for a first priority (blue dot) and one point for a second priority (red dot) has been used to derive a ranking.

The meaning of the item *research into new and emerging methodologies* was expanded in discussions following the voting process. It refers to methodological research that would enable us to achieve better results for less money, including improving the use of existing data through strategies such as new analytical practices or using informal data such as nutritional data gathered from smartphone applications.

Table 2: Voting on investment for the current health surveillance system

Invest in:	Score
Governance structure (including coordination, communication and implementation mechanisms).	44
Research into new and emerging methodologies (short-term)	17
Economic analysis within a common system	16
Dissemination of successful evidence based policy cycles	14
Common modules of questions (especially in preventive health and primary care data collection)	13
Evaluation of surveillance systems	12
Continuous on-going data collections	7
Burden of disease	5
New technologies (long-term)	5
Engage a wider range of stakeholders in the governance of preventive care	4
Sharing research methodologies	3
Development of an implementation plan	2
Quantify how much preventive care occurs in primary and secondary settings	2
Training for analysts (short and long-term)	2
Comparable quality statements for diverse data sets	2
Alternative collection methods such as sentinel sites	2
A review of targets and indicators	1
A rationalisation of data collections against the questions (long-term)	1
Meta-data quality and sharing of meta-data	0

3.8 Expert Panel

The following participants were part of the Expert Panel:

- Professor John D Mathews
- Ms Janis Baines
- Associate Professor John Glover
- Ms Sally Goodspeed

Their corresponding biographies are found in *Appendix B*.

Panel members responded to the following questions from participants.

- **How social determinants could be monitored and tracked?**

It was noted that the 2012 *Closing the Gap* report already does this well and that there is an awareness of this issue in the funding space. The World Health Organization (WHO) held a conference on this topic in 2011 and has developed a framework for monitoring communicable diseases which includes a social determinants element. The problem is establishing the causal relation between determinants and outcomes. The breast screening outcomes data was noted as an example of data analysed against various social determinants.

Australia has had the ability to analyse health data by social determinants for a long time. In Great Britain, the Bills of Mortality in the 18th and 19th century showed the effects of social gradients. A social marketing issue worth looking at is getting public support without sounding like blaming the disadvantaged. There may be value in looking at areas that are doing better than expected as examples of where social determinants have been addressed.

The importance of making data accessible at the regional level to support service planners was reiterated.

- **Do we have enough data now to invest in prevention and other interventions?**

Data are good in many areas but there are gaps such as the flu vaccination and mortality amongst the elderly. A strategic approach should ensure that detailed questions are fitted within an overall structure that rationalises the inter-sectoral collection and dissemination of data. However, it is difficult to get the specific questions so that makes it difficult to be strategic. Doing data linkage without a strategic framework would mean the continuation of coverage of the same areas in an inefficient manner.

Although Australia has much of the needed data, setting priorities for analysis has been difficult to progress. There are many frameworks that help in answering the question of what we need to understand. Setting analysis priorities is more important than focussing on how to collect more data.

Building data collections is a long-term endeavour, whereas the political cycles are often short-term. Therefore, it is important to identify what is needed in the long-term and translate it to policy makers/funders in ways that emphasise the government's current required outcomes.

Data linkage may have been underdone in meeting short term government priorities. Governments are persuaded by cost-saving arguments. Research needs to be translated into opportunities to reduce expenditure in areas where things are not working and data linkage can support this work.

It was noted that champions need to be from outside the health system too. The community health and general practice sectors could also be involved when provided with the right facts to support resource investment in preventive health.

- **What do we mean by *small* in small geographical area data and why do we need it?**

Small relates to the decision-making or service delivery organisation. For example, data at the local government level can be used to improve local amenities such as walkability, monitor availability of alcohol and tobacco, and plan local services. Small geographical area data allows the analysis of the variations, especially in service provision and uptake, and it provides an accessible picture of how services are performing on the ground.

In addition, when implementing health promotion strategies, the general public finds local data more relevant to their needs, than for instance international data, and they respond better to social marketing campaigns which use information they can relate to.

3.9 Overview of the day

Associate Professor Peter Sainsbury

Professor Sainsbury noted that three key themes had emerged over the course of the day: governance of surveillance systems, surveillance methods and topics needing higher priority in surveillance systems such as updating the *Burden of Disease* report, primary health care and economic analyses.

In progressing work on these issues, he urged participants to step back from analyses of individual topics (for instance breastfeeding or obesity) to conduct analyses of what whole data sets tell us about society as a whole. He also noted that while socio-economic determinants are collected in several collections, we're missing an opportunity to put it together at a societal level. By looking in a fragmented way, we miss the opportunity to understand the factors that underlie recurrent patterns in society. What is it about society as a whole that leads to the outcomes we measure?

Finally, Professor Sainsbury urged participants to be rigorously honest in their relationship with the public. As an example, he gave evidence of why obesity is important at a population level but not such an important risk factor for each individual. And while the first message has been well disseminated, the second has not. He mentioned data linkage as a second example where the health data community may not have always been completely honest. He noted that the public have demonstrated a strong propensity to support activities when they are properly informed, and reminded participants that being fully and honestly consulted is part of the contract with citizens in a democratic society.

3.10 Closing remarks

Ms Louise Sylvan (CEO ANPHA)

Ms Sylvan acknowledged the importance of honesty and thanked participants for their energy, honesty and clarity throughout the day.

She noted the consensus around the need for better governance and leadership, and extended this theme by asking participants to think about what they meant by having a champion. She reminded participants that ANPHA is the champion for preventive health, especially with health ministers and Treasury. In working with these stakeholders, Ms Sylvan had found that simple messages were easier to sell, and that productivity arguments work in the prevention field – savings do not necessarily have to be implemented in the health system.

She noted that there is a plethora of activities going on in the prevention field, but these activities are not linked.

Finally, Ms Sylvan announced that ANPHA will publish a report on the proceedings of the day and will continue to liaise with participants to progress this work, noting that ANPHA took these consultations seriously and that the Obesity Symposium had changed ANHPA's direction. She closed proceedings by thanking the facilitator and organisers of the day.

4. Summary of proceedings

Several areas of consensus were evident throughout the day:

- the primary strength of the current surveillance system is the breadth, depth and quality of the data presently available;
- while data volume and availability is increasing, the design of data products could be improved to increase their impact on policy;
- there is difficulty in accessing and using data to drive policy, programs and service delivery; and
- much is happening in the field of prevention surveillance which is not linked up.

Forum participants acknowledged that these observations and challenges are not new, and might be due to several barriers which need to be overcome:

- there is no clear governance arrangement in place to drive strategies for improvement;
- the absence of a champion;
- it is difficult to engage broader stakeholder groups such as Treasury, Prime Minister and Cabinet, primary care providers, economists and consumers;
- poor understanding of the evidence amongst policy makers, media and the public; and
- piecemeal investment.

Communication issues

Several communication issues were raised repeatedly in plenary discussions. The key challenge in improving Australia's surveillance systems is increasing the use of data, rather than the quantity of data and related reports.

Forum participants raised issues with its relevance, accessibility and language in regards to the collection and use of data. For example, in communicating with policy makers and the public, research analysts need to ensure the terms used to describe data and analysis convey the message intended. Terms such as *secondary use*, or *synthetic estimate* have many connotations, and therefore, their use may not be helpful.

Furthermore, participants noted the misleading impressions reflected in the media about the health system being in crisis. The reporting style of data products might contribute to these impressions, as it usually focus on health problems rather than giving equal weight to reporting successes.

Another misleading belief often held by policy makers and the general public is that health behaviour and health risk factors in the population change quickly, which has led to undervaluing data sources which appear dated. This view might have driven wasteful investment in frequent data collection. However, for those topics where population level change is slow (such as alcohol consumption) frequent data collection is unnecessary.

In addition, participants discussed strategies for using a wide range of different products to suit different audiences. Opportunities should be identified to educate the media, policy makers and the general public about the importance of high quality health data analysis underpinning health policy and initiatives.

It is important for government to promote messages about preventive health initiatives, particularly to counterbalance the influential food and beverage industry advertising messages. Those who study the impact of preventive health messages noted that people respond better where they could recognise themselves in the data, or use the data to understand how programs were working on the ground. Small area data based on the geography of organisational units (e.g. Medicare Local areas) were found to be useful for these purposes.

5. Conclusions

This Forum, hosted by ANPHA and guided by the Preventive Health Surveillance Working Group (which includes ABS, AIHW, DoHA and PHIDU), brought together a range of preventive health stakeholders, including government, academic and non-government representatives.

It facilitated a national dialogue about Australia's preventive health surveillance systems as well as the development of a consensus on actions required to improve preventive health surveillance systems. This consensus has informed the development of recommendations on the national investment required to strengthen the implementation of preventive health surveillance strategies. Strategic investment in reporting the results of current surveillance efforts will inform future policy and preventive health measures.

