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NSW HEALTH
Working as a Team

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Health and Equity in New South Wales

NSW DEPARTMENT OF HEALTH

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FOREWORD

The health of people of NSW is among the best in the world. Over the past 20 years, the chances of dying before we reach 70 years of age have dropped by almost 25 per cent. However, these benefits have not been shared by everyone; in fact, men who live in the poorer parts of NSW now have a similar life expectancy as men who lived in the richer areas of the State 20 years ago.

The challenge we face is to make sure that everyone has opportunities to be healthy. Part of this challenge needs to be taken up within the health system. We need to make sure that the way in which we allocate health resources and deliver services gives all residents of NSW the same access to high quality health services, related to need and not ability to pay. But beyond this we need to work with the community, non-government organizations, and other government departments, to influence those things we know affect health—a good education, secure employment, safe communities, and access to affordable accommodation, food, and transport.

In All Fairness, NSW Health's health and equity statement, presents an important step in the NSW Government's long-term commitment to making sure we have a fair health system and a fair society. It focuses on action that can be taken by the health system to tackle health inequality. Many of the actions that are suggested are not new; for example a commitment to improving the health of children and young people, having an accessible primary health care system, and engaging communities in solving health problems. We are building on the good work that is already taking place across the health system, in ways that will make it more effective and sustained.

This Supplement of the *NSW Public Health Bulletin* provides an important overview of *In All Fairness*, and pulls together articles that have been published in earlier issues. These articles provide important insights about the health of the people of NSW, and report current and proposed actions to reduce the inequalities in health. I am sure this will be a valuable resource for readers in taking practical action to create fairer health outcomes for the people of NSW.



GREG STEWART

Deputy Director-General Population Health and Chief Health Officer

May 2004

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Health Inequalities: Something Old, Something New

Volume 12, Number 5

www.health.nsw.gov.au/public-health/phb/phbmay01.pdf

Tackling Inequalities in Health: Research, Policy, Practice and Advocacy

Volume 12, Number 7

www.health.nsw.gov.au/public-health/phb/phbjuly01.pdf

Tackling Health Inequalities: Balancing Universal and Targeted Approaches

Volume 13, Number 3

www.health.nsw.gov.au/public-health/phb/html2002/march02html/phbmarch02.pdf

Understanding the Causes of Health Inequalities: Incorporating Personal, Local, National, and Global Perspectives

Volume 13, Number 6

www.health.nsw.gov.au/public-health/phb/html2002/june02html/phbjune02.pdf

Linking Public Health and Personal Health

Volume 13, Number 7

www.health.nsw.gov.au/public-health/phb/phbjuly02.pdf

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www.health.gov.au/public-health/phb/phb.html

1. INTRODUCTION

Elizabeth Harris

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The launch of *In All Fairness* represents a pledge by NSW Health to move beyond describing the patterns of health inequality in NSW to a commitment to action to reduce them. It seeks to build on existing policies and services, which are addressing health inequality across the health system, and in doing so reminds us that we already have a body of knowledge and experience that can guide development. In this Supplement, articles that have previously been published in the *NSW Public Health Bulletin*, which can inform the implementation of *In All Fairness*, have been brought together as a resource for health policymakers and practitioners across the State. Most of the articles were published in five issues of the *Bulletin* that focused on health inequalities during 2001 and 2002. These five issues contain many other articles about health inequalities, which will provide readers with additional information and perspectives.¹

The overview of the health and equity statement and the accompanying articles make a strong case for action, and in doing so it is timely to reflect on why it is important to tackle health inequality.^{2,3,4} At the most basic level, there are powerful moral arguments for the health system to work towards the reduction of health inequalities. It is 'fair'. This argument recognizes that the achievement by every individual of their optimum health status should be seen as a basic human right. Most of us would agree that the high levels of premature death, illness and disability experienced by the most socially disadvantaged in our community need to be addressed. How healthy we are and what health services we can access should not be dependent on how much we earn or where we live. Fairness is a value that permeates our health system and we need to be vigilant in protecting and upholding it.

