

For health and welfare statistics and information

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## Risks rate high in heart report

**Eight out of ten adult Australians are either physically inactive, overweight, have high blood pressure or smoke cigarettes—all risk factors for cardiovascular disease. In fact, about one in ten adult Australians has three or more of these major risk factors which greatly increases their chance of developing cardiovascular disease.**

Such were the take-home messages at the launch of *Heart, Stroke and Vascular Diseases: Australian Facts 1999* at the Royal Prince Alfred Hospital, Sydney. The launch marked the beginning of the Heart Foundation's National Heart Week, supported by Colonial Insurance for Living. The report was written by the Institute in collaboration with the Heart Foundation of Australia (formerly the National Heart Foundation).

Head of the AIHW's Health Division, Geoff Sims, said that the report showed that 'On the bright side, over the last 30 years in Australia, death rates from cardiovascular disease have decreased by a staggering 64%. That's much greater than for any other death rate falls in the same period.

'On the "dark" side, cardiovascular disease accounts for 41% of all deaths, and directly costs our community \$3.7 billion a year. This is far more than any other disease grouping—yet so much of it is preventable.

'On the "not sure" side, the ageing of our population will have significant implications for cardiovascular health planning because the prevalence of cardiovascular disease increases

dramatically with age. For example over 60% of Australians aged 75 or over have a cardiovascular condition.'

Geoff drew attention to the fact that the report blends comprehensive statistics on heart and vascular disease with easy-to-read descriptions of the diseases themselves, their risk factors, and the treatments available, plus references, data sources, and contact details.

'And therein lies the report's core value—the value of having comprehensive statistics and related information, from a variety of sources, all in the one place, for easy reference. And it's the first time that this has been done on a national basis.'

The Heart Foundation's Director of Health, Medical and Scientific Affairs, Professor Andrew Tonkin, said it was alarming that Australians in lower socioeconomic groups were twice as likely to have multiple risk factor abnormalities.



Head of the AIHW Health Division, Geoff Sims and the Heart Foundation's Director of Health, Medical and Scientific Affairs, Professor Andrew Tonkin.

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# from the Director



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### **The capabilities and scope of the Australian Institute of Health and Welfare are enhanced through collaborations we have formalised with other related organisations.**

This second edition of *AIHW Access* features the AIHW Dental Statistics and Research Unit (DSRU), a collaborating unit of the AIHW established in 1988 at the University of Adelaide. We also contribute to informing the Australian community on health and welfare issues in the fields of injury, perinatal health, Aboriginal and Torres Strait Islander health and welfare and general practice activity through the National Injury Surveillance Unit (Flinders University), the National Perinatal Statistics Unit (University of New South Wales), the National Centre for Aboriginal and Torres Strait Islander Statistics at the Australian Bureau of Statistics, Darwin, and the General Practice Statistics and Classification Unit at the University of Sydney.

The Institute is always interested to investigate other collaborative arrangements which will enhance our ability to fulfil our mission.

Again on a collaborative note, the Institute, with the endorsement of the National Public Health Information Working Group, is taking the lead in progressing a proposal for a National Biomedical Risk Factor Survey that would include blood sampling. The Australian

Bureau of Statistics has recently indicated its willingness to support the survey as a supplementary component of its 2001 National Health Survey. To maintain this momentum and to enable the development of the two surveys to proceed in parallel, the Institute has committed funding to employ a project manager to advance development of the biomedical risk factor survey.

The AIHW is a World Health Organization Collaborating Centre for the International Classification of Diseases (ICD) and the International Classification of Impairments, Disabilities and Handicaps (ICIDH) and has, since late 1994, been involved in international work on revisions of the ICIDH classification.

In my role as Head of the WHO Collaborating Centre, I have been keen to encourage the exchange of information and views among those with a stake in the classifications in Australia, and to establish areas where an Australian position needs to be developed (the scope of the family of classifications, and injury classification, are two examples). To this end, the Institute recently hosted a successful conference covering both ICD and ICIDH issues. A wide range of speakers presented thought-provoking papers on their fields of interest.

WHO is moving to bring together an international family of health and related classifications. The conference showed the potential for Australia to contribute to and benefit from this process; yet another health and welfare statistical challenge!

If you are interested in finding out more details about the conference, Michele Flint will be happy to assist (phone (02) 6244 1123 or e-mail [michele.flint@aihw.gov.au](mailto:michele.flint@aihw.gov.au)).

*Richard Madden, Director, AIHW*

## **STOP PRESS**

Please note this date in your diaries NOW!

**Australia's Welfare Conference**

**Thursday 25 November 1999 CANBERRA**

**(one-day conference)**

More information in the next issue of *Access...*

## AIHW–DSSC work program

### The Disability Services Subcommittee

(DSSC) is a subcommittee of the Standing Committee of Community Service and Income Security Administrators (SCCSISA). DSSC is responsible for the program of services delivered under the Commonwealth/State Disability Agreement (CSDA) in each Australian jurisdiction.

