

5 Background presentations

5.1 Plenary 1: Surveillance and monitoring of chronic diseases and associated risk factors

5.1.1 Welcome and opening remarks

Richard Madden, Director, Australian Institute of Health and Welfare and Co-Chair, National Public Health Information Working Group

One of the aims of the AIHW is to develop suitable measures and indicators for monitoring the health and welfare of Australians, including chronic diseases and their associated risk factors. The Institute integrates information from various health-related data collections and provides value-added analysis. It also helps establish high-level frameworks for data development, including identification of data gaps and deficiencies, and helps plan and develop new health-related collections. The AIHW also undertakes surveillance and monitoring of a variety of risk factors (psychosocial, socioeconomic, behavioural and biomedical) associated with various chronic diseases.

For example, the Australian Burden of Diseases and Injury Study, conducted by the AIHW, generated summary statistics (including incidence, prevalence, and disability-adjusted life years or DALYs) on a large number of chronic diseases and conditions. The results of this study are extremely useful for any surveillance and monitoring of chronic diseases in Australia but must be supplemented by a variety of other types of information.

NPHIWG has established a subcommittee to oversee the surveillance and monitoring of chronic diseases in Australia, and has sought action on recommendations in NPHP's chronic disease prevention paper. NPHIWG would like the information on chronic diseases and associated risk factors in Australia to be developed within a clearly defined framework. The NHP Framework should be adapted for organising chronic disease information in Australia. However, two additional dimensions of chronic diseases need to be considered in adapting this framework, namely chronic diseases across various stages of the lifecycle, and its extension to surveillance and monitoring at regional/local area levels. The framework should also place additional emphasis on risk factors, central to chronic disease surveillance and monitoring.

5.1.2 Surveillance across the continuum of care

Richard Smallwood, Chair, National Health Priorities Action Council

Chronic diseases are complex and have numerous co-morbidities that further complicate our understanding of them. However, since many chronic diseases are linked to affluent lifestyles, there is considerable scope for their prevention.

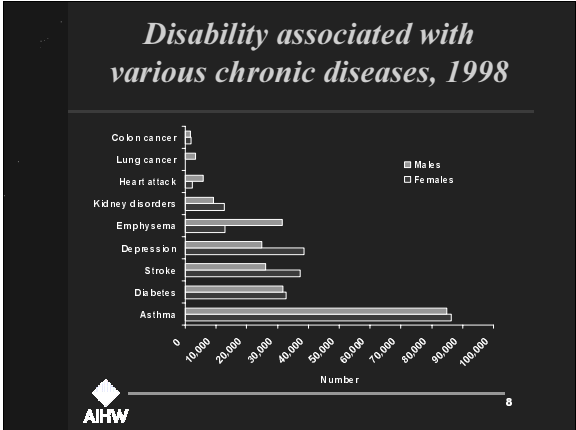
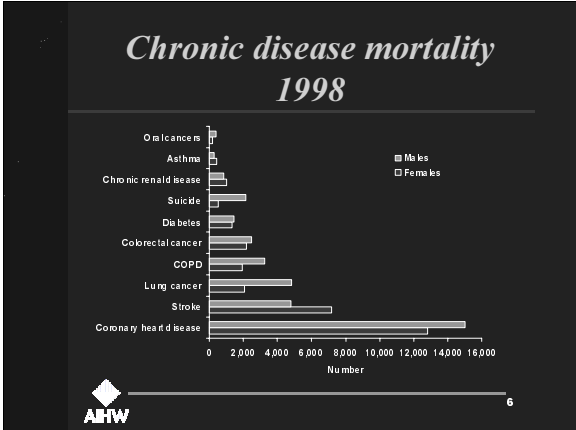
In managing chronic diseases, we need to look across the spectrum from prevention through primary care to tertiary care. Areas where there appears to be the greatest gain are tobacco smoking, lack of exercise and obesity. There have been some successes in the reduction of tobacco use, however this has not been achieved fully in the disadvantaged groups.

Two important issues that need to be addressed in the surveillance and monitoring of chronic diseases in Australia are the ageing population and the increasing demand for, and cost of, health care and prevention. Our aim should also be to develop first-class information systems to monitor time trends.

5.1.3 Surveillance and monitoring of chronic diseases and associated risk factors in Australia

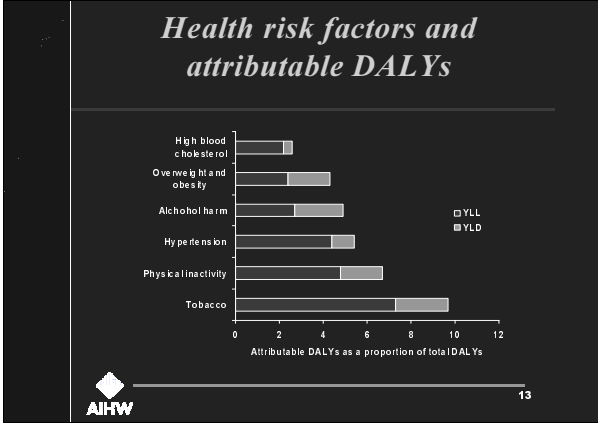
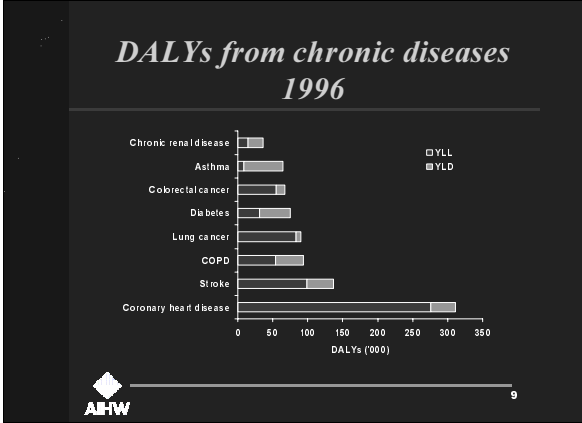
Kuldeep Bhatia, Australian Institute of Health and Welfare