It is also important to address health inequality because it affects us all directly and indirectly. There is a strong social gradient in all health measures: throughout the whole of society, groups who are a little more privileged are also a little healthier than groups who are less privileged. This fact reflects the systematic distribution of opportunities for health throughout society and not just the difference between the richest and the poorest. In a more indirect way it has been argued that, regardless of the average level of income in a society, societies with wide differences in income distribution have greater social

exclusion, lower thresholds for violence, and weaker social ties.⁵ This is seen not only as a waste of human capital but also as creating groups of people with little identification with the values and aspirations of the wider society, with resultant costs in crime, injury, social welfare, and health programs having to be met by the wider community.³

Perhaps the most contested, but potentially most exciting, reason why it is important to address health inequalities is because there is something we can do, provided we are willing to make a sustained commitment to implementing programs and policies that have been demonstrated to work. These actions will need to be taken within the health system, by other government and non-government bodies and by the community itself, recognising that a health-producing society is also a socially and economically just society.⁶ Many of these actions are outlined in *In all Fairness* and remind us that effective action needs to be taken at local, regional, state, and national levels.

If we are to address health inequalities we need to: be clear about the nature and extent of the problem; develop an understanding of why these patterns of health inequality occur and appear to be so persistent; and, finally, develop an evidence base of what works. This supplement has been organised in a way that will help with these tasks. It begins with an overview of *In All Fairness* that outlines the rationale for NSW Health taking action to address health inequalities and provides an overview of the six key focus areas. It is followed by articles from earlier issues of the *NSW Public Health Bulletin*, which are organised under a number of themes. The first two themes provide an overview of issues related to the measurement of health inequalities and general approaches to understanding the patterns of inequalities and what can be done about them. These are followed by papers organized around the key focus area of *In All Fairness*:

- strong beginnings: investing in the early years of life;
- increased participation: engaging communities for better health outcomes;
- developing a strong primary health care system;
- regional planning and intersectoral action;
- organisational development: building our capacity to act;
- resource for long term change in health and equity.

Collectively these articles provide us with some clear messages. First, the articles that deal with measuring health inequalities in NSW describe persistent patterns of health inequality (Moore and Jorm) that are resulting in large numbers of potentially preventable deaths, predominantly in low socioeconomic groups (Hayen et al.). These differences can be seen across all conditions,

for example end stage renal disease (Cass, Cunningham, and Hoy), and are significant, leading McCracken to conclude that if the health of people in the poorest areas of NSW was the same as those in the richest areas, close to 5,000 lives would be saved each year. The authors of all these articles recognise the need to place these patterns of health inequality in the social context in which they occur, including the need to understand the effect of social conditions throughout the life cycle. The article by Harding on income inequality in Australia reminds us that the social environment is not static and there is increased evidence of income inequality in Australia that has the potential to negatively affect health.

The next set of articles examines approaches to addressing health inequality, and in doing so try to understand why these health inequalities occur. Turrell reminds us of the importance of unpacking the factors influencing health at upstream, midstream, and downstream levels, and stresses the value of taking a social-ecological approach to the problem. Wise, in her article on taking responsibility for addressing health inequalities, echoes the importance of understanding the forces that create inequality at global, national and local levels—and she challenges us not to see these forces as overwhelming and inevitably harmful to health but as areas where we as public health practitioners need to be actively engaged. Eckersley calls on us to think about how we want to measure progress: Will a wealth producing society deliver health?

The articles organised around the key focus areas in *In All Fairness* provide us with an overview of the range of actions that need to be taken to address health inequalities:

- conscious use of policy as a vehicle of change (Alperstein and Nosser; Wraith and Murphy);
- the importance of engaging those most affected in finding solutions (Harris et al.; Williams and Kakakios);
- ensuring access to high quality health services that are relevant to the groups they are targeting (Harris and Furler; Woods);
- the importance of developing strategies for working across sectors to address underlying social determinants of health (Fragar; Scanlon and Raphael);
- taking a systematic approach to the development of capacity (Lyle and Kerr) and developing methods for assessing whether what we are doing is having a positive effect on health (Mahoney);
- making sure that health resources are allocated in a fair way (Gibbs, Sondalini and Pearse).