The Subcommittee has commissioned the Institute to undertake a work program to improve national information in the area of disability services. Three projects have been agreed upon and will comprise a balanced program focusing on service data, population data and data development. These projects will provide improvements to:

- DSSC knowledge about ageing and disability, their inter-relationships and a range of associated influences and effects (Project 1);
- the conceptual coherence and infrastructure underlying national data on service supply, demand and outcomes (Project 2); and
- the main DSSC-supervised data collection (CSDA Minimum Data Set), by undertaking specific review and development tasks that are needed but were not previously possible within the collections' annual cycle and available resources (Project 3).

The projects will be of national relevance, and will involve a scale of effort not easy for any one jurisdiction to undertake alone. They are designed to produce useful, practical information for policy makers and service providers. The work will be completed early in the year 2000.

### Project 1: Ageing and disability

This project is designed to provide information to assist disability support service providers and senior policy makers faced with questions such as:

- What are the ageing trends of people with a disability and the types of assistance needed at various ages?
- Can we usefully distinguish between disability clients and aged care clients, with respect to their need for services? When is a person's requirement for assistance a result of ageing rather than the onset of disability at an earlier age, and does any such distinction have implications for the nature of services provided?
- What are trends in informal care? How might these trends interact with population factors to affect demand for disability services into the future?
- What inferences can be made about future needs for support services?

The study is to be conducted in three stages:

- A literature review.
- An analysis of Australian population implications.
- An analysis of support service implications.

The projects are designed to produce useful, practical information for policy makers and service providers. The work will be completed early in the year 2000.

### Project 2: Integrating indicators of supply, outcome and demand

This project will develop a national framework in which current Australian practice could be viewed in the context of theoretical approaches to indicators of input, output, performance, and outcome as well as measures of demand.

The proposed project will involve:

- reviewing current indicators of input (funding), supply (number of clients by service type), output measures, performance indicators and outcome measures (service goals and quality), as well as measures of demand;

### Project 3: Strategic development of CSDA MDS

The CSDA MDS collection was designed five years ago, early in the life of the first CSDA. It is now in need of review and redevelopment, particularly in light of changes to services, information needs and available technology in recent years.

A series of three sub-projects will be undertaken jointly by DSSC and the AIHW:

- An examination of recent and emerging changes to policies, funding arrangements and service structures, and their implications for administrators' data needs.
- A review of measures of 'support needed', and the development of a national data item on client support needs, 'mappable' to measures in use in the disability services and related fields. This project recognises that administrators are discussing the need to deliver flexible services designed around people's individual needs and circumstances, and that it is important that the disability field coordinate developments on national indicators of support needs to meet its own information and administrative requirements. The project will begin with a review of

- reviewing relevant literature, as it applies to the community services field and the disability services field in particular; and
- synthesising the two reviews, placing practical approaches in the context of more theoretical approaches to demand, input, output and outcome.

Suggestions from the study could relate to:

- opportunities for integrating practical and theoretical approaches, in so far as such integration could contribute to improved data collection and/or service planning, delivery, funding, monitoring and/or management; and
- the future development of the CSDA Minimum Data Set (MDS) and other work on performance indicators.

measures of 'support needs', the findings being related to policies, practices and developments in Australia in the disability field and in other closely related fields including Home and Community Care. Options will be considered for data items which would encapsulate the main data needs and developments in Australia.

- A review of collection methods, quality and options. This project will examine the main methodological issues facing the CSDA MDS collection, including an examination of sampling and enumeration issues, a review of technological change in the computing field and the disability field, and an assessment of the technical capacities of agencies and implications for data collection.

The output of this multi-faceted study will be a report to DSSC synthesising the results of all three sub-projects and relevant material from Project 2 on indicators.

The aim of this project is to develop significant longer term enhancements to the CSDA MDS collection.

For further information, contact  
Ros Madden, AIHW, ph. (02) 6244 1189,  
e-mail: [ros.madden@aihw.gov.au](mailto:ros.madden@aihw.gov.au)

# Australian burden of disease project

**In mid-1998, the Institute commenced a national burden of disease study using the disability-adjusted life year (or DALY) to estimate the combined burden of fatal and non-fatal health outcomes for over 175 disease and injury categories for Australia in 1996. A report showing the results of this project will be published in late 1999.**

The project has three major aims:

- review the Global Burden of Disease methodology and its applicability for Australian analyses, and, where possible, improve the methods to make full use of Australia's relatively rich sources of population health data;
- systematically compile and assess data on incidence, prevalence, case fatality and severity for diseases and injury; and
- estimate the burden of disease in Australia for diseases and injury, key risk factors and selected priority populations (quintiles of socioeconomic disadvantage in the first instance).