Although most chronic diseases are not immediately life threatening, ultimately they are a large cause of mortality. In 1998, the set of 10 chronic diseases and conditions included in the AIHW’s draft baseline report were listed as the underlying cause in almost 60,000 deaths, about 47% of all deaths that year. However, mortality from many of the chronic diseases is on the decline. In addition to coronary heart disease (CHD), stroke and lung cancer, one of the diseases with significant decline in death rates has been chronic obstructive pulmonary disease (COPD), mostly attributable to reduction in tobacco smoking.



Disability is an accompaniment of most chronic diseases; asthma, depression, emphysema, stroke and diabetes are large contributors to disability. Coronary heart disease is the largest contributor to disability-adjusted life years (DALYs), but most of that due to premature mortality (YLL). The contribution from asthma, on the other hand, is mostly in terms of years of healthy life lost due to disability (YLD). COPD both disables and kills in large numbers.

About 30% of DALYs can be attributed to seven biomedical and behavioural risk factors. Tobacco smoking is the greatest contributor, followed by physical inactivity, high blood pressure, alcohol harm, excess weight, high blood pressure and poor diet.



The number of chronic diseases and their risk factors to be monitored is much larger than those covered by the AIHW report. This requires the development of a comprehensive, integrated surveillance and monitoring system. Some of the steps to developing such a system include establishing an information framework, setting up monitoring indicators, scoping the information base, developing baselines, and regularly reporting against the defined set of indicators.

5.1.4 Strategic issues and options for chronic disease surveillance in Australia

Vivian Lin, School of Public Health, La Trobe University

The La Trobe Consortium's current audit and feasibility study has identified several important issues for chronic disease surveillance. These include:

- the need for local as well as national information;
- how to bring some uniformity ('harmonisation') into data collections from diverse data sources;
- how to prioritise between health status measures, risk factor information, biomedical markers, and measures of health system performance;
- the development of surveys alongside regular surveillance systems; and
- balancing data definition and collection ('front end') issues with analysis and dissemination ('back end').

The audit has uncovered significant gaps in comparability and types of information.

Therefore a number of strategic choices need to be made, involving some compromises:

- Should we have a singular, national information system or multiple harmonised vehicles (ABS surveys, national strategies' surveys, State CATI surveys, health measurement surveys)?
- Can we reconcile the various frameworks for chronic disease monitoring (including the chronic disease prevention framework, the health performance monitoring framework, and the WHO STEPS framework)?
- Can we develop a 'leaderful' system, using the expertise and resources of all the stakeholders (States/Territories, Commonwealth, ABS, AIHW, NHPAC, NPHP, NHIMG) rather than relying on one of them for 'singular leadership'?
- Can we develop a partnership between producers (with their sets of collection methodologies, analytical techniques, content area development, special studies) and users (including the jurisdictions, with their various infrastructures)?
- What kind of investments should we make in infrastructure, additional modules, repeated national/state surveys or continuous monitoring, or in workforce capacity-building?

In summary, the major challenges can be identified as:

- What are the most efficient and effective mechanisms for linking with users (policy-makers, program planners, etc.)?

- What should be the process by which priorities can be set for information development (for filling gaps, for harmonisation, for analyses, etc.)?
- How to pool investment in infrastructure and capacity development in a productive manner?

5.2 Plenary 2: Surveillance and monitoring of chronic diseases: State/Territory perspectives

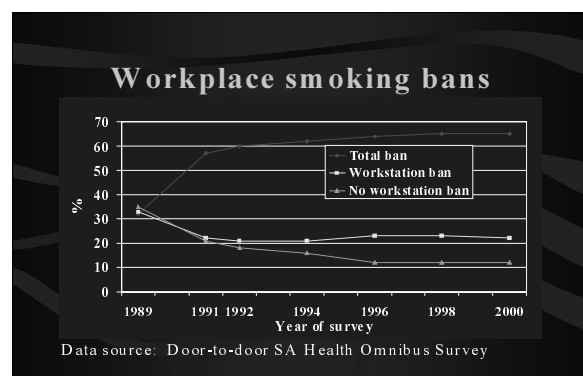
5.2.1 Chronic disease surveillance and monitoring in South Australia

Anne Taylor, Department of Human Services, South Australia

South Australia has undertaken annual population surveys since 1990 (including CATI surveys since 1995), looking at a range of chronic diseases and their risk factors state-wide. Sample sizes have also allowed region-level analysis.

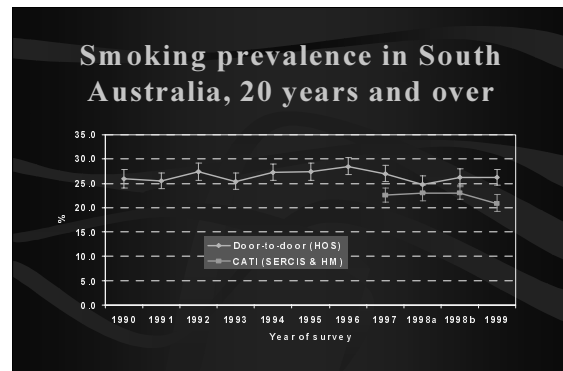
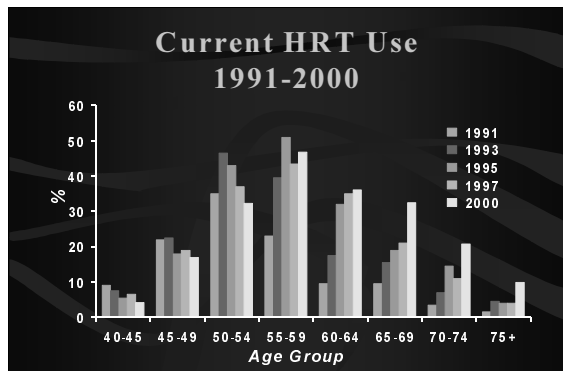
The uses of these surveys can be summed up by the acronym SPICE: surveillance for policy, intervention, control and evaluation. Surveillance of diabetes is an example of the *policy* uses of such surveys, with measurements of prevalence at the State and regional levels, and in Indigenous communities. However, the response rates in Indigenous surveys have been low, which may affect the estimates.