NSW is not alone in trying to address health inequality and, just as we should not ignore the experience that we already have in this area, we should also make sure that we learn from the experiences of other countries. To this end, a list of relevant websites and references has been included below to provide readers with additional guidance on where they can seek further information.

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6. Kreiger N and Birn A. A vision of social justice as the foundation of public health: Commemorating 150 years of the spirit of 1848. *Am J Public Health* 1998; 57(6): 1001–15.

HELPFUL WEBSITES

- <http://internal.health.nsw.gov.au/public-health/equity>
- International Journal for Equity in Health
www.equityhealthj.com
- Population Health Division, NSW Health
www.health.nsw.gov.au/public-health
- NSW Public Health Bulletin
www.health.nsw.gov.au/public-health/phb/phb.html
- United Kingdom Health Variations Programme
www.lancs.ac.uk/fss/apsocsc/hvp
- Australian Health Inequalities Research Collaboration
www.hirc.health.gov.au
- Australian Health Inequalities Research Collaboration: Children, Youth and Families Network
www.hlth.qut.edu.au/ph/cyf
- United Kingdom Health Equity Network
www.ukhen.org
- International Society for Equity in Health
www.iseqh.org
- Asia-Pacific Associates for Equity in Health
<http://netclub.kmu.edu.tw/~slan>
- A source of information and contact point for research into health inequality
www.social-medicine.com
- World Bank gateway for information about poverty and sustainable development
www.worldbank.org/poverty/health
- Southern African Regional Network on Equity and Health
www.equinet.org.zw
- United States Department of Health and Human Services Initiative to Eliminate Racial and Ethnic Disparities in Health
<http://raceandhealth.hhs.gov>
- United States Office of Minority Health
www.omhrc.gov/omhhome.htm

- United States Healthy People 2010
www.health.gov/healthypeople
- International Poverty and Health Network
www.iphn.org
- University of Washington Population Health Forum
<http://depts.washington.edu/eqhlth>
- University of Texas Inequality Project
<http://utip.gov.utexas.edu>
- Archives of Social Determinants of Health Listserver
<http://listserv.yorku.ca/archives/sdoh.html>
- A policy resource maintained by the government of the United Kingdom
www.policyhub.gov.uk/evalpolicy/index.asp

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2. IN ALL FAIRNESS : INCREASING EQUITY IN HEALTH ACROSS NSW

MESSAGE FROM THE DIRECTOR-GENERAL

It is well known that the burden of disease and disability falls more heavily on some people than on others, and that the good health experienced by many is not shared by all. Many of the factors contributing to poorer health are also well known. Some factors lie beyond the reach of any public health system to address, but a number of them are within our grasp.

Equity has for many years been a guiding principle for NSW Health. *Strengthening Health Care in the Community*, *Ensuring Progress in Aboriginal Health*, and *Healthy People 2005* are just three examples of important initiatives that have adopted a holistic approach to addressing the health needs of people in their living environments, and targeting services to those with the greatest needs.

The NSW Health and Equity Statement *In All Fairness* adds to the significant and growing body of work nationally and internationally, presenting a compelling case for focusing our efforts on reducing the gap in health between the most and least disadvantaged in our community. It is a timely opportunity for the NSW health system to affirm our commitment to fairer health outcomes, to review our efforts to date, and to chart the way forward.

In All Fairness prompts us to use an 'equity filter' in looking at the way we plan, fund and deliver health care. It also provides a signpost for future directions in the NSW public health system, where equity considerations will exert even greater influence on the way we do business.

Of course, the achievement of sustainable improvements in the health of the most disadvantaged in our society will depend on working together with the full range of government and non-government agencies, and this must in itself be another focus of action.