Participants agreed that the health status, services and information infrastructure in Australia are of a good standard by international comparison, and that current national collections should be maintained. However, improvements could be made to governance and coordination mechanisms used to prioritise investment in surveillance infrastructure and the data analysis undertaken, as well as in communication of outputs.

The following top seven agreed actions to improve the current health surveillance system are summarised in order of priority as result of a voting system:

1. Implement a multi-disciplinary systems approach to planning and collection;
2. Promote use of common data structures and collection methods across national and state/territory collections;
3. Better mechanisms to drive action in accordance with strategic plans e.g. knowledge transfer;
4. More investment in burden of disease, especially the attributable fractions;
5. Better primary care data;

6. Rationalise investment in data collection to reduce over-laps. Also question whether we need to have certain outputs; and
7. Collect better data on uptake and effectiveness of public health interventions - who it works for and why.

The following top six agreed areas for investment on the current health surveillance system are summarised in order of priority as result of a voting system:

1. Governance structure (including coordination, communication and implementation mechanisms);
2. Research into new and emerging methodologies (short-term);
3. Economic analysis within a common system;
4. Dissemination of successful evidence based policy cycles;
5. Common modules of questions (especially in preventive health and primary care data collection); and
6. Evaluation of surveillance systems.

Governance

Investment in governance structures for surveillance was given the highest priority, scoring more than double the points in the participant voting system in comparison to the next highest investment area. Engaging a wider range of stakeholders in the governance of preventive health surveillance was also identified as an investment priority, along with the development of an implementation plan and review of targets and indicators. It was agreed that such a governance structure could be used to rationalise data collection.

The governance structure should include a multi-disciplinary systems approach to planning and collection, better mechanisms to drive action in accordance with strategic plans for surveillance and improved accessibility of data.

Methods

The under-use of existing data and the occurring emergence of new data sources and infrastructure to facilitate data linkage were raised repeatedly during the day.

Development of a strategy for use of voluntary data such as e-health records, evaluation of surveillance systems and promotion of data linkage were also identified as areas requiring action.

The increasing inclusion of bio-metric data in data sets, e-health records and emerging data linkage infrastructure offer opportunities as well as challenges such as innovative methodological practices.

Improving research methods to optimise these opportunities was given the second highest score amongst the investment priorities. Use of common data structures across national and state/territory collections was ranked second. Using common modules of questions (especially in preventive health and primary care data collections) was the fifth highest investment priority after economic analysis within a common system.

While the following were not ranked highly as priorities for investment, specific areas suggested for further investigation included:

- new technologies (ranked 9th);

- sharing research methodologies (ranked 11th);
- comparable quality statements for diverse data sets (ranked equal 12th);
- alternative collection methods such as sentinel sites (equal 12th); and
- meta-data quality and sharing of meta-data (ranked 18th).

New technologies included examples such as smartphone applications for medical and/or behavioural data and pedometers with centralised data gathering. These innovations are already creating large informal data pools.

Data and reporting gaps

Several topics were identified as either requiring targeted data or better analysis and reporting, including economic analysis, an update of the *2003 Burden of Disease* analysis, and development of Medicare Local data.

5.1 Strategic vision and review direction

Overall the Forum participants acknowledged the significant and relevant strategic documents that have been developed over the past decade that have underpinned current investment on preventive health surveillance in Australia. The Forum outcomes highlighted that this strategic work needed a champion and better coordination and governance to take forward a strategic vision that encompasses and drives better use of current surveillance activities to maximise relevancy and currency.

To enable this strategic vision the review that ANPHA is undertaking should in the first instance focus on a review of the current governance and coordination structures in place for preventive health surveillance.

6. Recommendations

Based on the Forum proceedings, it is recommended that:

- ANPHA proceeds with further stakeholder consultation which will inform a paper that maps the scope of the current governance and coordination structures for preventive health surveillance. This paper will identify potential improvements that could be made to better drive coordination and more efficient investment in preventive health surveillance in Australia.
- Following the review of the governance structures, an evaluation is conducted of the current methods employed to collect preventive health surveillance data to improve consistency of methods and investigate further how new collection methods, such as e-health data, are integrated into the current surveillance systems.
- The Commonwealth to continue to investigate potential funding sources for economic analysis on the outcomes of preventive health investment, the update of the 2003 Burden of Disease report and identifying data that can be used to report on preventive work in Medicare Locals in consultation with states and territories.



Australian Government

Australian National Preventive Health Agency

National Preventive Health Surveillance Forum

Date: Monday 2 April 2012

Venue: the Hall, University House, Australian National University, Canberra

Facilitator: Associate Professor Peter Sainsbury, Director Population Health, South Western Sydney & Sydney Local Health Districts

Background

The purpose of the National Preventive Health Surveillance Forum (the Forum) is to consult with preventive health policy practitioners and research experts who use and/ or report on data, or contribute to the management of preventive health surveillance. The Forum outcomes will inform:

- the development of a strategic vision for Australia’s national preventive health surveillance systems to best serve preventive health policy and practice; and
- a review process and paper about Australia’s preventive health surveillance systems to guide improvements for prevention and health promotion.

In holding this forum, the Australian National Preventive Health Agency (ANPHA) is taking a coordination role contributing to the planning of Australia’s ongoing preventive health infrastructure.

Forum Agenda

Time	Program	Presenter
8:30	Registration, tea & coffee	
9:00	Opening and Welcome	Ms Louise Sylvan (CEO ANPHA)
9:10	Outline of Forum structure & timing	Facilitator
9:20	The role of surveillance in tackling preventable disease and promoting health	Prof Louisa Jorm University of Western Sydney
9:40	The challenges of collecting and reporting preventive health data; national, jurisdictional and regional needs	Dr Paul Jelfs (ABS)
10:00	Plenary discussion session, including questions and discussion from the floor	Facilitator
10:15	1st group discussions on the current state of health surveillance in Australia: <ul style="list-style-type: none"> • Strengths & weaknesses of Australia’s surveillance systems • What data gaps are there? 	
10:50	Morning Tea	
11:15	Presentations from 1st group discussions	Facilitator
11:45	Analysis and dissemination of surveillance data	Ms Lisa McGlynn (AIHW)
12:05	2 nd group discussions on priorities for investment in surveillance systems in the short and long-term regarding data collection and use	Facilitator
12:45	Lunch	
13:45	Presentations from 2 nd group discussions	Facilitator
14:15	Voting on priorities arising from discussions	
14:30	Synthesise of plenary sessions and voting results	
14:50	Expert Panel Response <ul style="list-style-type: none"> • Discuss the short and long-term priorities; and • Address questions from participants 	Prof John Mathews (Menzies Foundation) Ms Janis Baines (FSANZ) Assoc Prof John Glover (PHIDU) Ms Sally Goodspeed (DoHA)
15:30	Overview of the day	Facilitator
15:45	Closing remarks	Ms Louise Sylvan
16:00	Networking and refreshments	

Forum facilitator

Associate Professor Peter Sainsbury is the Director of Population Health in South Western Sydney and Sydney Local Health Districts, NSW Health, and an Associate Professor in the School of Public Health and The Centre for Values Ethics and the Law in Medicine at the University of Sydney. He is currently a member of the Australian Health Ethics Committee and is a past president of the Public Health Association of Australia. Peter's qualifications and experience cover medicine, health planning, sociology, health services management and public health.

Presenters

Ms Louise Sylvan is the Chief Executive Officer of the Australian National Preventive Health Agency (ANPHA). Formerly, she served as a Commissioner of the Australian Productivity Commission and Deputy Chair of the Australian Competition and Consumer Commission (ACCC). Prior to this she was Chief Executive of the Australian Consumers' Association (CHOICE) and President of Consumers International. Active in consumer and economic issues, nationally and internationally, for over 20 years, Louise is well known for her work in a range of areas such as health, food safety issues, financial services, as well as in competition and consumer policy. Louise's strong impact on the issues of the day was recognised in her inclusion as one of Australia's 20 True Leaders in 2002 by the Australian Financial Review's BOSS magazine. Currently, Louise chairs Bush Heritage Australia, and is a member of the Board of the newly-formed Australian Social Enterprise Fund. She has served internationally on the OECD Consumer Policy Committee, chairing their Economics for Consumer Policy work, and on the International Consumer Enforcement and Protection Network. Louise has a BA and MPA from universities in her original homeland of Canada and immigrated to Australia in 1983.

Professor Louisa Jorm is the Foundation Professor of Population Health in the School of Medicine at the University of Western Sydney. She also holds the part-time position of Principal Scientist at the Sax Institute. She is an epidemiologist who, prior to taking up her current post, spent more than 15 years in senior positions in public health policy and service roles. Her areas of expertise include data linkage, use of routinely collected health data and facilitating the policy and practice uptake of research. She is Chief Investigator of the Outcomes, Services, Policy for the Reproductive and Early Years (OSPREY) capacity building program, which has been funded by the NHMRC to build methods and capacity for the analysis of linked health datasets to answer policy-relevant questions about the health of mothers, babies and children. She also leads the NHMRC-funded Indigenous Health Outcomes Patient Evaluation (IHOPE) project, which is using linked data and multilevel modelling to investigate the influences of individual-, geographic and hospital-level factors on hospital outcomes for Aboriginal people. In her role at the Sax Institute, Professor Jorm leads the NSW node of the Population Health Research Network, which has been funded through the National Collaborative Research Infrastructure Strategy to build national infrastructure for research using linked health data.