The Victorian Department of Human Services, a member of the steering committee of the project, is also carrying out a State-level analysis of the burden of disease in Victoria, and there is close collaboration between the two projects. Both studies use the methods of the Global Burden of Disease Study developed by Harvard University, and the World Health Organization (WHO), but adapt them to best suit the Australian context and the need for greater detail in measuring the size of health problems that are most prevalent in Australia. These innovations are expected to contribute to the Global Burden of Disease 2000 Study, currently being planned by World Health Organization.

Draft estimates have been made for all the disease categories included in the Australian Burden of Disease Study and it will be finalised soon. Data sources used to obtain internally consistent estimates of incidence, prevalence, duration and case fatality include:

- disease registers
- national hospitalisation data
- BEACH survey of medical consultations (1998-99)
- epidemiological studies
- population surveys.

Preliminary results show that cardiovascular disease accounts for 21% of the total burden of disease and injury, followed by cancer (19%), then mental disorders (13%). Together, the six National Health Priority Areas accounted for 75% of the total burden in 1996. Ischaemic heart disease and stroke are the leading causes of disease burden for both males and females. For males these are followed by lung cancer, chronic lung diseases, and suicide and self-inflicted injury. For females the two leading causes are followed by depression, breast cancer and senile dementias.

Results also show that socioeconomic disadvantage is an important predictor of premature mortality. The most disadvantaged quintile of the Australian population lost 35% more years of life than the least disadvantaged quintile in 1996. Among Australians aged less than 65, the differential burden between lowest and highest quintile is even greater, at 60% excess burden in the most disadvantaged group.

**Risk factors such as smoking, physical inactivity, obesity, high blood pressure and high cholesterol are responsible for a sizable proportion of the total burden of disease in Australia. Tobacco alone accounts for an estimated 12% of the total burden.**

For further information, contact  
Colin Mathers, AIHW, ph. (02) 6244 1138,  
e-mail: colin.mathers@aihw.gov.au

## Developing a national Indigenous housing data management strategy

**The AHW recently assumed responsibility for developing a National Indigenous Housing Data Management Strategy – a framework for improving how outcomes for Indigenous housing are measured.**

The Strategy is guided by the National Indigenous Housing Data Management Group, formed in August 1998. The Group comprises representatives from: State and Territory housing assistance agencies; the Commonwealth Department of Family and Community Services; the Aboriginal and Torres Strait Islander Commission; the Australian Bureau of Statistics; and the AIHW, which is also responsible for providing Secretariat services.

The Data Management Strategy will focus on sector development aiming to put into place a mechanism for determining an agreed national minimum data set that will tackle the existing information deficit and satisfy the accountability requirements of governments. This focus is important because it covers many areas of concern such as identifying and addressing unmet need, improving the viability of providers and achieving sustainable and healthy housing.

A National Agreement on Indigenous Housing Information, and a national minimum data set and associated data dictionary items will be major outcomes of the strategy.

Currently, potential signatory bodies are considering the details of the Agreement, and the Institute's National Indigenous Housing Data Project Team is working on the first draft of the national minimum data set, identifying candidate data items to be collected and candidate data definitions and collection methods. Consultation with members of the Data Management Group, representatives of community and Indigenous bodies, and the AIHW Aboriginal and Torres Strait Islander Health and Welfare Information Unit, is recognised as a key element to the success of this project.

The Project Team will continue to guide the data development and Agreement process for the national minimum data set and will seek consistency with other relevant national data sets and information development initiatives, particularly those in the community and health services areas.

For further information contact Ian Lester, National Indigenous Housing Data Project, AIHW, ph. (02) 6244 1126, e-mail: [ian.lester@aihw.gov.au](mailto:ian.lester@aihw.gov.au)

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'Many people fail to realise that the public health problem is not so much individuals with one marked abnormality such as a cholesterol level of 10, or a blood pressure level of 200, but individuals with minor abnormalities in a number of risk factor areas', Professor Tonkin said.

Professor Tonkin also highlighted that the risk of a 40-year-old person of having coronary heart disease at some time in their future life is 1 in 2 for men and 1 in 3 for women. Similarly, men aged 45 have a 1 in 4 chance of having a stroke before the age of 85 and women have a 1 in 5 chance.

Both Geoff and Andrew welcomed the collaborative environment in which the report was produced. *Heart, Stroke and Vascular Diseases* was produced under a new Memorandum of Understanding between the AIHW—Australia's national agency for health and welfare statistics and information—and Australia's leading agency in the continuing fight against cardiovascular disease, the Heart Foundation of Australia.

Remarkably the report took only six months to produce, from initial planning to final publication.



Stepping up to the soap box this time is the AIHW itself, on its 1999–2002 Corporate Plan.