I am confident that our commitment to action and the clear directions provided through *In All Fairness* will result in an even stronger and more sustainable effort throughout NSW Health to increase equity and improve health outcomes for all the people of NSW.

Robyn Kruk

WHAT DOES EQUITY IN HEALTH MEAN?

Generally speaking, people living in NSW enjoy good health and have access to some of the best health care services in the world. There are, however, certain groups in our society who have poorer health than others. Some differences are due to genetic or biological variations and/or result from personal lifestyle choices. Other disparities in people's health are not so easily explained.

There is a wealth of evidence to indicate that socioeconomic factors such as how much we earn, what our job is, and what level of education we attain, have a profound influence on our health. There is also increasing evidence that various psychosocial factors such as the quality of our friendships and other social relationships can influence our health.

The latest *The health of the people of New South Wales: Report of the Chief Health Officer, 2002* documents evidence of differences in health related to a number of factors including Aboriginality, country of birth, rurality, socioeconomic status, and incarceration. It provides statistical evidence of differences in the prevalence of various diseases and risk factors for disease between the most and the least disadvantaged groups in NSW.

When we talk about 'equity in health' we're actually talking about *fairness*. Equity in health involves all efforts, both within and beyond the health system, aimed at improving life opportunities for those people who are most disadvantaged, so they have the best chance of achieving and maintaining good health.

Governments have for many years recognised the importance of ensuring access to clean water, adequate housing, and sanitation as being fundamental prerequisites for good health. Advances in clinical practice and medical technology have also enabled the health system to better diagnose and treat many diseases, and to know more about certain risk factors for poor health.

These advances have undoubtedly resulted in significant increases in life expectancy and general improvements in population health.

An equity approach recognises that:

- not everyone shares the same level of health or level of resources to improve their health;
- in working towards more equitable health it is important to respond to people with differing needs in different ways.

There is evidence that the health gains realised over the past several decades have not been equally shared across the entire population. Despite these many advances there is still a health 'gap' between those people with the best and poorest health in NSW, which is related to the broader socioeconomic determinants of health.

We know there are differences in factors such as how long you will live, what you will die of, and even at what age you will have your first baby, which are related to socioeconomic status and degree of disadvantage.

People from the most disadvantaged groups in our community:

- have the highest rates of exposure to risk factors such as smoking, substance abuse, physical inactivity, and poor nutrition;
- make the most use of primary and secondary health services but the least use of prevention and health promotion services;
- are much more likely to die earlier and experience higher rates of illness and disability than people from the least disadvantaged groups.

(From Turrell and Mathers, Socioeconomic status and health in Australia, *Med J Aust* 2000; 172: 434–438.)

'... equity in health is not about eliminating all health differences so that everyone has the same level of health, but rather to reduce or eliminate those which result from factors which are considered to be both avoidable and unfair. Equity is therefore concerned with creating opportunities for health and with bringing health differentials down to the lowest levels possible' (Whitehead M, *The concepts of equity and health*, World Health Organization, 1990).

WHY HAVE A HEALTH AND EQUITY STATEMENT?

Achieving 'fairer access' is a goal for NSW Health. A range of policies and programs have been developed and implemented to reduce health inequalities across a range of health issues and specific population groups.

The NSW Health Council reinforced this commitment in its March 2000 report by stating 'we believe that everyone in NSW should have equitable access to quality health care for comparable need'. The Health Council highlighted the 'need to reduce the social, economic and environmental factors which lead to poor health' (Executive Summary; xiii–xiv).

In All Fairness has been developed to provide a point of reference for the NSW health system to gauge our current strategic directions, policies and programs in terms of reducing health inequities. It also allows us to build on

the good work already being done by acting as a platform for planning and decision-making within the NSW health system to reduce health inequities.

The yardstick for the Statement's success will be measurable changes in health service delivery and a reduction in the gap between those with the best and poorest health in NSW.

PRINCIPLES UNDERPINNING THE NSW HEALTH AND EQUITY STATEMENT

Core value: Equity in health is fundamental to the work of the NSW Department of Health and Area Health Services, and is taken up within universal and targeted services and programs.