Dr Paul Jelfs is the First Assistant Statistician leading the Social, Health and Labour Division of the ABS. Paul has extensive experience in Commonwealth and State Government agencies in both information management and service delivery. In the public health field Paul has experience in the information areas of cancer and cancer screening, mortality, diabetes and has undertaken health studies of Korean and Vietnam War veterans and their families. Paul has been part of initiatives such as the Australian Health Survey, National and State based Cancer information systems, national mortality information and national performance reporting.

Ms Lisa McGlynn is the senior executive responsible for the Health Group at the Australian Institute of Health and Welfare. The Health Group develops and maintains national data to support monitoring and reporting on the health of Australians. This includes monitoring determinants of health, health status and diseases, and related quality of life. It carries the primary responsibility for producing the flagship publication Australia's Health due out in June this year and coordinates the Institutes international work for the OECD and the WHO. Lisa has a strong background in, and commitment to, the health field and has worked at all three levels of government in clinical services, service management, policy, planning, evaluation and program implementation

Expert panel members

Professor John D Mathews is an epidemiologist and public health researcher. He was Foundation Director of the Menzies School of Health Research in Darwin (1984-1999), the CRC for Aboriginal Health (1997-1999), and senior adviser in population health to the Commonwealth and deputy CMO (1999-2004). Currently he is an honorary Professional Fellow with the School of Population Health at the University of Melbourne, and also part-time Executive Director of the Menzies Foundation. He holds NHMRC grants for his current research on the effects of influenza and low dose ionising radiation.

Ms Janis Baines holds a Bachelor of Chemistry (Oxford University, UK) and a Postgraduate Masters in Human Nutrition (London School of Hygiene and Tropical Medicine, UK). She has worked in food regulation for over 18 years and is currently Manager of the Food Composition, Evaluation and Modelling Section at Food Standards Australia New Zealand (FSANZ). This section provides dietary exposure estimates for food chemicals based on National Nutrition survey data, which are critical in the FSANZ risk assessment process and monitoring of food fortification programs, and manages the National Food Composition Program. Janis has been a member or temporary advisor for the FAO/WHO Joint Expert Committee on Food Additives as a dietary exposure expert since 1996 and has taken part in various other expert meetings held by the FAO/WHO on food chemicals. Janis was recently seconded to the Department of Health and Ageing to what is now called the Health Surveys Section, working with the ABS in developing and implementing the Australian Health Survey. She is still involved in the survey as her section at FSANZ is currently developing nutrient databases for food and dietary supplements to enable nutrient intakes to be generated from collected data.

Associate Professor John Glover is the Director of PHIDU, the Public Health Information Development Unit at the University of Adelaide. PHIDU is best known for the social health atlases of Australia, available on the World Wide Web in interactive software that delivers maps of over 300 indicators, increasingly with a focus on preventive activities. PHIDU has also been involved since its inception in 1999 in efforts to improve public health information.

Ms Sally Goodspeed is the Assistant Secretary of Health in Social Policy Branch in the Population Health Division of the Australian Government Department of Health and Ageing. In that role Sally and her team manage the department's investment in the Australian Health Survey, as well as Longitudinal Studies of Male Health, and Women's Health. The branch also has a strong focus on the socio-economic determinants of health, with responsibility for policy initiatives for men, women and children as well as prevention broadly. She joined the department three years ago, initially working in the Office of Health Protection on Communicable Disease Surveillance, but also spent three years in the department from 2000 to 2003 as an Outposted Officer from the Australian Bureau of Statistics. On returning to the ABS after that period she was managed the ABS branch responsible for health statistics which at various times also included the ABS statistical work on Communities, Crime, Education, Aboriginal and Torres Strait Islander Australians, and its work on supporting the enumeration of the Longitudinal Study of Australia's Children, and the Longitudinal Study of Indigenous Children.

Appendix C: National Preventive Health Surveillance Forum – Participant List

Title	Surname	First Name	Position	Section	Organisation	State	Table	Contact Category
Ms	Bacot-Kilpatrick	Jane	Senior Project Manager	National Transition Team	Australian General Practice Network	ACT	4	Prevention & Health Promotion Agencies
Ms	Baines	Janis	Senior Manager	Food Composition, Evaluation and Modelling	Food Standards Australia New Zealand	ACT	7	Commonwealth Stakeholder
Ms	Baker	Cathy	A/g Director	Epidemiology Branch	ACT Government	ACT	2	Jurisdictional contact
Ms	Barr	Margo	Manager	Health Behaviour Surveillance	NSW Health	NSW	3	Jurisdictional contact
Ms	Briggs	Megan	Assistant Director	Social Marketing and Partnership	ANPHA	ACT	2	ANPHA
Ms	Brown	Lyn	Executive Officer		Nutrition Australia	ACT	2	Prevention & Health Promotion Agencies
Dr	Cameron	Helen	Director	Surveillance, Research and Evaluation, Policy &	ANPHA	ACT	1	ANPHA
Ms	Carter	Patricia	Principal Advisor	Public Health Nutrition Health Promotion Branch	SA Health	SA	7	Jurisdictional contact
Mr	Cooke	Richard	Manager	Population Health Monitoring	Drug and Alcohol Services SA (DASSA)	SA	8	Jurisdictional contact
Ms	Curnow	Ella	Assistant Director	Policy Section	ANPHA	ACT	3	ANPHA
Dr	Daughtry	Ben	Responsible for assessing food	Risk assessment – Microbiology	Food Standards Australia New Zealand	ACT	1	Commonwealth Stakeholder
Dr	Doherty	Theresa	Evaluation and Planning Consultant	Population Health	TAS Department of Health and Human Services	TAS	1	Jurisdictional contact
Ms	Faulks	Katherine	Director	Healthy Communities Reporting Section	National Health Performance Authority	ACT	9	Commonwealth Stakeholder
Ms	Fowler	Hazel	Social scientist responsible for	Consumer and Social Sciences Section	Food Standards Australia New Zealand	ACT	4	Commonwealth Stakeholder
Ms	Gates	Louise	Director	Health and Disability Section, Health Information Branch	ABS	ACT	6	PHS WG
Ms	Ghani	Fatima	Surveillance officer	Policy & Programs	ANPHA	ACT	N/A	ANPHA
Mr	Gilmore	William			National Drug Research Institute	WA	6	Research Centre

Title	Surname	First Name	Position	Section	Organisation	State	Table	Contact Category
A/Prof	Glover	John	Director	Public Health Information Development Unit (PHIDU)	The University of Adelaide	SA	6	PHS WG
Ms	Goodspeed	Sally	Assistant Secretary	Health in Social Policy Branch	DoHA	ACT	9	PHS WG
Ms	Gray	Catherine	Departmental Officer	Health System Analysis	Office for Aboriginal and Torres Strait Islander Health	ACT	5	Commonwealth Stakeholder
Mr	Greenland	Rohan		Heart Foundation	Australian Chronic Disease Prevention Alliance	VIC	6	Prevention & Health Promotion Agencies
Mr	Guthridge	Steven	Director	Health Gains Planning, Health Protection Division	NT Department of Health	NT	3	Jurisdictional contact
Ms	Harper	Catherine	Director	Population Epidemiology Unit, Preventative Health	Queensland Health	QLD	1	Jurisdictional contact
Ms	Hunt	Ann	Acting Head/Population Health Nutritionist	Population Health Unit	AIHW	ACT	3	Commonwealth Stakeholder
Ms	Hutchins	Cheryl	A/Director	Prevention Systems and Obesity Policy Section	ANPHA	ACT	7	ANPHA
Dr	Jelfs	Paul	First Assistant Statistician	Health Information Branch	ABS	ACT	3	PHS WG
Prof	Jorm	Louisa		Population Health, School of Medicine	University of Western Sydney	NSW	9	Expert
Mr	Kalokerinos	John	Chief Operating Officer		ANPHA	ACT	9	ANPHA
Dr	Kelly	Paul	Chief Health Officer		ACT Government	ACT		Jurisdictional contact
Ms	Kelsall	Liza	Senior Epidemiologist	Health Intelligence Unit	VIC Department of Health	VIC	2	Jurisdictional contact
Mr	Killick-Moran	Chris	Director	Health Surveys Section, Health in Social Policy	DoHA	ACT	4	PHS WG
Ms	Lineham	Tritia	Director	Medicare Local Performance & Effective Practice Section	National Health Performance Authority	ACT	6	Commonwealth Stakeholder
Dr	Lloyd	Belinda	Program Leader	Population Health Research	Turning Point Alcohol and Drug Centre, Eastern Health	VIC	4	Research Centre
Mr	Long	Robert	Surveillance Officer	Policy & Programs	ANPHA	ACT	N/A	ANPHA
Dr	Mackerras	Dorothy	Chief Public Health Nutrition Advisor		Food Standards Australia New Zealand	ACT	8	Commonwealth Stakeholder