## A new Corporate Plan for 1999 to 2002

The Institute has worked hard recently to develop a new Corporate Plan to guide us through the next three years. The process has been highly collaborative. We have sought the views of many people and organisations, in particular from the Board and staff of the Institute, and from the outside agencies with which we work.

The result, now ready for final consideration and Board endorsement, is a document which:

- builds on the Institute's strengths and its progress;
- affirms and extends the previous mission statement;
- reaffirms the Institute's existing values;
- provides more context than the previous Plan, including a brief assessment of the broad strategic climate in which the Institute works; and
- sets out objectives and strategies in five key areas.

The five key areas to guide our strategic direction are:

- POSITION—who we want to be and to be seen as;
- PRODUCT—what we will produce and how well;
- PARTNERS—how we'll work collaboratively within the health and welfare information community;
- PROVIDERS—enhancing how we'll work with those who supply data to us; and

- PEOPLE—how we'll value the contributions of the range of people we deal with, and also to ensure we're a happy and productive team at the Institute.

The development process started with consultations with the Institute's Board and a range of important external partners. We convened a three-day workshop involving Unit Heads from the Institute and its Collaborating Units. Invaluable contributions were made at the workshop by three of our Board members: the Chairperson, Professor Jan Reid; the Secretary of the Department of Health and Aged Care, Mr Andrew Podger; and the Executive Director, Strategic Framework and Coordination, Department of Family and Community Services, Mr David Tune. A small drafting team of Institute staff, along with the Director, has shaped and reshaped many drafts of the Plan, each draft incorporating comments from staff at all levels in the organisation, and from the Board.

When the Plan is finalised, the next major step will be to link its strategies and objectives to detailed actions over the three years to 2002. Already the process has been invaluable in helping the Institute review its role and where it wants to go. The Plan aims to be a genuinely practical guide for all those working in the Institute and its Collaborating Units. We also hope it will be of interest to others in the field of health and welfare information and statistics. Above all, we want it to lead to the ultimate goal of our mission statement—better health and wellbeing for all Australians.

For further information on the draft Corporate Plan, please contact Paul Magnus, AIHW, ph. (02) 6244 1149 or e-mail: paul.magnus@aihw.gov.au

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## National Health Information Management Group (NHIMG)

**The National Health Information Management Group (NHIMG) continues to move forward with a changing of the guard—Mr Barry Nicholls has accepted the challenge of chairing the Management Group at the end of Dr David Filby's successful six-year term.**

The Australian Health Ministers' Advisory Council (AHMAC) agreed to appoint Barry at its April 1999 meeting. Barry brings to the position his experience as Director of Corporate Strategy at the Department of Human Services in Victoria; the Management Group anticipates further development of national health information under his guidance.

NHIMG met on 5 March 1999 in Sydney and on 22 June 1999 in Brisbane. There were several important outcomes:

- A newly-formed working group on a prioritised national strategy for health classification is considering:
  - gaps in health classification in Australia, and relative priorities
  - the process for developing an Australian position for input to international classification work
  - frequency for updating ICD-10-AM
  - essential funding requirements for health classification development and implementation
  - possible sources of funds

- NHIMG received the final report on the national codeset project Community-based Health Services and referred it to a working party for selection and refinement of elements to be made available on the Knowledgebase. The AIHW has since hosted a workshop to define and begin work on the project. A consultant will continue the work begun at the workshop.
- NHIMG endorsed a set of business rules that outline the operational aspects of the Management Group.

### Aboriginal and Torres Strait Islander Health Data

The National Indigenous Health Information Plan Implementation Working Group was created by the NHIMG to implement the recommendations of the report *The Aboriginal and Torres Strait Islander Health Information Plan...This Time Let's Make it Happen*, the outcome of a project funded by the Australian Health Ministers' Advisory Council. The National Indigenous Health Information Plan Implementation Working Group met on 4 March 1999.

The Australian Health Ministers' Advisory Council then met in April with the following outcomes:

- AHMAC endorsed the NHIMG report on the implementation of priority recommendations of *The Aboriginal and Torres Strait Islander Health Information Plan...This Time, Let's Make it Happen*.

- AHMAC endorsed the budget bid of \$170,000 in 1999–2000 for
  - a Community Health Audit (\$70,000)
  - the coordination and development of improvement strategies and materials for Indigenous identification in hospital data (\$100,000)
- AHMAC noted the decision by the NHIMG National Indigenous Health Information Plan Implementation Working Group to operate for at least another year.

For further information on these issues, or other NHIMG matters, please contact the NHIMG Secretariat c/- Michele Flint, AIHW, ph. (02) 6244 1123 or e-mail: [michele.flint@aihw.gov.au](mailto:michele.flint@aihw.gov.au)

## National Community Services Information Management Group (NCSIMG)

**Since the last *AIHW Access* was published there have been significant changes in the management of community services**

**information development across Australia.**

The Standing Committee of Community Service and Income Security Administrators (SCCSISA), at their meeting in April, agreed to fund the three priority areas identified in the National Community Services Information Development Plan. The priorities are:

- principles and standards for community services Indigenous population data
- scoping study of family support services
- minimum data set for juvenile justice.