Aboriginal v's non-Aboriginal Diabetes Prevalence (HOS 1991-1997)		
	Aboriginal	Non-Aboriginal
GENDER		
Male	6.0	3.2
Female	15.3 *	4.1
AREA		
Metro	9.2 *	3.7
Country	10.4 *	3.7
AGE		
<40 years	4.5 *	1.1
40-59 years	15.4 *	3.8
60+ years	23.1 *	9.1
OVERALL	9.6 *	3.7



Results of the surveys are used to monitor *interventions*, such as the promotion of influenza vaccine for those aged 65 and over, the Quit campaign, and asthma management plans. In the context of chronic diseases, *control* refers to the surveillance and monitoring of risk factors, particularly for asthma and diabetes. *Evaluation* of potential public health issues will also be facilitated by data from the surveys, e.g. HRT use among women aged 55 and its possible implications for cardiovascular disease and osteoporosis in the future.

The relative usefulness and reliability of the mode of the survey (door-to-door or CATI), need to be considered. For example, self-reported height and weight information has not varied much over time, whether measured by door-to-door surveys or by CATI surveys. However, smoking prevalence rates generated by the two types of surveys have been quite different.

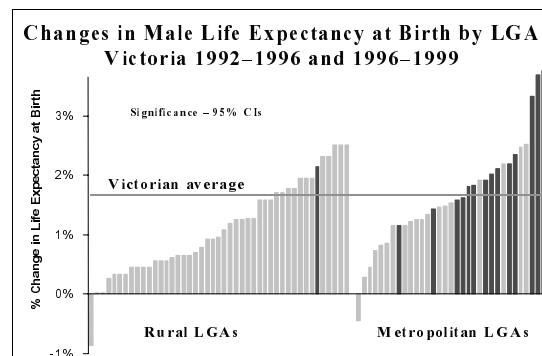
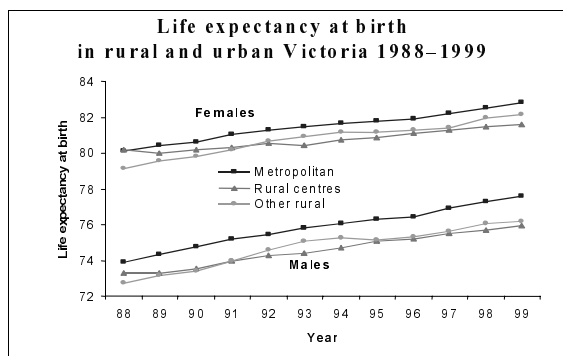


5.2.2 Applications of surveillance: a practical perspective from the Victorian Department of Human Services

Mike Ackland, Department of Human Services, Victoria

Chronic disease and risk factor surveillance is seen as 'core business' for Victoria's Department of Human Services (DHS). For example, the Better Health Victoria 2010 Plan has nine core domains for public health: building capacity, eating well, active living, tackling drugs, stopping disease, closing the gaps (reducing inequalities), starting young, strengthening communities, and creating healthy environments. Surveillance initiatives have been further developed to contribute improved information that has relevance and application to these (and other) strategic policy directions for the Department.

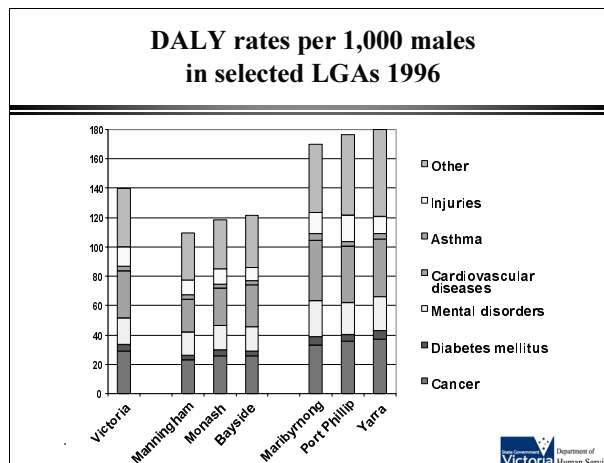
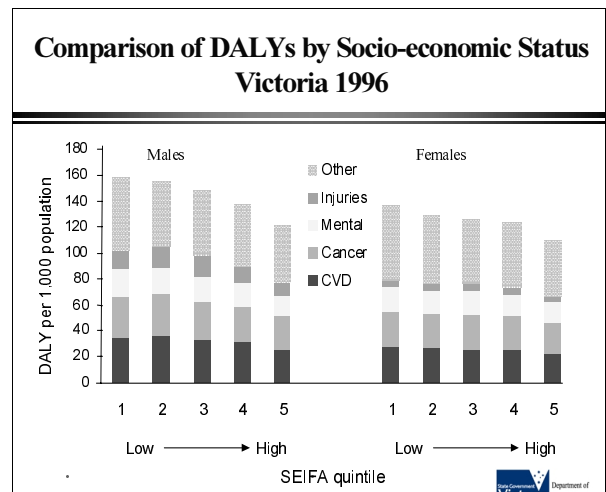
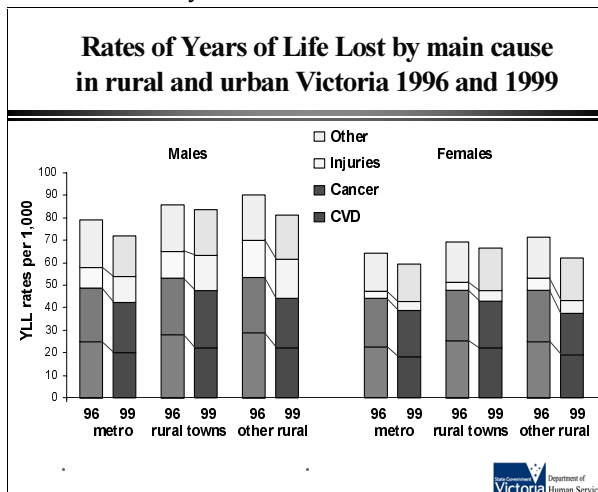
Surveillance outputs in Victoria include estimates of life expectancy at birth by DHS region, local government area (LGA) and socioeconomic status (SES), YLL by main cause of death in urban and regional areas, and summary estimates of the burden of disease in DALY terms at state, regional and LGA levels.