Title	Surname	First Name	Position	Section	Organisation	State	Table	Contact Category
Prof	Mathews	John D	Executive Director		Menzies Foundation	VIC	1	Research Centre
Ms	McDonald	Jacinta	Director (A/g)	Nutrition Section	DoHA	ACT	7	Commonwealth Stakeholder
Ms	McGlynn	Lisa	Senior Executive	Health Group	AIHW	ACT	5	PHS WG
Mr	Milat	Andrew	Manager	Strategic Research and Evaluation	NSW Health	NSW	5	Jurisdictional contact
Dr	Moon	Lynelle	Unit Head	Cardiovascular, Diabetes and Kidney Unit	Australian Institute of Health and Welfare (AIHW)	ACT	7	PHS WG
Dr	Nicholls	Ruth	Assitant Director	Health System Analysis	Office for Aboriginal and Torres Strait Islander Health	ACT	2	Commonwealth Stakeholder
Dr	Ono	Akiko	National Director	Research	The Heart Foundation (National)	VIC	7	Prevention & Health Promotion Agencies
Ms	Phillips	Jennifer	Policy Officer	Policy Section	ANPHA	ACT	6	ANPHA
Ms	Quigley	Janet	Assistant Secretary	Healthy Living Branch	DoHA	ACT	5	Commonwealth Stakeholder
Ms	Rankin	Bree	Assistant Director	Drug Strategy Analysis Unit Population Health Division	DoHA	ACT	8	Commonwealth Stakeholder
Prof	Roche	Ann	Director	National Centre for Education and Training on Addiction	Flinders University	SA	6	Research Centre
Ms	Roediger	Julie	Manager		KJR Consulting	ACT	4	Expert
Prof	Sainsbury	Peter	Director, Population Health	South Western Sydney & Sydney Local Health Districts	NSW Health	NSW	N/A	Expert
Ms	Skelton	Fiona	Assistant Director	LSIC	FaCHSIA	ACT	5	Commonwealth Stakeholder
Dr	Slade	Tim	Senior Research Fellow	NDARC	UNSW	NSW	4	Research Centre
Ms	Smith	Rebecca	Manager	Government Relations	National Stroke Foundation	VIC	7	Prevention & Health Promotion Agencies
Dr	Somerford	Peter	Principal Epidemiologist		WA Department of Health	WA	2	Jurisdictional contact
Dr	Studdert	Lisa	Manager	Policy and Programs Branch	ANPHA	ACT	8	ANPHA

Title	Surname	First Name	Position	Section	Organisation	State	Table	Contact Category
Ms	Sullivan	Denise	Director	Chronic Disease Prevention, Public Health Division	WA Department of Health	WA	1	Jurisdictional contact
Ms	Sylvan	Louise	CEO		ANPHA	ACT	9	ANPHA
A/Prof	Taylor	Anne	Manager	Population Research and Outcomes Studies Unit	The University of Adelaide	SA	9	Expert
Dr	Thompson	Lisa	Manager, Knowledge for Health	Knowledge and Environments for Health Unit	VicHealth (Victorian Health Promotion Foundation)	VIC	3	Prevention & Health Promotion Agencies
Prof	Toumbourou	John	Associate Dean	Chair in Health Psychology School of Psychology	Deakin University	VIC	3	Expert
Dr	Towler	Bernie	Principal Medical Adviser	Population Health Division	DoHA	ACT	8	Commonwealth Stakeholder
Dr	Tresidder	Julia	Assistant Director	Policy & Programs	ANPHA	ACT	4	ANPHA
Prof	Vos	Theo	Director	Centre for Burden of Disease and Cost-Effectiveness	The University of Queensland	SA	9	Research Centre
Mr	Vumbaca	Gino	Executive Director	Australian National Council on Drugs	Australian National Council on Drugs	ACT	8	Prevention & Health Promotion Agencies
Prof	Wakefield	Melanie	Director	Centre for Behavioural Research in Cancer	Cancer Council Victoria	VIC	9	ANPHA Research Committee
Ms	Yates	Rachel	Acting Executive Director	Policy and Business Development	Australian General Practice Network	ACT	5	Prevention & Health Promotion Agencies
Mr	Zago	David	Acting Assistant Statistician	Health Information Branch	ABS	ACT	2	PHS WG

Feedback from Forum participants

An evaluation form was provided to Forum participants, which was completed by 32% of the Forum participants (21 out of 65). All respondents agreed that, overall, the day was productive. About 90% (19 out of 21) agreed that the Forum met their expectations; while 80% (17) agreed that the material covered during the day was relevant to their role or organisation.

The table discussions, which gave participants the opportunity to explore ideas in more depth, were cited most frequently as being the most valuable part of the Forum. Also noted as positive was the mix of participants who brought to the table different perspectives and expertise. Many participants valued the presentations and the panel discussion. The voting system to prioritise issues was also highlighted as a positive activity by many participants, although one respondent reported dissatisfaction with this process (describing it as 'difficult').

One relatively frequent comment from respondents alluded to the fact that the value of the Forum will be determined by its outcomes. Some respondents expressed the view that the Forum should lead to actionable and achievable aims based on policy priorities. To this end, one of the outcomes of the day was a recommendation for stronger leadership and governance structures for preventive health surveillance as the main priority.

Topics which were not covered in much detail and were suggested as warranting further discussion included more discussion of new technologies and e-health (including different types of data and information, such as agricultural or food supply data); international best practice models and policy directions; and improving links between various stakeholders such as industry, researchers, policy-makers, practitioners and other government areas.



Australian Government

Australian National Preventive Health Agency

National Preventive Health Surveillance Forum Overview Paper

The purpose of the National Preventive Health Surveillance Forum (the Forum) is to consult with preventive health policy practitioners and research experts who use and/or report on data, or contribute to the management of preventive health surveillance. The Forum outcomes will inform:

- the development of a strategic vision for Australia's national preventive health surveillance systems to best serve preventive health policy and practice; and
- a review process and paper about Australia's preventive health surveillance systems to guide improvements for prevention and health promotion.¹

In holding this forum, the Australian National Preventive Health Agency (ANPHA) is taking a coordination role contributing to the planning for Australia's ongoing preventive health infrastructure.

Health surveillance in Australia

Australia has established population health surveillance systems in place. These systems operate at both a national and a state and territory level. Regular reviews are required to ensure Australia's surveillance systems are collecting relevant data that can be used to inform current priorities for prevention and health promotion policy and activities. These reviews can highlight what changes, if any, are needed to continue to track and report on progress and change needed in relation to preventive health and health promotion.

Surveillance systems comprise data collection, analysis and reporting of these data. Effective surveillance requires:

- continuity of data collection to enable reporting of change over time;
- agreed analysis plans that support consistent reporting of change over time; and
- regular public reporting to inform the preventive health policy development process.

National agencies, such as the Australian Bureau of Statistics (ABS) and the Australian Institute of Health and welfare (AIHW), directly collect data through surveys that provide national and state and territory estimates of risk and protective factors and health outcomes (e.g. ABS and AIHW health surveys). Other national

¹ ANPHA Strategic Goal 4 on Information and Reporting: *Guide improvements in national surveillance systems for prevention and health promotion, and ensure that information on the progress of prevention and health promotion strategies is made readily available and regularly reported.*

data collections are compiled by the ABS and the AIHW using data collected by the jurisdictions (e.g. mortality and hospital data). These collections are usually underpinned by national minimum data specifications. Agreement on national reporting is supported through the COAG Standing Council on Health and its committee structures. These committees and their relationship to other key stakeholders are depicted at *Attachment 1* (including Department of Health and Ageing, ABS, AIHW, other health related and broader portfolio agencies).

The larger states and territories invest in regular Computer Assisted Telephone Interview (CATI) health surveys. The smaller jurisdictions (the Northern Territory and Tasmania) do not have regular population health CATI surveys. While national surveys do provide the smaller jurisdictions with some health survey information this is not able to be analysed at a regional level.

Currently only Victoria conducts a health survey that selects its sample at the Local Government Area (LGA) level. This is conducted every three years. Other jurisdictions lack access to regular LGA-based health data. For those areas that lack access to local area data, the ABS and the Public Health Development Unit use a modelling process to create 'synthetic predictions' to enable some estimation of health data at a local area level.

Health outcome data available from administrative datasets, particularly risk-related hospital admissions, can be used to estimate need for potential preventive health action.

Data are also collected for other purposes such as research and evaluation of specific programs, but are rarely used to provide supplementary data for monitoring and surveillance purposes.