Universal and targeted action: Specific action must be taken to reduce the gap between those who are most and least disadvantaged, while continuing to improve the health of all people.

Resourcing: Action will require long term commitment and adequate levels of resources.

Partnerships: Are essential for effective action to address health inequalities within the health system and with local communities and other government and non-government organisations.

Cultural diversity: The diversity of cultural and linguistic backgrounds of the people of NSW is valued and should be reflected in approaches to program development and service delivery.

Evidence based: Evidence of effective action needs to be demonstrated through investing in innovation and regular evaluation of policies and programs.

WHAT ARE SOME OF THE FACTS AND FIGURES ABOUT HEALTH INEQUALITIES IN NSW?

Socioeconomic status (SES) is a major indicator of health outcomes in all societies across the world. People from lower SES groups consistently have the worst overall health, and health status significantly improves as SES increases.

The health of the people of New South Wales: Report of the Chief Health Officer, 2002 suggests that over the last two decades the rate of health gain in NSW has been considerably greater for people from the highest SES group compared with those in the lowest SES group, and the rest of the population. Although premature death rates have dropped for both males and females across all SES groups in NSW over this period, the rates of decline have not been evenly shared across different SES groups.

Figure 1 shows the percentage difference in premature death rates between the highest and lowest SES groups

FIGURE 1

PREMATURE DEATHS: PERCENTAGE DIFFERENCE BETWEEN LOWEST AND HIGHEST SOCIOECONOMIC GROUPS, NSW 1980–2000

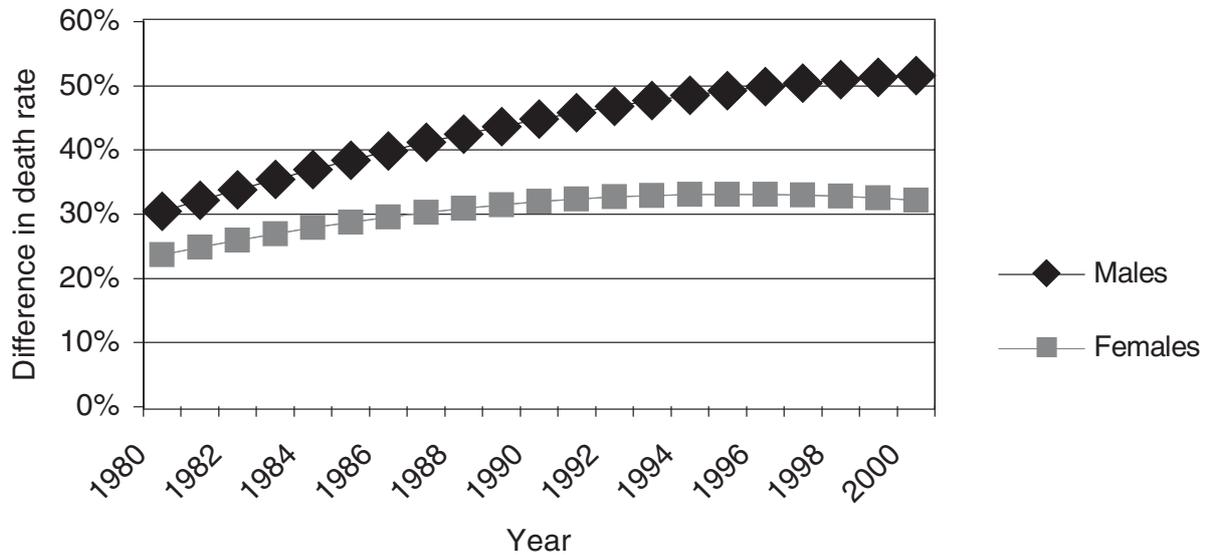
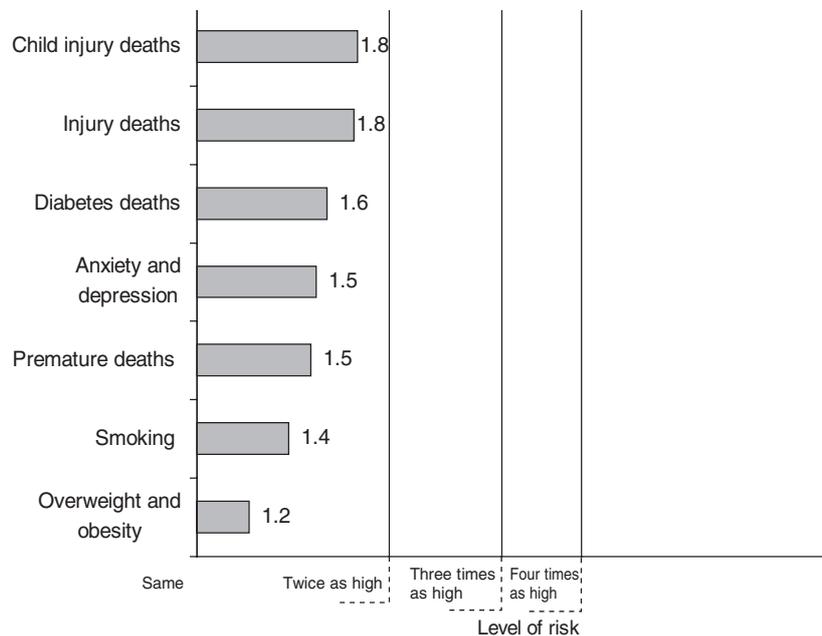