Recent time-series analyses of Ambulatory Care Sensitive Condition hospitalisations are also contributing to a better understanding of issues such as access to primary care services as well as differentials in health for Victorians.

The Victorian Population Health Survey (VPHS), a CATI-based survey, is a cost-effective approach to filling information gaps and provides a source of new evidence to support policy development and program evaluation. For example, the VPHS will allow new analyses of the attribution of disease burden to risk factors (new estimates obtained through the survey). The 2001 VPHS covers:

- health care use;
- mental health status;
- asthma and diabetes;
- nutrition, alcohol and smoking;
- physical activity/inactivity;
- gastroenteritis;
- socioeconomic determinants; and
- community and societal characteristics.



Surveys such as VPHS are just one part of a broad program of surveillance initiatives now in place to fill information gaps in Victoria.

5.2.3 Information base for the surveillance of chronic diseases in New South Wales

Margo Eyson-Annan, New South Wales Health

New South Wales (NSW) has been actively building an information base on chronic diseases for more than 10 years through its population health surveillance program. The aim of the program is 'to ensure that there is appropriate, timely and valid population health information to monitor health status and respond to health problems, and to support planning, implementation and evaluation of health services and programs'.

In 1997, as part of the development of the Strategy for Population Health Surveillance in NSW, information gaps were identified which included risk factor, incidence and prevalence data for chronic diseases. Problems with existing data sets were also identified including coding of at-risk groups (e.g. Aboriginality and ethnicity), problems with the designation of codes, inadequate coding and identification of secondary diagnoses, recording of demographics and timeliness of data sets.

In order to meet some of the identified information needs, the Health Survey Program was established in 1997 to provide state-wide and Area Health Service-level data on health status, health risk factors, use of and access to health services, and satisfaction with health services. Adult surveys were conducted in 1997 and 1998, followed by age-specific studies in 1999 and 2001. From 2002 onwards, the Continuous Health Survey Program began collecting information, including:

- social determinants of health;
- individual or behavioural determinants of health;
- major health problems;
- population groups with special needs;
- settings;
- partnerships; and
- infrastructure.

The survey is based on a sample of the whole population with interviews being conducted each month in all Area Health Services simultaneously. It has the capacity to exclude questions and include additional ones, as required.

NSW has also established the Health Outcomes Information Statistical Toolkit (HOIST), a SAS-based population health data warehouse comprising epidemiological data sets (such as mortality, hospital separations and NSW Central Cancer Registry data) in a standardised format, plus a range of analytical programs.

HOIST has recently been expanded to include new data sets including social capital information (e.g. crime data), Health Insurance Commission data (Medical Benefits Scheme and Pharmaceutical Benefits Scheme data), National Coronial Information System and environmental health (water and meteorological) data.

Probabilistic data linkage in HOIST can be used to match records on the basis of date of birth, country of birth, sex, insurance status, language spoken at home, address and so on.

Linked data available on HOIST includes:

- cancer treatment – linkage of most recent Central Cancer Registry data to NSW Inpatient Statistics Collection (ISC), 1992–93 to 2000–01;
- readmission data – internal linkage of ISC 2000–01;
- estimates of the number of persons who were receiving haemodialysis – internal linkage of ISC 1997–98); and
- utilisation and outcomes of birthing services – linkage of NSW Midwives Data Collection and ISC 1999.

Web-based reporting systems are being developed for the NSW Health Survey data, mortality data and the ISC. This will further improve the existing dissemination of

information through the *Report of the NSW Chief Health Officer, NSW Mothers and Babies Report*, the *NSW Health Survey Report* and the *NSW Public Health Bulletin*.

5.3 Plenary 3: Surveillance and monitoring of chronic diseases: other perspectives

5.3.1 Chronic diseases: a Commonwealth perspective

Colin Sindall, Commonwealth Department of Health and Ageing

The World Health Organization (WHO) has established a global strategy for the prevention and control of non-communicable diseases (NCD), mainly cardiovascular disease (CVD), diabetes, and cancer. The strategy sets out country-level guidelines which call on nations to generate an information base for action. This would enable governments to assess and monitor NCD mortality and the level of exposure to risk factors in the population, as well as provide a mechanism for surveillance information to contribute to policy making, advocacy and the evaluation of health care.