Methodological debate

There has been an ongoing debate for many years about the benefits of using nationally agreed methodologies for all health-related surveys at a state and territory level. Where agreement on standard methods for data collection has not been achieved, it is not possible to provide regular national estimates of some health-related indicators.

Comparisons of prevalence estimates for some health-related behaviours, such as daily smoking, vary widely depending on the methods used to collect data. Large variations are observed particularly in relation to estimates for sub-population groups.

There is an ongoing debate about the reliability of CATI surveys. Samples gained through CATI methods are believed to have become less representative over time and tend to have low response rates. This is partly due to changes in patterns of telephone ownership over time. Fewer households now have a phone connected by land line making geographic sampling of phone numbers more difficult.

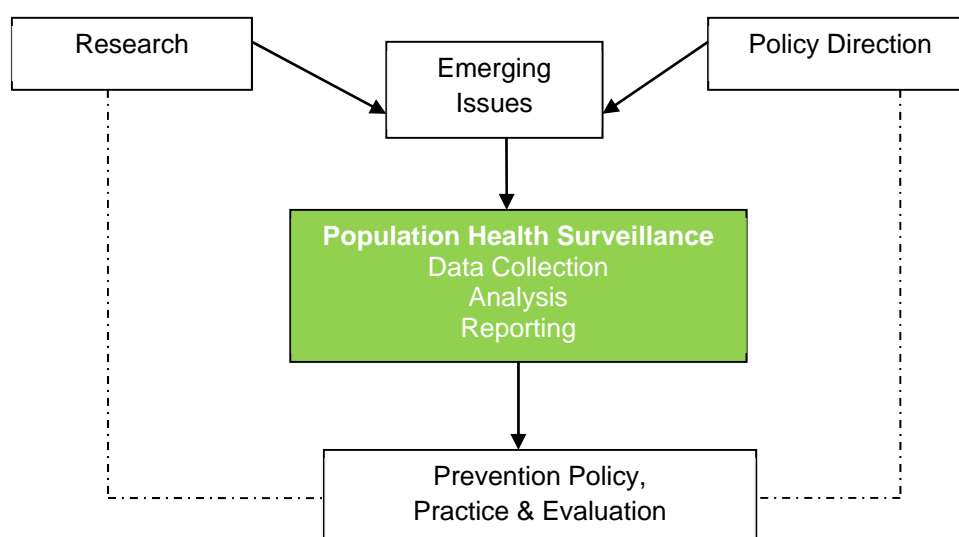
Policy and Research influence

The differences in jurisdictional health policy interests are reflected in their respective health behaviour surveys. Growing evidence on risk and protective factors over the past 50 years has gradually broadened the focus of population health survey data collections. There are continuing debates about what should be prioritised in relation to national data collection. For example:

- the ABS Australian Health Survey currently in the field is collecting more detailed information on physical activity and nutrition than is usually collected in the more regular National Health Survey.
- separate surveys are funded to collect more detailed information on alcohol, tobacco use and other drug use to supplement information available from regular National Health Surveys.

Figure 1 depicts how research and policy inform what data are collected by surveillance systems and how data from surveillance systems inform policy, practice and evaluation.

Figure 1. Preventive health system



As evidence has emerged of robust associations between risk and protective factors (genetic, behavioural and social) and health outcomes, policy has included more of an emphasis on prevention measures. Successful prevention measures can help alleviate a trend of increasing burden of disease and health care costs. One measure of success of prevention-related policy and programs is whether the prevalence of risk and protective factors changes over time. Reflecting this, Australia's recent health policy indicator sets (e.g., COAG Reform Council reporting, see *Attachment 2*) and frameworks (e.g. The National Health Performance Framework, see *Attachment 3*) have included the need to report on population prevalence of risk and protective factors as well as health outcomes.

Australia's reporting requirements, both internationally and nationally, constantly test the flexibility and relevance of Australian health surveillance. Examples include Australia reporting to the OECD and national reporting to the COAG Reform Council.

The COAG Reform Council reports on the progress of the National Healthcare Agreement. There is a set of prevention indicators included in the National Healthcare Agreement indicator set as well as measures in the National Partnership Agreement on Preventive Health (NPAPH) (see *Attachment 2*). The NPAPH has set targets that are linked to a reward payment as a systematic way to drive prevention activity funded through the NPAPH. States and territories are currently implementing health promotion and prevention programs that are expected to change population health-related behaviour and outcomes. Data from surveillance systems will be used to determine whether states and territories have achieved the targets determined for the measures. Some of the NPAPH funding has been made available to enhance surveillance systems.

As well as measuring overall population-based targets for NPAPH, states and territories are evaluating the implementation of the health promotion and prevention programs funded through the NPAPH agreement. At least some of these evaluations will use surveillance data as part of their evaluation tool kits if the data are timely enough and fit for this purpose.

Regular Australian surveillance and gaps

Existing data collections are supported by a range of funding bodies, including Commonwealth, state and territory and non-government sources. Risk and protective factors, preventable diseases and conditions that are of current interest in Australia are depicted in *Attachment 4*. This also includes an indication of how major Australian and state and territory data sets provide data for reporting on these factors at the population level.

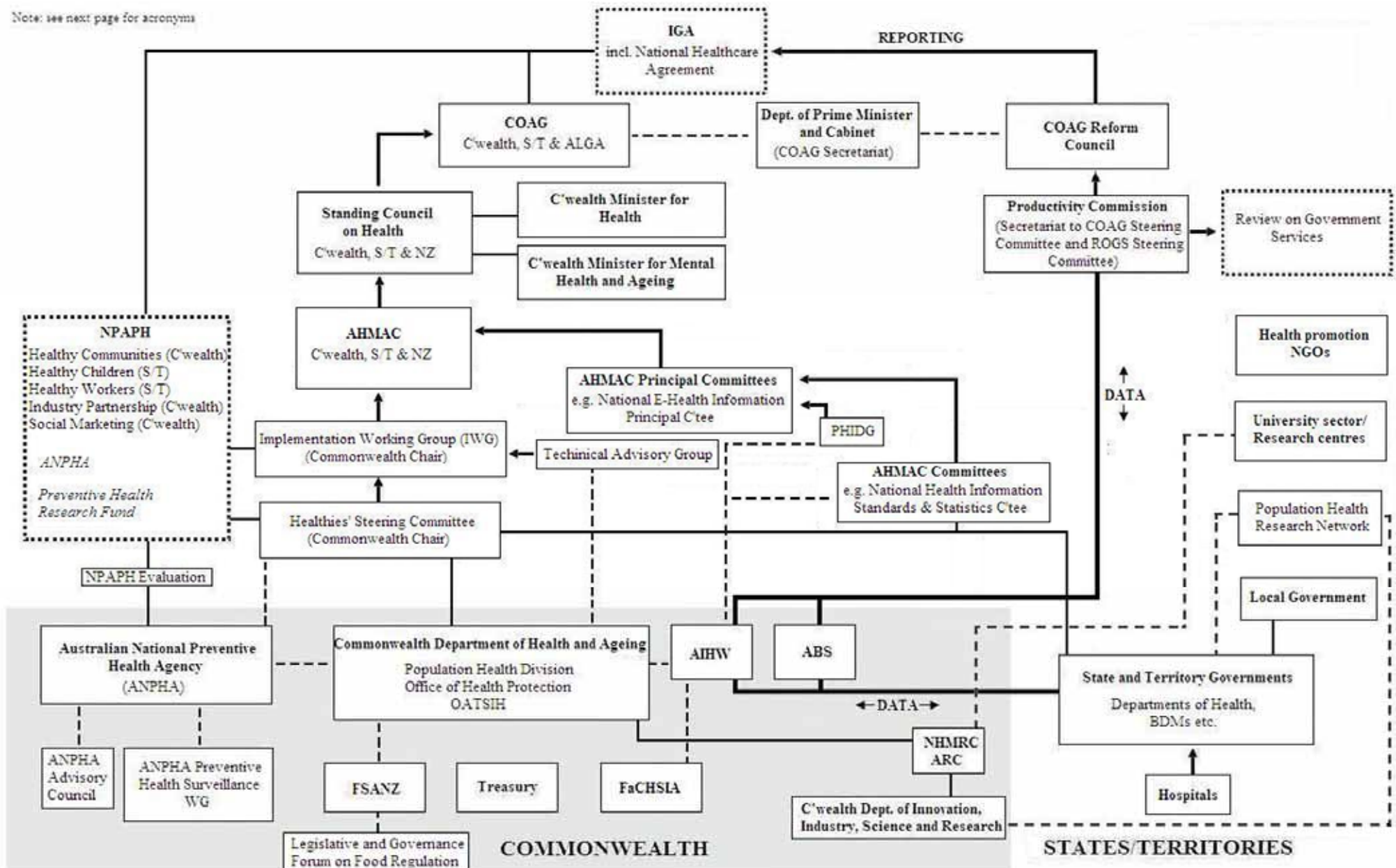
A preliminary analysis of data gaps indicates that biomedical and genetic risk and protective factors associated with adverse health outcomes are not collected regularly. Australia also lacks any systematic data collection system that can report on health prevention and promotion activity.