NCSIMG members met on 4 June and agreed on strategies to progress those data development priorities.

Guiding these major initiatives represents a new phase for the NCSIMG, and the group will have a new Chair to lead it through this next challenging stage. Gillian McFee, Director, Policy and Planning, Department of Community

Services, New South Wales, was appointed Chair of NCSIMG by SCCSISA. Gillian has recently joined the NCSIMG, and members look forward to working with her.

Gillian succeeds Richard Deyell, under whose leadership the NCSIMG was created and developed into the influential Group that exists today. A major achievement for this period was the development of the National Community Services Information Development Plan and its subsequent endorsement by SCCSISA.

NCSIMG members, who represent Commonwealth, State and Territory jurisdictions responsible for community services matters, expressed gratitude to Richard for his efforts and achievements on behalf of the Group.

For further information on these issues, or other NCSIMG matters, please contact the NCSIMG Secretariat c/- Margaret Fisher, AIHW, ph. (02) 6244 1033 or e-mail: [margaret.fisher@aihw.gov.au](mailto:margaret.fisher@aihw.gov.au). Copies of the National Community Services Information Development Plan are available from NCSIMG members or from the Secretariat.



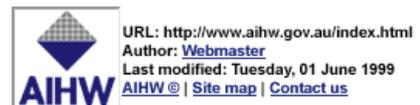
## New AIHW web site on-line

The redesigned AIHW web site is up and running! Please take a look and let us know what you think (send your comments to [feedback@aihw.gov.au](mailto:feedback@aihw.gov.au)). Here are a few pointers to help browsers (in both human and electronic senses) to get used to the new web site.

'What's new' on the web site is effectively what appears on the front page and there are text-based links to take you from here direct to the 'new' items.



Some of the other navigation tools we've used to take you beyond the front page and to return you to it are as follows.



### Navigation

Menu buttons link the front page to the parent page of groups of related pages on the web site, e.g. Infobytes, Releases, Publications and Services. Each parent page has 'subserving' index pages.

All pages have common header and footer graphics which can return you to the front page if you click on the AIHW logo. The footer also contains text links to our copyright notice, site map and contact list.

Each index page in a group (e.g. Publications) contains the menu found on the front page and a title bar. The title bar includes a button which links the page back to its parent page, and a pull-down menu which redirects the browser to other index pages within the group, e.g. Catalogue, Corporate, Health, Welfare and Collaborative in the 'Publications' group. The body text of each index page contains text links to individual items within the site.

Finally, arrow graphics provide links to other pages within the item, e.g. the item's first, previous, next and last pages. There are also arrow graphic links to take you to the top of the current page.

Items such as publications usually have explanatory text and a contents page containing text links to files comprising the item, e.g. HTML (hypertext), PDF (Acrobat), PPT (Microsoft Powerpoint presentation), XLS (Microsoft Excel spreadsheet) and ZIP (Winzip archive).

<http://www.aihw.gov.au>

For further information contact the AIHW Web Administrator, Chris Stevenson, Communication and Public Affairs Unit, AIHW, ph. (02) 6244 1029 or e-mail: [webmaster@aihw.gov.au](mailto:webmaster@aihw.gov.au)

## on Dave Wilson

**When 'Gelignite' Jack Murray raced his way around the Australian bush in the famous Redex Trials of the 1950s, he travelled on some roads that were barely tracks in the dust.**

**AIHW's Housing Unit Head, Dave Wilson, may or may not be a wild man in the 'Gelignite Jack' mould, but he does share Jack's love of cars.**

And, not so far from the red dust roads in a philosophical sense, Dave's role is to navigate a course for the Institute's Housing Assistance Unit through new and uncharted territory.

'Housing assistance data is really an uncharted area compared to health and community services, because nothing has been done nationally before', he says.

'There's now a large demand for data emerging from mainstream housing assistance, and, with government outlays of around \$3.1 billion there's a general consensus that there's very little useful data around.'

In the past 12–18 months, the AIHW's Housing Assistance Unit has expanded its focus to cover all aspects of mainstream housing assistance, including: public and community housing, crisis accommodation, Indigenous housing, and private rent and home purchase assistance. The Unit is now one of the biggest growth areas at the Institute with the commencement of six different data collections in the last 18 months, including the completion of the first national data collection on community housing. It also manages the National Indigenous Housing Data Management Project and plans to produce a national housing assistance data dictionary.

A bigger challenge may be around the corner, according to Dave—the incorporation of a data agreement within the 1999–2003 Commonwealth–State Housing Agreement.