The policy context in Australia builds on and expands these guidelines. Effective monitoring of health trends such as levels of obesity, the Type 2 diabetes epidemic and mental health problems is needed, together with a focus on health inequalities and the ageing population. Monitoring is also required to inform action, for example implementation of national nutrition and physical activity strategies. Taking a life-course perspective extends understanding of preventive opportunities.

The NPHP background paper, *Preventing chronic disease: a strategic framework*, outlines the goals of national health policy in this area. These aim to:

- improve health and wellbeing of all Australians and reduce health, social and economic impacts of chronic disease on Australian society;
- reduce avoidable morbidity and mortality associated with the conditions identified in the framework; and
- reduce health disparities (socioeconomic status, gender, ethnicity, location) with regard to the diseases and risk factors identified in the framework.

In view of these goals, there is a strong need for a nationwide chronic disease and risk factor surveillance and monitoring system. Such a system would:

- provide timely, accurate data to support national chronic disease prevention strategies;
- inform health policy, planning and effective targeting of resources;
- identify short-term and long-term trends and emerging issues of national importance in chronic disease prevention;
- evaluate effectiveness of policies and interventions;
- pinpoint action on health inequalities and groups with special needs;
- compare progress and trends across Australia;
- contribute to national health performance assessment; and
- develop and track leading health status indicators.

The desirable characteristics of a nationwide monitoring system are that it would equitably meet the needs of all jurisdictions, be consistent with national requirements, and reflect an understanding of chronic disease aetiology and control. Such a system would also need to be sufficiently flexible to reflect local context and needs, but with core elements that allow for comparison and aggregation across issues of common interest and national policy importance. It would incorporate a range of linked objective and self-report measures – attitudinal, behavioural, biomedical – collected with appropriate frequency. It would also be sustainable, building on existing systems and expertise, at all levels.

Our current information system is not limited to AIHW, ABS and State/Territory collections and products, but also includes innovative projects developed by the private sector, NGOs and universities, along with strong administrative data collections.

A number of weaknesses in the current system, however, can be identified, including:

- limitations in behavioural data;
- discontinuity in objective risk factor data sets;
- limited capacity for social determinants monitoring; and
- lack of agreed national objectives regarding prevention.

In relation to chronic disease information development, the NPHP has recommended the development of a framework for systematic collection, aggregation and use of public health information at the national level. It also recommended the development of a national work program to improve overall coverage of survey data, facilitate sharing of data between jurisdictions and provide a basis for establishing agreed national minimum survey data sets for priority areas.

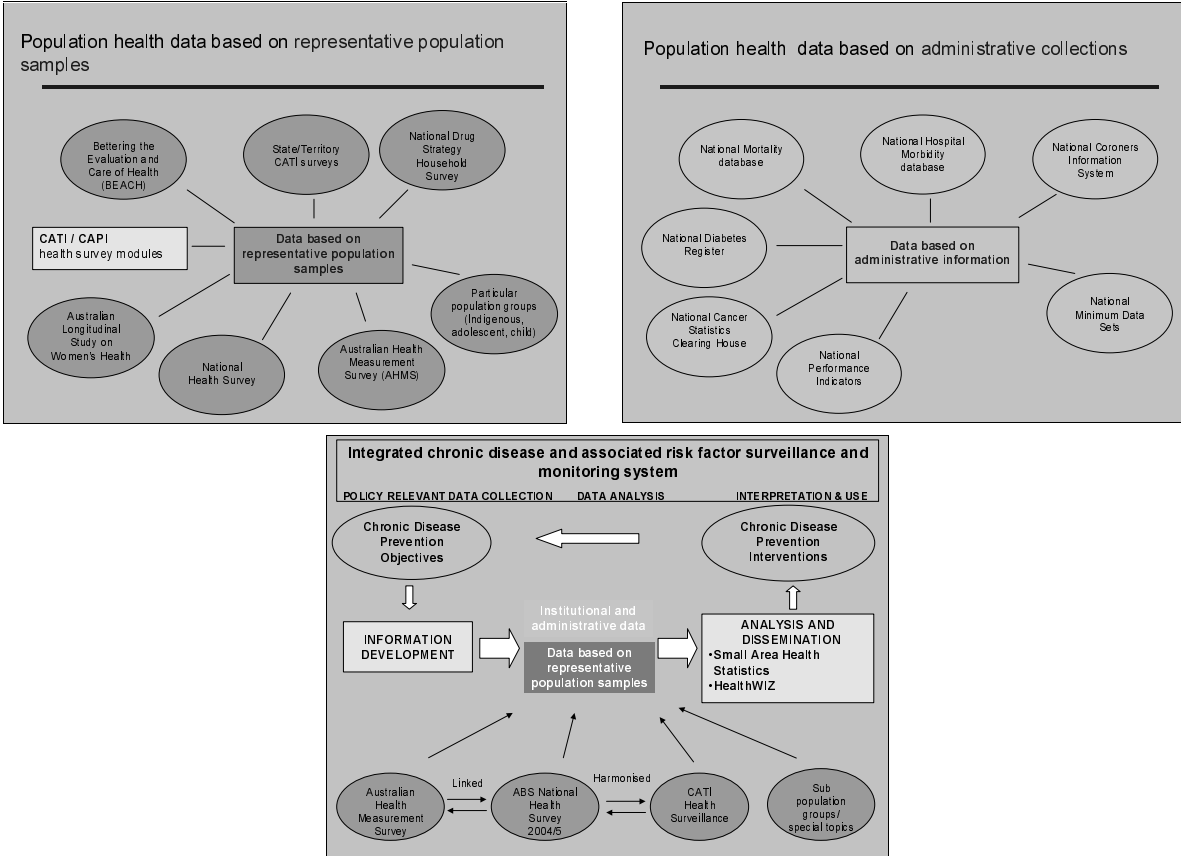
NPHP Background Paper Preventing Chronic Disease: A Strategic Framework		
<i>Risk & Protective Factors</i>	<i>Biological Risk Factors/Markers</i>	<i>Preventable Chronic Diseases & Conditions</i>
Behavioural Factors <ul style="list-style-type: none"> • Diet • Physical Activity • Smoking • Alcohol misuse 	<ul style="list-style-type: none"> • Obesity • Hypertension • Dyslipidemia • Impaired Glucose Tolerance • Proteinuria 	<ul style="list-style-type: none"> • Ischaemic Heart Disease • Stroke • Type 2 Diabetes • Renal Disease • Chronic Lung Disease (COPD & Asthma) • Certain Cancers (eg colorectal, lung) • Mental health Problems/Depression*
Psychosocial Factors <ul style="list-style-type: none"> • "Sense of control" • Social support/social exclusion • Resilience and emotional well-being 		
Early Life Factors <ul style="list-style-type: none"> • Maternal health • Low birthweight • Childhood infections • Abuse and neglect 		
<p><i>Non modifiable factors:</i> Age, sex, ethnicity, genetic make-up, family history</p> <p>Socio-environmental determinants</p> <p>Proposed "cluster" of chronic diseases and risk factors</p>		