There is some data linkage activity being undertaken that enables regular reporting of specific health outcomes. For example, cancer survival rates are derived by linking cancer registries to mortality data. Australia is currently investigating the logistics of further data linkage activity through specific investment. Discussions are continuing about research access to data collected for E-Health purposes in future.

Several longitudinal data collections with national and/or state and territory based cohorts also provide information and data on risk and protective factors relevant to prevention. Analysis of these data sets add to knowledge about specific risk and protective factors by being able to examine temporal relationships between exposure to risk and protective factors and long term outcome

Attachment 1 - Diagram of key stakeholder relationships

Note: see next page for acronyms



Attachment 1 - Diagram of key stakeholder relationships

ACRONYM GLOSSARY

ABS	Australian Bureau of Statistics
AHMAC	Australian Health Ministers' Advisory Council
AIHW	Australian Institute of Health and Welfare
ARC	Australian Research Council
BDM	Births, Deaths and Marriages
COAG	Council of Australian Governments
FaCHSIA	Commonwealth Department of Families, Community Services and Indigenous Affairs
FSANZ	Food Standards Australia New Zealand
IGA	Intergovernmental Agreement on Federal Financial Relations
NGO	Non-governmental organisation
NHMRC	National Health and Medical Research Council
NPAPH	National Partnership Agreement on Preventive Health
OATSIH	Office for Aboriginal and Torres Strait Islander Health
PHIDG	Population Health Information Development Committee

National Agreements

This section provides an overview of the current *National Healthcare Agreement*, the *National Partnership Agreement on Preventive Health*, and associated indicators. These indicators are being reported on within the Australian health promotion and prevention surveillance context.

Council of Australian Governments (COAG) Reform Council – performance indicators for prevention

The Commonwealth and jurisdictional governments have joint responsibility for health promotion and disease prevention. Prevention was therefore agreed by COAG as an objective of the National Healthcare Agreement (NHA) – this is expressed in the Agreement as the long-term objective that ‘Australians are born and remain healthy’².

The NHA also includes indicators to measure the progress of reform. An indicator is a statistic that can describe a situation concisely, help assess progress and performance, and act as a guide to decision making³.

There are 13 NHA performance indicators (PIs) for prevention outlined in *Table 1* below. A review is underway on all 76 PIs reported by the COAG Reform Council. It is most likely the number of PIs will be reduced, although PIs 5, 6 and 7 are likely to be retained.

National Partnership Agreement on Preventive Health

The *National Partnership Agreement on Preventive Health*⁴ includes several performance benchmarks for each jurisdiction, shown in *Table 2* with the corresponding data sources.

² Council of Australian Governments' (COAG) website, viewed 23 January 2012.

³ Definition taken from *Key indicators of progress for chronic disease and associated determinants* 2011 (AIHW)

⁴ Council of Australian Governments *National Partnership Agreement on Preventive Health*

Attachment 2 - National agreements and corresponding indicators

Table 1: Progress measures, performance indicators for prevention⁵ and corresponding data sources

Progress measures	Performance Indicators	Reporting of data	Data source	Next expected data published
Progress measure: Proportion of babies born of low birth weight	Indicator 1: Proportion of babies born of low birth weight	2010, 2011	AIHW National Perinatal Data Collection	2012
Progress measure: Incidence/prevalence of important preventable diseases	Indicator 2: Incidence of sexually transmitted infections and blood-borne viruses	2010, 2011	National Notifiable Diseases Surveillance System (NNDSS)	2012
	Indicator 3: Incidence of end-stage kidney disease	2010, 2011	AIHW Australian and New Zealand Dialysis and Transplant Register; AIHW National Death Index; AIHW National Mortality Database;	2012
	Indicator 4: Incidence of selected cancers of public health importance	2010, 2011	AIHW Australian Cancer Database	2012
Progress measure: risk factor prevalence	Indicator 5: Proportion of persons obese	Reported in 2010	ABS NHS data	Expected to be reported again in October 2012
	Indicator 6: Proportion of adults who are daily smokers	Reported in 2010	ABS NHS data	Expected to be reported again in October 2012
	Indicator 7: Proportion of adults at risk of long term harm from alcohol	Reported in 2010	ABS NHS data	Expected to be reported again in October 2012
	Indicator 8: Proportion of men reporting unprotected anal intercourse with casual male partners	Not reported	No data available	No data
Output: immunisation rates for vaccines in the national schedule	Indicator 9: Immunisation rates for vaccines in the national schedule	2010, 2011	Australian Childhood Immunisation Register	2012
Output: Cancer screening rates (breast, cervical, bowel)	Indicator 10: Breast cancer screening rates	2010, 2011	AIHW State and Territory BreastScreen program register data;	2012
	Indicator 11: Cervical screening rates	2010, 2011	AIHW State and Territory cervical cytology register data	2012
	Indicator 12: Bowel cancer screening rates	2010, 2011	AIHW National Bowel Cancer Screening Program register data	2012
Output: Proportion of children with 4 th year developmental health check	Indicator 13: Proportion of children with 4 th year developmental health check	2010, 2011	DoHA Medicare data	2012

⁵ COAG Reform Council 2011, *National Healthcare Agreement: Performance report for 2009-10* (Table 2.1), COAG Reform Council, Sydney.

Attachment 3 - Table of relevant documents

Table 2: NPAPH performance indicators and agreed data sources under the *Framework for Measuring Performance Benchmarks*

Progress measures	Baseline data source	Performance benchmarks	Reporting date ⁶ and source
A. Proportion of children at unhealthy weight	<ul style="list-style-type: none"> State-based CATI⁷ (NSW, ACT, QLD, NT, WA, SA) ABS NHS⁸ 2007-08 (VIC, TAS) 	Measure 2013: Proportion of children at unhealthy weight held at less than 5% from baseline	30 June 2013 State-based CATI (all S/Ts)
		Measure 2015: Proportion of children at healthy weight returned to baseline level	31 December 2014 State-based CATI (all S/Ts)
B(i). Mean number of daily serves of fruits consumed by children	<ul style="list-style-type: none"> State-based CATI (NSW, ACT, QLD, NT, WA, SA) ABS NHS 2007-08 (VIC, TAS) 	Measure 2013: An increase in the mean number of daily serves of fruit consumed by children by at least 0.2 from baseline	30 June 2013 State-based CATI (all S/Ts)
		Measure 2015: An increase in the mean number of daily serves of fruit consumed by children by at least 0.6 from baseline	31 December 2014 State-based CATI (all S/Ts)
B(ii). Mean number of daily serves of vegetables consumed by children	<ul style="list-style-type: none"> State-based CATI (NSW, ACT, QLD, NT, WA, SA) ABS NHS 2007-08 (VIC, TAS) 	Measure 2013: An increase in the mean number of daily serves of vegetables consumed by children by at least 0.5 from baseline	30 June 2013 State-based CATI (all S/Ts)
		Measure 2015: An increase in the mean number of daily serves of fruit consumed by children by at least 1.5 from baseline	31 December 2014 State-based CATI (all S/Ts)
C. Proportion of children participating in at least 60 minutes of moderate physical activity every day	<ul style="list-style-type: none"> None for children 5-11 years old NaSSDA/ASSAD⁹ for children 12-17 years old. 	Measure 2013: An increase in the proportion of children participating in at least 60 minutes of moderate physical activity every day from baseline by 5% per cent	30 June 2013 <ul style="list-style-type: none"> State-based CATI¹⁰¹¹ surveys for children 5-11 years old NaSSDA/ASSAD for children 12-17 years old
		Measure 2015: An increase in the proportion of children participating in at least 60 minutes of moderate physical activity every day from baseline by 15%	31 December 2014 <ul style="list-style-type: none"> State-based CATI¹⁰ surveys for children 5-11 years old NaSSDA/ASSAD for children 12-17 years old

⁶ Performance against benchmarks will be assessed at two time points:

- 30 June 2013; and
- 30 June 2015 (data extrapolated from 31 December 2014).