FIGURE 2

HEALTH DISADVANTAGE OF LOWEST SOCIOECONOMIC GROUP COMPARED WITH THE HIGHEST FOR SELECTED INDICATORS BETWEEN 1997 AND 2000, NSW



between 1980 and 2000. We can see that the relative difference in death rates between these two groups has actually increased for both males and females, and that the gap is larger for males than females.

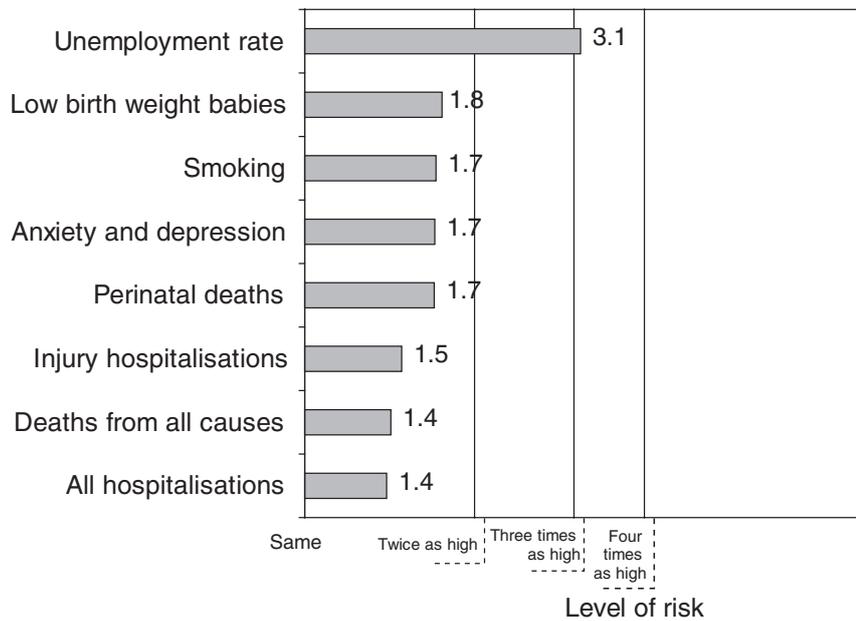
In 1980, the premature death rate in the lowest SES group was 24 per cent higher for females and 30 per cent higher for males than in the highest SES group. By 2000, these

rates had increased to 32 per cent higher for females and 52 per cent higher for males.