Attending to these recommendations, the priorities proposed by the NHIMG are to:

- develop data collections to incorporate a range of risk factors, including behavioural, biomedical and socioeconomic, recognising the priority of special needs groups;
- conduct a national survey that includes biological measurement of major modifiable risk factors;
- coordinate behavioural risk factor surveys to promote best practice and development of a national strategy; and
- develop and implement analytical techniques for reporting on health inequalities and the health of vulnerable populations.

Several Commonwealth-funded initiatives will further these objectives. The business case for the AHMS proposes a program of cross-sectional surveys with physical measurement

components. The AIHW is undertaking information development, data analysis and national reporting on chronic diseases and associated risk factors. The La Trobe Consortium has undertaken a feasibility study for nationwide chronic disease and risk factor surveillance and monitoring. The ABS 2001 NHS will enhance our knowledge of various chronic diseases and behavioural risk factors. DoHA has funded ABS to support an enhanced NHS program, with more frequent (triennial) surveys and supplementary Indigenous sampling, with the AHMS linked to the NHS, and the development of CATI modules harmonised with the ABS computer-assisted personal interview (CAPI) modules. DoHA has also funded States and Territories to undertake 'buddy' CATI health surveys.



5.3.2 Chronic disease surveillance and monitoring: the non-government organisations' perspectives

Andrew Tonkin, National Vascular Disease Prevention Partnership

Among other initiatives, NGOs such as the National Heart Foundation and Diabetes Australia aim to inform policy makers and influence strategy. There are, however, limitations to what NGOs can do in the absence of quality data.

There is a strong need for robust national and regional data. At present, there is not as much data for rural areas as there is for metropolitan areas. This lack of information is likely to translate into problems in providing appropriate health services in rural areas. There are also implications for disadvantaged groups, such as the Indigenous community, in this regard.

The dichotomous classification of many risk factors (such as 'high' vs 'low' cholesterol or blood pressure) presents problems, as these are continuous variables. For example, one-third

of people with CVD have cholesterol levels of less than 5.5 mmol/L, the cut-off point for high blood cholesterol. A similar situation exists in the relationship between stroke and high blood pressure. It is therefore important to generate data on these risk factors along the continuum of variation.

Also, absolute risk for future events depends on the intensity of a variety of risk factors. Such clustering of risk factors should be captured in surveillance efforts.

5.3.3 Perspectives of the users and producers of chronic disease data

Hal Swerissen, School of Public Health, La Trobe University

The School of Public Health at La Trobe University is heading a consortium examining the feasibility of developing a nationwide information and monitoring system for chronic diseases and associated risk factors. This study has involved extensive consultations with users and producers of data. Preliminary drafts of the reports from the consultations have been circulated for comment, and the final reports are in preparation.

Most of those consulted are generally supportive of establishing such a system, with an emphasis on monitoring to assist decision making (policy, investment, planning, evaluation). A second emphasis is on the need for data for small area utilisation.

Discussions on which framework to use for monitoring chronic diseases elicited varied responses. There was some support for using the NHP Framework for developmental purposes. Further work is needed on specific data elements to be included in different sections of the framework. There was also some support for a ‘continuum model’ focusing on administrative data, self-reported information and objective measurements.

Integrating frameworks			
	Step 1	Step 2	Step 3
Risk factors	Self report	+ physical	+Bio-medical
Morbidity	Admission counts by age/sex	+CD, NCD, Injury	Full cause
Mortality	Death by age/sex	+CD, NCD, Injury	Full certification

Some support for continuum model focusing on administrative data, self report & objective measurement.

In relation to data collections, there was strong support for using existing collections (hospital morbidity, mortality, CATI surveys and NHS), but the limitations of these for ‘hard to get to’ groups was also recognised. It was also recognised that there is a need to harmonise components of state-wide collections for developing a national picture, where that is lacking in the NHS. The development of national surveys with objective measures was also supported but there were mixed views on which objective measures should be use. There were also mixed views on the importance and priority of fully harmonised national coverage, and some stakeholders suggested a more modest approach be adopted. The value of time-series data, as well as the need for disaggregation and small area analysis, was also widely recognised.

Strategic considerations included costs (further development of existing systems, addition of new elements, and increased transaction costs) and benefits (higher quality and more efficient data collection; enhanced benchmarking and analytical capacity; and more efficient and effective investment in expertise, capacity and infrastructure). In addition, the interests and needs of the various jurisdictions, and their capacity to contribute, along with the interests of funders, data producers and data users were also considered important.