⁷ Computer Assisted Telephone Interview

⁸ National Health Survey

⁹ National Secondary Students' Diet and Activity Survey /Australian Secondary Schools Alcohol and Drug Survey

¹⁰ Parental proxy question proposed to be used to measure young children's physical activity

¹¹ 2014 data may be compared with the 2011-13 Australian Health Survey to assess trends as no baseline is available

Attachment 3 - Table of relevant documents

Progress measures	Baseline data source	Performance benchmarks	Reporting date and source
D. Proportion of adults at unhealthy weight	<ul style="list-style-type: none"> State-based CATI (NSW, ACT, QLD, NT, WA, SA, VIC) ABS NHS 2007-08 (TAS) 	Measure 2013: Proportion of adults at unhealthy weight held at less than 5% from baseline.	30 June 2013 State-based CATI (all S/Ts)
		Measure 2015: Proportion of adults at healthy weight returned to baseline level	31 December 2014 State-based CATI (all S/Ts)
E(i). Mean number of daily serves of fruits consumed by adults	<ul style="list-style-type: none"> State-based CATI (NSW, ACT, QLD, NT, WA, SA, VIC) ABS NHS 2007-08 (TAS) 	Measure 2013: An increase in the mean number of daily serves of fruit consumed by adults by at least 0.2 from baseline	30 June 2013 State-based CATI (all S/Ts)
		Measure 2015: An increase in the mean number of daily serves of fruit consumed by adults by at least 0.6 from baseline	31 December 2014 State-based CATI (all S/Ts)
E(ii). Mean number of daily serves of vegetables consumed by adults	<ul style="list-style-type: none"> State-based CATI (NSW, ACT, QLD, NT, WA, SA, VIC) ABS NHS 2007-08 (TAS) 	Measure 2013: An increase in the mean number of daily serves of vegetables consumed by adults by at least 0.5 from baseline	30 June 2013 State-based CATI (all S/Ts)
		Measure 2015: An increase in the mean number of daily serves of fruit consumed by adults by at least 1.5 from baseline	31 December 2014 State-based CATI (all S/Ts)
F. Proportion of adults participating in at least 30 minutes of moderate physical activity on 5 or more days per week	<ul style="list-style-type: none"> State-based CATI (NSW, ACT, QLD, NT, WA, SA, VIC) ABS NHS 2007-08 (TAS) 	Measure 2013: An increase in the proportion of adults participating in at least 30 minutes of moderate physical activity from baseline by 5%	30 June 2013 State-based CATI (all S/Ts)
		Measure 2015: An increase in the proportion of adults participating in at least 30 minutes of moderate physical activity from baseline by 15%	31 December 2014 State-based CATI (all S/Ts)
G. Proportion of adults smoking daily	AIHW NDSHS ¹² (all S/Ts)	Measure 2013: Reduction in state baseline for proportion of adults smoking daily commensurate with a 2% point reduction in smoking from the 2007 national baseline	30 June 2013 AIHW NDSHS
		Measure 2015: Reduction in state baseline for proportion of adults smoking daily commensurate with a 3.5% point reduction in smoking from 2007 national baseline	31 December 2014 AIHW NDSHS

¹² National Drug Strategy Household Survey

Attachment 3 - Table of relevant documents

There are several documents developed in Australia over the past decade which are relevant to preventive health surveillance (see table below). It is important to note that the following list is not exhaustive, as it excludes jurisdictional frameworks and respective reports on progress on their prevention policy agendas.

Table showing a summary of relevant documents

Key Document	Purpose	Content	Date	Led By	Outcomes
Report on <i>Key indicators of progress for chronic disease and associated determinants</i> ⁱ	Report based on an indicator set which was developed to provide standard data to monitor how prevention of chronic disease in Australia is progressing.	There are 42 key indicators of progress on chronic disease and associated determinants.	The first report, published by AIHW in 2011, is based on the indicators as specified in the 2009 Technical Report.	The Population Health Information Development Group.	The set informs a number of national strategies, frameworks and policies with a shift from the treatment and management of chronic diseases to prevention of these conditions. The indicators are reported by AIHW and the 2011 report showed a mixed picture of progress in the prevention of chronic disease: <ul style="list-style-type: none"> • increasing life expectancy; • decreasing rates of daily smoking; and • increasing rates of overweight/obesity. AIHW is planning to publish updates via a new web product by mid-2012.
<i>Final Report: Audit of Australian chronic disease and associated risk factor data collections</i> ⁱⁱ	The Public Health Information Development Unit (PHIDU) undertook this Audit funded by DoHA in 2008 as an update of the 2001-2002 Audit of Australian Chronic Disease and Associated Risk Factor Data Collections, published in 2003. It is a resource describing the scope of, and identifying gaps in, Australian data collections on chronic disease and associated risk factors and determinants.	Chapter Two reviews the policy situation in relation to chronic disease and associated risk factors and determinants nationally and in the states and territories. Chapter Three examines the existing time series data collections nationally and among the states and territories, with a special focus on data linkage and recent developments. A number of appendices supply additional details in support of the text, with Appendix D presenting detailed descriptions of the data collections in the Audit.	This Audit was undertaken in 2008 and published in 2010. An update is being conducted in 2012.	PHIDU, The University of Adelaide.	The Audit identified major gaps including: <ul style="list-style-type: none"> • the lack of a national monitoring system on chronic disease and associated risk factors and determinants; • data gaps in integrated nutrition, physical activity, and physical and biomedical measurements; and • concerns over the adequate population coverage in samples for CATI surveys. Issues identified include: <ul style="list-style-type: none"> • increasing participant burden of household surveys; • increasing need for small area data; • increasing demand for timely data; • extensions to the use of existing data collection vehicles; and • the need for standardised reporting of response to enable easier comparison.

Attachment 3 - Table of relevant documents

Key Document	Purpose	Content	Date	Led By	Outcomes
Framework for monitoring <i>prevention of cardiovascular disease, diabetes and chronic kidney disease</i> ⁱⁱⁱ	The Framework was developed by AIHW to provide a structured way of monitoring and assessing prevention of cardiovascular disease, diabetes and chronic kidney disease in Australia. The report analyses the following risk factors: <ul style="list-style-type: none"> • smoking; • excessive alcohol use; • high blood pressure; • high blood cholesterol; • obesity; and • physical inactivity • poor diet; • impaired glucose regulation; • depression; • low birthweight. 	It is based on three main areas where prevention is important in the health care system: <ul style="list-style-type: none"> • prevention of proximal risk factors (causes), such as smoking; • prevention of disease (onset); and • prevention of progression, complications and recurrence in people with the disease. For each of these three components, there are two main aspects to monitor: <ul style="list-style-type: none"> • the prevention services (both at a population-level and individual-level) that are being provided; and • the outcomes that are to be prevented, including the incidence and prevalence, using comparable data (time series and internationally) so that it can be determined whether prevention services are having a desired effect. 	December 2009	AIHW	The Framework emphasises the following: <ul style="list-style-type: none"> • whereas previous prevention monitoring has focussed mostly on individual-level care, population-level interventions must also be monitored. • there is clearly a need for ongoing data, surveillance and monitoring to support the proposed increased focus on prevention. • better data are needed, in particular those based on measurement rather than self-reported data, as well as systematic data on population-level initiatives.
<i>National Health Performance Framework and related indicators</i> ^{iv}	The framework was developed to: <ul style="list-style-type: none"> • evaluate Australia's health system performance • facilitate use of data at the health service unit level for benchmarking purposes • identify trends and patterns, inform decision making, and evaluate progress of efforts to address health challenges. 	The framework contains 14 health performance dimensions, grouped under the three broad domains: <ul style="list-style-type: none"> • health status and outcomes • determinants of health • system performance Questions are posed for each domain and 42 performance indicators provide answers to the questions which inform how well the health system is doing.	First published in August 2001 and reviewed in 2008 by the Australian Health Ministers' Advisory Council (AHMAC).	Framework developed by the National Health Performance Committee (NHPC). Indicators reported by the AIHW.	<i>Australia's health 2010</i> provides the first comprehensive reporting of indicators following the review of the framework. These indicators are presented against each of the three framework domains: <ul style="list-style-type: none"> • health status and outcomes: generally high by international standards. • determinants of health: smoking-related indicators have improved, but rates of overweight and obesity are increasing. There are discrepancies between population groups, raising questions of whether Australia's health system performs equally well for all people. • system performance: overall trends strongly suggest the health preventing deaths for major diseases.