'It's a whole new exciting area, and if the Institute is given development responsibility it will allow us to expand our housing assistance role even further. There are so many possibilities, especially now with an increased emphasis on housing assistance and its link to health outcomes.

'The data links between community housing and health service support for the aged and the disabled haven't yet been realised.'

Dave is no stranger to facts and figures. Before joining the Institute in 1995, his career included 15 years with the ABS, where he worked on the first National Health Survey produced in 1977–78 and the first survey of people with a disability. More recently he completed a six-year stint in the Commonwealth Department of Health – working in policy development across the health, community services and housing portfolios.

Aside from his work at the Institute, Dave is dedicated to 'children, cats and cars'.

In fact, it is Dave's love of cars that have taken him back along the road to his childhood. Dave's rebuilt and re-powered 1933 Willys 77 sedan was originally built in Pulteney Street, Adelaide—the same street where he went to school!

'Even though it's pushing 66 years it's still a great car, and it amuses me how disturbed some people look when it cruises past their cars on the highway.'

**Dave Wilson, Head of AIHW's Housing Assistance Unit.**



# from the Inside

## The Dental Statistics and Research Unit

The AIHW Dental Statistics and Research Unit (DSRU) is a collaborating unit of the AIHW. It was established in 1988 at the University of Adelaide.

The DSRU aims to improve the oral health of Australians through the collection, analysis and reporting of dental statistics and research on the dental workforce, dental health status, dental practices and use of dental services. DSRU is involved in a range of specific data collection activities that cover oral health, access to dental services and dental labour force statistics.

### Child Dental Health Survey

The Child Dental Health Survey is an annual survey of the oral health of children cared for by the eight State and Territory school dental services. DSRU has been able to monitor the dramatic changes in the oral health of Australian children, with the substantial decline in dental decay and its concentration in a minority of specific disadvantaged groups.

### Child Fluoride Study

The Child Fluoride Study is a research project in three States and Territories to examine the role of water fluoridation in the prevention of dental caries.

It is a large, multi-site longitudinal study involving some 28,000 children aged from 5 to 15 years at the commencement of the study. The study followed the subjects for three years. Recent findings from the study show that water fluoridation has been effective in reducing decay increment, even in the presence of fluorides from other sources, e.g. toothpaste. The effect of fluoridated water was strongest in primary teeth and in children from families of lower socioeconomic status.

### Adult access to dental care

As part of the Commonwealth Department of Health and Aged Care's Population Health Information Initiatives, DSRU is investigating access to dental care among special target groups. Three reports were published recently on migrants, Indigenous Australians, and rural and remote dwellers. In these reports a less favourable level of dental health and access to dental care were identified for these subgroups. For example, Indigenous Australian adults have almost twice the level of edentulism (complete tooth loss) as non-Indigenous Australians.

A telephone survey of a general population sample is scheduled this year to obtain up-to-date data on access to dental care, self-assessed dental health status, present dental health needs, use of dental services and preventive behaviour, satisfaction with dental services, and experience of and attitudes to dentistry.

### Adult oral health

The Adult Dental Programs Survey monitors the oral health and services received by adults attending public dental services.

### Oral health of older adults

DSRU conducts continuing analysis of the South Australian Dental Longitudinal Study, which commenced in 1991. The study involves people aged 60 years and over in Adelaide and Mt Gambier focusing on clinical and oral quality of life data. A small number of study subjects will be re-examined to compare oral disease in older adults with and without dementia.

A study of the oral health of older adults in nursing homes (the Adelaide Dental Study of Nursing Homes) began in 1998. It involves follow-up of oral health changes over one to two years. This study has revealed the increasing number of dentate nursing home residents (i.e. those with their own natural teeth) who require maintenance care to avoid dental pain and infection.

### National Dental Labour Force Data Collection

DSRU maintains national data sets on dental personnel in collaboration with the AIHW Health and Welfare Labour Force Unit. These data sets cover dentists, dental hygienists, dental therapists and dental prosthetists. In addition, DSRU investigates variations between these groups in the practice of dentistry.



# data speak

DSRU has projected that Australia's supply of dentists will decrease from the current level of 43 per 100,000 population to 33 per 100,000 in 2021. Conversely, the supply of dental hygienists will rise from the current level of 1.5 to nearly 5 per 100,000 population in 2021.

### Dentists' practice activity

The fourth wave of the Longitudinal Study of Dentists' Practice Activity has been conducted recently. This study commenced in 1983, with five-yearly data collections providing evidence of changes in dentists' practice activities, e.g. hours worked, productivity and mix of services.

DSRU has found that from the 1980s to the 1990s there was a substantial decrease in the number of patients seen per hour by general practice dentists, decreases in restorative and prosthodontic services, and increases in diagnostic, preventive, endodontic, orthodontic and crown and bridge services.