5.4 Plenary 4: Measurement issues in the surveillance and monitoring of chronic diseases

5.4.1 Australian Health Measurement Survey (AHMS)

Jeanette Pope, Population Health Information Development Unit, University of Adelaide

The AHMS is proposed as a program of national population health surveys that will undertake objective measures (as opposed to self-reported information) of blood pressure, height, weight, and waist circumference, and obtain blood and other biological specimens. It is proposed that it be run in conjunction with the 2004 NHS, and that it include all age groups including children, as is now standard in similar surveys in other countries. A steering committee is developing the survey.

The objectives of the AHMS are to:

- determine and monitor the prevalence of selected disease outcomes and risk factors and determinants in the Australian population and selected population groups;
- examine the relationships between selected diseases and risk factors and their determinants; and
- validate self-reported measurements that are collected by a range of other Australian surveys.

A set of selection criteria has been established for determining the types of disease outcomes and risk factors for inclusion in the program, and a broad range of topics were tested by a reference group.

It has been proposed that the AHMS has two components, similar to the Health Survey of England and the Canadian Community Health Survey. The core component will be measured at every survey and should include blood pressure, blood cholesterol, glucose levels and body measurements. These will be complemented by core subjective measures on risk and socioeconomic factors as part of the NHS interview. The core component will allow for the monitoring of issues such as:

- progression of risk over the life-course;
- relationship between the major risk factors and other health determinants; and
- trends in body measurements.

Special interest modules, to examine particular health issues in greater depth, would be included on a one-off or occasional (or rotating) basis. The proposal for the first AHMS is to include special interest modules on metabolic syndrome and mental health. Nutrition should be considered for the second AHMS.

It is envisaged that at the end of the NHS interview, the ABS interviewer will gain consent from the respondent for a nurse (from an agency external to the ABS) to visit them in their home to take objective measurements. This information will then be returned to the ABS for matching with the NHS data file. The ABS will not release a unit record file of the AHMS but will instead create a synthetic data file to assist researchers in developing data extraction programs. The ABS will then run these programs against the file and, after ensuring confidentiality, provide the results to the researcher. Other data release formats will include publications and 'tables on request'.

To determine how much time the recruitment of respondents will take, and to examine issues about consent, the ABS has run a skirmish test. The skirmish involved 400 households who were given a cut-down version of the NHS and then asked if they would be willing to consent to the AHMS. In addition to timing how long it takes to recruit respondents, the interviewers also asked respondents a series of questions about the types of tests they may not wish to undergo (particularly blood and urine) and whether travel to a community centre to take the tests would make a difference.

There is still work to be done on the AHMS before a business case is ready to be presented to AHMAC. The funding issues also need to be examined by DoHA. The steering committee will meet again, once the results of the skirmish are in, to finalise content and design issues. A consultation will then be held with a wide range of stakeholders and consumer bodies, and an ethical process will be undertaken to ensure the success of the survey when it goes into the field.

5.4.2 The WHO STEPS approach

Terry Dwyer, Menzies Centre for Population Health Research, Hobart

Non-communicable diseases (NCDs) were estimated in 1999 to have contributed to almost 60% of deaths in the world and 43% of the global burden of disease in DALY terms. Based on current trends, by the year 2020 these diseases are predicted to account for 73% of deaths and 60% of DALYs worldwide. Most of these increases will result from the epidemiological transition current in developing countries, although the burden of NCDs in developed countries also continues to increase steadily.

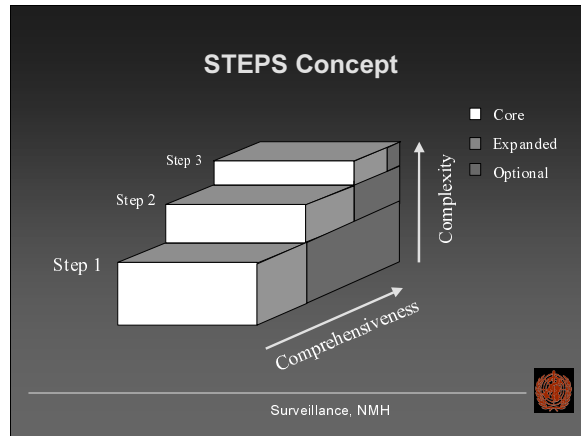
A system for the surveillance of risk factors for these diseases on a global basis, known as STEPS (stepwise approach to surveillance), has also been developed by the WHO. The goals of this system are to obtain a picture of emerging patterns and trends in major NCD risk factors and to measure the effectiveness of primary prevention interventions. It is important to have a broader approach because certain risk factors need global solutions, due to their 'infectious' spread. Examples of such contagions include the spread of tobacco smoking and the proliferation of fast food restaurants noted for selling foods high in fat content.

There are a number of reasons why the key risk factors of tobacco smoking, poor nutrition, alcohol misuse and physical inactivity have been selected. These include:

- they have the greatest impact on NCD mortality and morbidity;
- there is evidence that their modification is possible and effective in primary prevention;
- their measurements have been validated;
- the forms of measurement can be easily applied in both developed and developing countries, and comparison across countries will be meaningful; and

- consistent measurements can be obtained by following appropriate technical and ethical standards.

The WHO approach has three levels (core, expanded and optional) of risk factor monitoring at each of the three 'steps' of complexity. Most countries should be able to begin at the first step, and then move to the other steps as their capacity to undertake such surveys develops.