Attachment 3 - Table of relevant documents

Key Document	Purpose	Content	Date	Led By	Outcomes
Framework for a National Food and Nutrition Monitoring and Surveillance (NFNMS) System	<p>This framework for establishing a NFNMS system was outlined in the <i>Nexus Report</i>^v and was informed by</p> <ul style="list-style-type: none"> extensive consultations with key stakeholders who identified the necessary information for making informed decisions about food and nutrition policy in Australia; and a review of selected international approaches to food and nutrition. 	<p>The <i>Nexus Report</i> explains that a comprehensive dietary survey is a fundamental component of a NFNMS system and should include the following:</p> <ul style="list-style-type: none"> 2x 24-hour food recalls; physical measurements, questions on food habits and behaviours; assessment of physical activity; and collection of biological measures. 	The <i>Nexus Report</i> was published in 2006.	Nexus Management Consulting.	<p>While the National Coordination Centre recommended in the <i>Nexus Report</i> has not been established, there are a number of the recommended components of the NFNMS system which are being addressed:</p> <ul style="list-style-type: none"> the Australian Health Survey is collecting the data outlined in the content section, and includes a large sample of the Aboriginal and Torres Strait Islander population. the Food Standards Australia New Zealand (FSANZ) has progressed the food composition recommendations, recently releasing an updated NUTTAB food composition database^{vi}. FSANZ is also developing the 2011-13 AUSNUT database, which will contain the nutrient values for the foods, beverages and dietary supplements consumed during the Australian Health Survey.
<i>Blueprint for nation-wide surveillance of chronic diseases and associated determinants (the Blueprint)</i> ^{vii}	<p>This document was developed to aid the establishment of an Australian surveillance system that improves the quality, access and availability of information for chronic disease prevention.</p>	<p>The <i>Blueprint</i> identifies four essential actions of a sustainable national surveillance system:</p> <ol style="list-style-type: none"> the establishment of a Chronic Disease Surveillance Network to develop and support the collection, analysis and reporting of surveillance data; combined reporting of existing data from jurisdictional population health surveys, national health surveys and other sources; and the development of an agreed set of national policy relevant indicators for chronic disease and associated determinants; and capacity building: developing national standards and a sustainable monitoring workforce, including sharing infrastructure, skills and knowledge. 	Endorsed by the Australian Health Ministers' Conference in 2005.	National Public Health Partnership	<p>The <i>Blueprint</i> acknowledged that:</p> <ul style="list-style-type: none"> most of the required surveillance system elements are in place and working; and surveillance outcomes could be improved by building on, harmonising and complementing existing activities. <p>The document also described an Australian Priority Setting Tool for agreeing on local and national public health surveillance, including capturing data on preventable chronic diseases, information priorities and methods. While AIHW does publish reports on preventable chronic diseases, they are not specifically due to the <i>Blueprint</i> recommendations. However:</p> <ul style="list-style-type: none"> the <i>Indicators for chronic diseases and their determinants</i>^{viii} aligns with Action 2; the development of the <i>Key indicators of progress for chronic disease and associated determinants</i> aligns with Action 3.

Attachment 3 - Table of relevant documents

Key Document	Purpose	Content	Date	Led By	Outcomes
<i>Preventing Chronic Disease: A Strategic Framework</i> ^{ix}	The framework was based on best practice at the time in Australia and internationally, and was structured to be consistent with WHO's <i>Global Strategy for Prevention and Control of Non-Communicable Diseases</i> (Global Strategy).	The framework recommends building the organisation of the national prevention effort in Australia around three key domains of activity: <ul style="list-style-type: none"> • Ensuring an effective information base to guide action; • Strengthening prevention and health promotion; and • Improving systems of care for those with chronic disease. The framework identifies 12 chronic conditions which pose a significant burden in terms of morbidity, mortality and health care costs in Australia, and are amenable to preventive measures.	Endorsed by the Australian Health Ministers' Advisory Council on 31 May 2001 as the basis for further national collaborative action.	National Public Health Partnership	AIHW has used the chronic conditions identified in this framework to developed the following resources: <ul style="list-style-type: none"> • a 2008 report, titled <i>Indicators for chronic diseases and their determinants</i>^{viii} • the <i>Chronic Disease Indicators Database</i>, which is a catalogue of national indicators for chronic disease. • the <i>Key indicators of progress for chronic disease and associated determinants</i> technical and data reports include the conditions noted in the framework, as well as other additional conditions.

ⁱ Australian Institute of Health and Welfare 2011. *Key indicators of progress for chronic disease and associated determinants: data report*. Cat. no. PHE 142. Canberra: AIHW.

ⁱⁱ Gruszin, S. & Szuster, F. 2010, *Final Report: Audit of Australian Chronic Disease and Associated Risk Factor Data Collection*, Public Health Information Development Unit, The University of Adelaide.

ⁱⁱⁱ Australian Institute of Health and Welfare 2009, *Prevention of cardiovascular disease, diabetes and chronic kidney disease, targeting risks factors*. Cat No. PHE 118. Canberra.

^{iv} Chapter 9 'Australia's health performance', Australian Institute of Health and Welfare 2010. *Australia's health 2010*. Australia's health series no. 12. Cat. no. AUS 122. Canberra: AIHW.

^v Nexus Management Consulting, *National Food and Nutrition Monitoring and Surveillance Framework: A framework and a business case*, 2006.

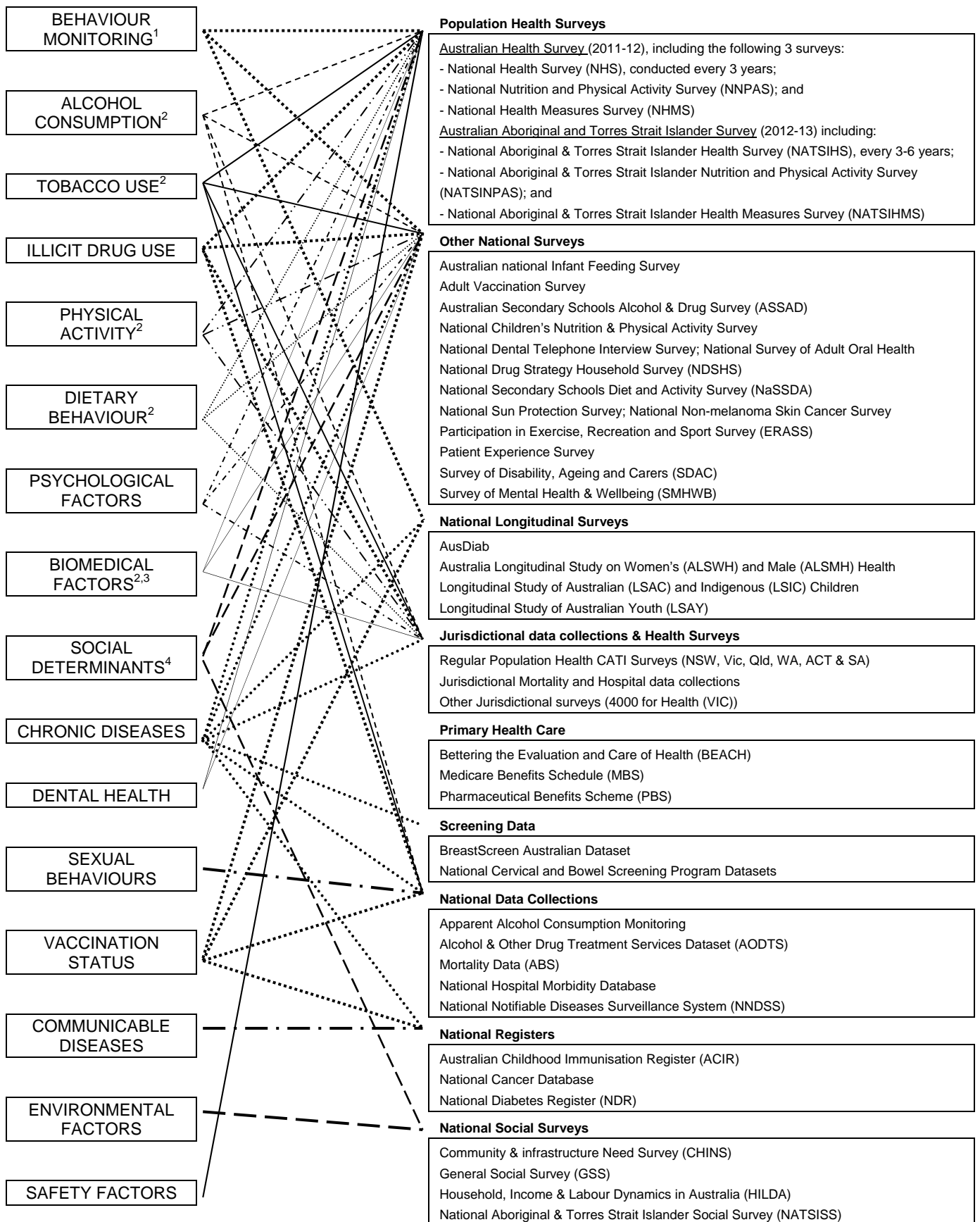
^{vi} The *NUTTAB 2010* database contains nutrient data for 2668 foods available in Australia and up to 245 nutrients per food.

^{vii} National Public Health Partnership (NPHP) (2006) *Blueprint for nation-wide surveillance of chronic diseases and associated determinants*, Melbourne, Australia.

^{viii} Australian Institute of Health and Welfare 2008. *Indicators for chronic diseases and their determinants*, 2008. Cat. no. PHE 75. Canberra: AIHW.

^{ix} National Public Health Partnership, October 2001, *Preventing Chronic Disease: A Strategic Framework: background paper*, Melbourne, Australia.

Attachment 4- Risk factors, diseases, conditions and other determinants in current data collections



¹ Includes collection of data on behaviours, knowledge, attitudes and beliefs.

² Risk factors related to ANPHA's priority areas

³ Includes body weight, blood pressure, blood cholesterol, glucose regulation, immune status.

⁴ Includes education, employment, income & wealth, family and neighborhood, access to services, housing.