### Additional dental labour force work

Four interesting labour force projects that DSRU is currently working on are:

- collection and analysis of retrospective data on the careers of dentists
- a comparative study of dental hygienist activity in Australia and Sweden (with the Karolinska Institutet)
- analysis of data relating to the recruitment and migration of dentists
- a study of factors influencing variation in service provision in private general practice.

For further information contact Professor John Spencer, Director of DSRU, ph. (08) 8303 4051, e-mail: [aihw.dsru@dentistry.adelaide.edu.au](mailto:aihw.dsru@dentistry.adelaide.edu.au). Information on DSRU can also be obtained via its web site at [www.adelaide.edu.au/socprev-dent/dsru](http://www.adelaide.edu.au/socprev-dent/dsru)

### Client service in IT is *not* (always) an oxymoron!

Data management is often a complex and costly process. For example:

- data from disparate sources need to be collated into a consistent structure;
- the validity of data elements needs to be ensured;
- analysis must be undertaken and interpretation developed;
- the results of analysis and interpretation need to be communicated to inform policy development and community debate.

Information technology has contributed much to data management. It has provided tools to enable larger data sets to be processed and more detailed analysis to be undertaken. It has provided tools for the layout and presentation of information. More recently, information technology has given new opportunities for dissemination, access and interaction with information resources. This has brought with it new challenges for ensuring the security and integrity of information.

The pace of innovation has been rapid. Technology has not merely provided a new range of tools to assist data management; it has also promoted new opportunities for the way we work and the structure of our work environments.

The Institute is undertaking a review of some of its statistics and information generation and management processes: the processes and technology used to produce tables and graphs. The objective is to maximise the benefit from investment in data management and associated information technology infrastructure. In order to achieve high standards in this area, it is necessary to develop an architecture for technology which is responsive to client needs and aspirations. In particular, the technology must complement the value which staff bring to problem solving through the application of a diverse range of theoretical perspectives and approaches. It must also recognise the rapid pace of change and the need to plan for evolution while avoiding unnecessary disruption.

The Institute has developed both a national and an international reputation for innovation and excellence in data management. This provides a sturdy foundation for future success. Rapid advances in information technology, however, demand continuous review of performance to enable staff to best meet the Institute's objectives. Most importantly, those involved in data management need to maintain and nurture a client-focused culture which is responsive to the changing demands of the organisational environment. The Institute recognises these challenges and ensures that data management experts work closely with clients and users to provide the service which best meets the needs of the Institute.



# 'Spit it

Larry is a health nut. He knew I'd gotten into a mid-life habit of eating spinach for breakfast. He'd just read in the morning newspaper that spinach caused brain cancer. A European study of 78 brain cancer patients in hospital showed they ate twice as much spinach as similar people without cancer. Matter settled, for Larry.

## This was my friend Larry shouting at me over the phone. 'You'll get cancer'.

Out of politeness I chewed slower on my spinach. (Okay, still bad phone manners but I was only listening and this is just a story.)

I tried to reassure Larry and said I'd look into the risk. We hear these sorts of claims almost every day. Often they're hot news and scary. They come from sources that seem credible: a good newspaper reports on a study from an important-sounding research group, which may have published its findings in an equally important-sounding medical journal.

Many claims will turn out to be 'true'—what we call fact—backed by a lot of sound science. Many will not. But how can we tell? Do we stick our finger in the air and ask the wind? Ask for a divine hint? Ask someone we feel ought to know—a scientist or doctor? Do we wait for a pronouncement from a learned body that we see as unbiased?

The answer, of course, is that we often do a bit of each. But what if we got nosy and asked ourselves **how** the learned body decided? And what if we wanted to decide for ourselves whether suspect A was a cause of condition B? How could we go about it?

I'll go on to suggest how we can try. But before that, let me make a few general points:

- There are some broadly systematic approaches to help us.
- These approaches are a whole lot better than nothing. They certainly won't guarantee we'll get it 'right', but maybe more right than not (assuming right can be known\*).
- But it's nearly always a tall order anyway, even to do the job half properly.

I'll return to that last point later. But now to some suggestions on how we might look into whether suspect A is a cause of condition B. Very broadly, we examine:

- The pattern and nature of the evidence that can shed light on the supposed link between A and B
- The overall amount of the evidence, both for and against that link
- The balance of the evidence: does it seem to come down one way or another?

These approaches owe most to the field of epidemiology, the study of the patterns and causes of diseases in populations. In the middle of this century, the great epidemiologist Austin Bradford Hill set out his criteria of causation. These criteria are traditionally applied to population research but they can be used in all studies where we can measure and count. Along with later views, they look at the following questions about the association (the possible causal link) between suspect A and condition B.