Three Levels for Risk Factor Surveillance at each Step

Measures	Step 1	Step 2	Step 3
Level	(Verbal)	(Physical)	(Biochemical)
Core	Demographic, Tobacco, Alcohol, Nutrition, Physical activity	Measured weight + height, Waist girth, Blood pressure	Cholesterol, Fasting blood sugar
Expanded	Education, Occupation Indicators,	Hip girth,	HDL-Chol, Triglycerides
Optional	Knowledge+ attitudes regarding health, Health-related Quality of life and health-related behaviour	Skinfolds, Pedometer	Urine, etc.

Surveillance, NMH

The first step uses standard survey questionnaires to obtain information on 'core' demographic items, tobacco and alcohol use, nutrition and physical activity. This could be expanded to include other socioeconomic characteristics with measures of knowledge and attitudes regarding health, quality of life, and healthy behaviour being further optional modules.

The second step involves physical measurements of weight, height, waist circumference and blood pressure. This could be expanded to include hip circumference and skinfold measures. The third step would involve blood samples to measure cholesterol, glucose and triglyceride levels, and possibly other biochemical measures based on urine samples.

Standard definitions and methods would need to be used (as developed by the WHO) to allow comparability across countries and over time. While this may be a difficult hurdle for some countries, it is necessary to ensure good quality data. One of the guiding principles of this approach is that limited, good information is better than either large amounts of poor data or no data at all.

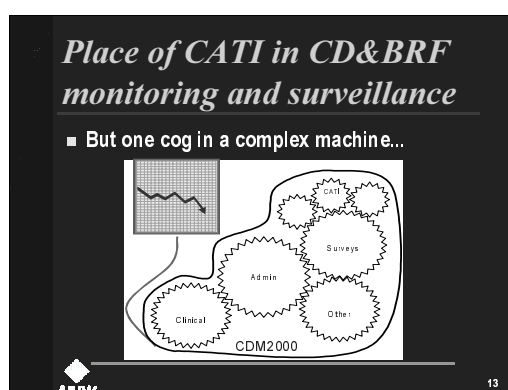
5.4.3 CATI health surveys

Mark Cooper-Stanbury, Australian Institute of Health and Welfare

CATI is a form of telephone interviewing supported by sophisticated software that can produce output within hours of the fieldwork. It is quite flexible in terms of changing the content of the questionnaire, and eliminates the need for clustered sampling design and interviewer travelling costs. CATI surveys have a place in the surveillance and monitoring of chronic diseases and behavioural risk factors, alongside administrative, clinical and other forms of survey data.

There are obvious limitations to this method: respondents are limited to those with access to a telephone; physical measurements cannot be taken; the complexity of the questions must be limited as prompt cards cannot be used; and interviewers cannot pick up on non-verbal cues. Results also often underestimate the prevalence compared with other modes, for

example, estimates of illicit drug and tobacco use from CATI surveys are usually lower than those obtained from personal interviews.



Current CATI survey topics include self-assessed health and wellbeing, biological features (e.g. height and weight), health behaviours (such as tobacco smoking, alcohol intake, physical activity, diet and supplements, medication use, substance use, preventive dental behaviours, and injury avoidance), community capacity, psychosocial factors, and socioeconomic factors. Health system performance can also be assessed through CATI surveys, with topics to be covered including access to services and prevention programs, satisfaction with services (the 'responsiveness' of the system), clinical management, management of complications, and so on.

NPHIWG has established the CATI Technical Reference Group which focuses on technical aspects of CATI surveys and on drawing together the expertise and experience of the States and Territories. The NPHP has endorsed a project to develop and publish manuals on CATI modules for chronic diseases and behavioural risk factors. The ABS is managing parts of this work, notably pre-testing (including cognitive testing). It is necessary to streamline the current process and get at least a common set of core questions.

The challenges currently facing the wider use of CATI surveys include the increasing digitalisation and mobilisation of the telephone network, harmonisation of State/Territory surveys (in terms of standard questions and survey timing), and the development of complementary collections for Indigenous, non-English-speaking, homeless and institutionalised individuals.

5.4.4 The National Health Survey

Marelle Rawson, Australian Bureau of Statistics

The ABS has conducted five National Health Surveys (NHS) between 1977 and 2001. In addition to these regular surveys, the ABS has conducted two user-funded surveys: the National Nutrition Survey in 1995 (attached to the 1995 NHS) and the National Survey of Mental Health and Wellbeing of Adults, in 1997. Beginning in 2001, the NHS will be conducted at 3-yearly intervals, the increased frequency being supported by a funding partnership with DoHA. The 2001 NHS included an additional Indigenous survey sufficient to produce national estimates, while from 2004, a large Indigenous survey will be attached to the NHS every 6 years.

Another important survey for chronic disease monitoring is the Survey of Disability, Ageing and Carers, the first in 1981 and the most recent (the fourth) in 1998. The ABS plans to continue this program at 6-yearly intervals.

The 2001 NHS, the results of which are due to be released in 2002, covered long-term conditions, recent injuries, mental health (using the K-10 instrument), risk factors and behaviours, use of services, self-assessed health (using the SF-12 instrument), socio-demographic measures and women's health. Mental health and women's health were not covered in the Indigenous component.

Special questions were included in the 2001 NHS on long-term conditions such as cancer, CVD, diabetes, asthma, eyesight and hearing. Although this is self-reported information, participants were asked if the condition had been diagnosed. The conditions were coded according to ICPC-2, and mapped to ICD-9 for comparison with the 1995 results. They will also be mapped to ICD-10 for future comparisons.

Risk factor information such as height and weight, dietary habits, and behaviours regarding tobacco, alcohol, exercise, breastfeeding, sun exposure, and dental consultations collected in the 2001 NHS was also based on self-reports. The format for collecting this information was the same as in the 1995 NHS.