Similarly, Figure 2 compares the relative health disadvantage between the highest and lowest SES groups across certain selected indicators. It shows that people from lower SES groups have a higher prevalence of health risk factors (for example, smoking and obesity) and poorer

FIGURE 3

INDIGENOUS HEALTH DISADVANTAGE COMPARED WITH NON-INDIGENOUS



health outcomes (for example, anxiety and depression) than people from higher SES groups.

Aboriginal health

The differences in health status between Aboriginal and non-Aboriginal people is the most extreme example of health inequalities across Australia and within each state.

Life expectancy for Aboriginal people is roughly 20 years less than for non-Aboriginal people. In 1998–99 an Aboriginal boy could expect to live on average to 56 years and an Aboriginal girl to 64 years. These figures are comparable with life expectancies experienced by the non-Aboriginal population in the early 1900s.

Figure 3 highlights the health disadvantage experienced by Aboriginal people living in NSW across a range of selected indicators.

Rural and urban

Table 1 shows the difference in life expectancy between people in the most and least disadvantaged SES groups living in rural and urban areas of NSW.

While it is acknowledged that areas of disadvantage exist within both urban and rural areas, there are significant inequalities in life expectancy when comparing rural and urban populations generally. Males born in one of the most disadvantaged rural areas of NSW (for example, the Central Darling Local Government Area) can expect to live on average 14 years less than a male born in one of the least disadvantaged urban areas (for example, the Kuring-gai Local Government Area).

TABLE 1

LIFE EXPECTANCY AT BIRTH IN NSW, 1994–1998

	Area of residence	Boys (years)	Girls (years)
Rural	Most disadvantaged	66	73
	Least disadvantaged	80	83
Urban	Most disadvantaged	70	79
	Least disadvantaged	80	86

WHAT ARE THE PRIORITY AREAS FOR ACTION IDENTIFIED IN THE STATEMENT AND HOW WERE THEY CHOSEN?

In All Fairness identifies six key focus areas as priorities for action to reduce health inequalities. Each focus area contains a series of strategic directions for implementation.

The first step in developing the Statement was a review of the literature both in Australia and internationally. The strategies are identified on the basis of a number of criteria including:

- evidence the intervention has an effect on reducing inequalities;
- a balance of ‘early wins’, intermediate benefits and longer term outcomes;
- a balance between risks and benefits;
- appropriateness in terms of culture, ethics, and community focus;
- tackles the social determinants of health and is broader than a purely clinical intervention.

SIX KEY FOCUS AREAS AS PRIORITIES FOR ACTION

Strong beginnings: Investing in the early years of life;

Increased participation: Engaging communities for better health outcomes;

Stronger primary health care system: The first point of contact with the health sector;

Regional planning and intersectoral Action: Working better together;

Organisational development: Building our capacity to act;

Resources: For long term improvement in reducing inequalities.

EXPLORING THE SIX KEY FOCUS AREAS

Strong beginnings: Investing in the early years of life

There is growing evidence that individuals who receive a good start in life enjoy significant long-term physical, mental and emotional health benefits. This begins with good maternal health, antenatal and postnatal care and ensuring an environment supportive of healthy development, particularly in the first eight years of life. As childhood experiences and the influence of families and peers are very important for developing future health-related behaviours, strategies need to be implemented which support mothers, their babies and families.

Example: *In All Fairness supports the NSW health system's participation and commitment to initiatives such as the Families First Strategy, which is the NSW Government's interagency prevention and early intervention strategy to support families in raising their children. A key element of Families First is home visiting by trained nurses following childbirth. Intensive home visiting programs are being implemented in disadvantaged areas, providing specialist antenatal and postnatal care services for young mothers and vulnerable families.*

Increased participation: Engaging communities for better health outcomes

There is increasing recognition of the value of people participating in decisions about their health and health services. A person's sense of wellbeing is directly related to the quality of their relationships and the amount of control they feel they have over their situation. There are a range of strategies empowering people and communities to identify problems and work together in developing solutions about things that affect their health.