1. **Strength of the association**—how strong is the link? For example, studies in the early 1950s showed that smokers on average had over ten times the lung cancer risk of non-smokers.
2. **Dose-response**—as the exposure (dose) increases, does the risk as well? (Note that some causes will not have a dose-effect and it is not biologically reasonable that they should.)
3. **Time sequence**—does the suspect factor precede the disease, as we'd expect in most cases if the factor were to have time to act?
4. **Independence**—is there a relationship between suspect A and disease B that is independent of the effects of other factors that might be the real explanation or explain it better?
5. **Specificity**—how specifically (exclusively) are the disease and the suspect linked? (This is often a hard test when so many diseases have many causes and vice versa.)
6. **Effect of removing or adding the factor**—if an individual or population reduces or increases its exposure to the suspect, do the individual disease risk or population levels change in the direction we would expect?

\*Footnote for intellectuals. In a very brief piece like this I'm going to duck theories and issues of truth, knowledge and positivism. And, of course, post-modernism. (What is it anyway?)

# out now!

7. **Biological plausibility**—does the link make biological sense? Can we propose reasonable bodily mechanisms, backed by other science, to explain the relationship?
8. **Coherence and consistency along with other research results**—here we ask if the total evidence tells a consistent story. Does this apply across the wide range of animal studies, studies on humans or their parts in the laboratory or clinic, and studies on humans going about their daily lives? And across the widely different methods and circumstances that can apply to each of these areas?

These eight criteria are not so many to remember. Anyone who really wants to be systematic when asking about causes needs to be able to rattle them off in their head. And they need to be able to run through them one by one when looking at the evidence.

Then there are the other broad areas I mentioned, namely the amount of evidence and the balance. We can see this as the amount of evidence for (i.e. supporting the link), the amount against (no link or opposite effect) and how the two weigh up. The matter of amount is very important though impossible to define. We need to feel confident that a lot of work has been done and re-done.

Does this all this sound simple? Just remember a modest list of criteria and weigh up the full evidence for and against? We all know that it's far from simple, even before we try.

Even if we have done all of this, how do we put the criteria and the results together? The problem is that there is no magic formula to do so and produce a neat and clear result. Nor is it always clear how much weight we should give to the results for each criterion, when different strengths and combinations will be dominant in different cases. We certainly don't need to meet all the criteria to be confident of cause. In weighing up the quality and amount of the evidence it will always remain a matter of judgement. In essence we are trying to sum everything up to answer one big question about probability: when A seems related to B

in all sorts of ways that make causal sense, and we have taken account of other possible explanations, what is the chance that A is **not** a cause?!

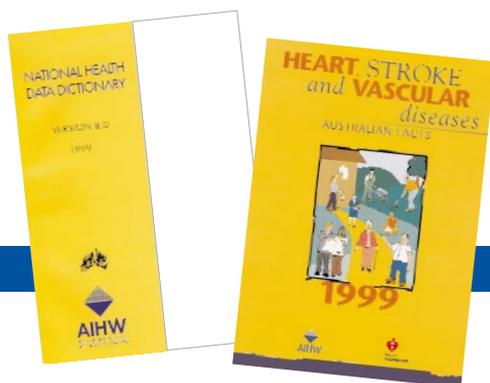
Take the case of cigarette smoking and lung cancer. By 1953 there was a range of studies covering over 5,000 lung cancer cases across five countries. Smoking consistently had by far the strongest link to the cancers with up to a fifty-fold risk for heavy smoking compared with non-smoking. It was known then that the tar from tobacco smoke produced cancer on the skin of laboratory rats and that the smoke was being constantly breathed into the lungs of smokers. It was also known that people reporting they'd smoked the longest and heaviest had the greatest risk and that those who said they'd stopped smoking had a risk that was intermediate between that of non-smokers and smokers. Given all this, what was the chance of there being another major culprit besides smoking?

Yet the research pushed on for many years before strong official claims were made about smoking and lung cancer, re-dotting every 'i' and re-crossing every 't'. The one and only good legacy of the tobacco industry was an incidental one. In its efforts to undermine science, it spurred it to extreme heights of rigour and logic. This also says a lot about the social and political context that scientific judgements can find themselves in.

Then of course there are many other difficulties. There can be endless variations in the research and its amount. There is no one picture and in any case the scene keeps changing. The evidence can always grow or become cloudy. We probably all have our biases, blind spots and hobby horses. Even with an open mind we can go wrong and get confused: do we have enough understanding of the basic science, such as the underlying physiology or pathology? Often, of course, there's no clear answer and not even a hint of one. And last, it all takes much time and searching.

In the next edition of **Access** I'll try to draw out a few of these and other issues, along with some examples. I'll suggest a way ahead for those who want to put their toe in the water of pursuing a cause. Meanwhile, what will I eat for breakfast?

*Dr Paul Magnus,  
AIHW Medical Advisor*



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