Example: *NSW Health has established the Health Participation Council to advise the Minister, the Department and Health Services on consumer and community participation. The Council is one of the ways in which community members can have a say in decisions about the NSW public health system at a state level.*

A stronger primary health care system: The first point of contact with the health sector

For most people the first point of contact with the health system is the primary health care sector, whether through their general practitioner, a community health centre, or a health promotion program in a local shopping centre. There is evidence that those people and communities with the poorest health often have poorest access to health services and make least use of preventive health services.

Primary health care services need to work better together as a network, as well as with hospitals and other tertiary services, and to be more proactive and accessible in meeting the needs of local communities.

Example: *Through the Strengthening Health Care in the Community Strategy, NSW Health is funding the modelling of Primary Health Care Networks, involving consumers, community based providers from Health Services, GPs, specialists, other government and non-government agencies. These Networks will promote better coordination and integration of primary health care and improve access to these services.*

Regional planning and intersectoral action: Working better together

NSW Health must continue working with multiple partners to reduce health inequities. Effective collaboration across government and non-government agencies is essential for addressing the wider social factors that influence health, and for developing health services that are comprehensive and responsive to the range of people's needs. Planning and implementing strategies must involve action at all levels, from local communities, to local, regional and state agencies, and the Commonwealth Government.

Example: *NSW Health and the Department of Community Services as lead agencies have established a multi-agency-multidisciplinary Child and Family Team in Green Valley area of South Western Sydney Area Health Service. The model involves a total of 17 other government and non-government agencies providing services to children, young people and families affected by domestic violence, drug and alcohol abuse, child neglect and mental illness in the area. It aims to provide better case management and greater practical support in a more coordinated and timely way.*

Organisational development: Building our capacity to act

Efforts to reduce inequities in health must become even more central to the business of NSW Health. Planned improvements in systems and infrastructure are required to assist in building the NSW health system's capacity to reduce health inequities.

Health impact assessments are a useful way of evaluating the extent to which policies and programs developed by NSW Health contribute to reducing inequities.

Example: An Aboriginal Health Impact Statement has been developed to ensure a consistent approach in the development of policy and program initiatives in Aboriginal health. It also provides a 'how to' guide for consultation and negotiation as well as a checklist for working with Aboriginal health networks and key stakeholders.

Resources: For long term improvement in reducing inequalities

Health disadvantage and inequity develop over many years through a complex interplay of factors. Sustaining successful strategies for dealing with long-term difficulties depends on establishing realistic resourcing and timeframes. NSW Health is seen as a leader in seeking to distribute resources equitably. However, more must be done at all levels of administration.

Example: The Health Need Index of the Resource Distribution Formula (RDF) has been revised to further refine the basis for allocating resources to Area Health Services. More work needs to be done, however, on developing internal resource distribution strategies within area health services to better promote equity of outcomes.

HOW WAS IN ALL FAIRNESS DEVELOPED?

In All Fairness is based on a literature review and the results of a series of workshops and interviews held with individuals, groups and organisations within and external to NSW Health. The following two companion documents were also produced:

- Health and Equity: A Targeted Literature Review, which provides an overview of the evidence for effective interventions at reducing health inequalities;
- Integrating Equity into Practice, a strategies document that can be used as a toolkit to assist NSW Health to better develop services to reduce health inequalities.

A SHARED RESPONSIBILITY

Interventions to reduce health inequity generally involve multilevel interventions. No one individual or part of the health system will have responsibility for all of these actions (Harris E, Sainsbury P and Nutbeam D, *Perspectives on Health Inequity*, 1999)

IMPLEMENTING IN ALL FAIRNESS : HOW TO USE IT AND WHO NEEDS TO BE INVOLVED IN MAKING IT WORK?

NSW Health has a major role to play in doing all we can to reduce health inequities in NSW. *In All Fairness* provides a foundation for action at all levels of the health system.

It is intended that the key focus areas and strategies will provide an important impetus for the area health services to review existing initiatives using an 'equity filter'. The findings of such reviews should inform planning and decision making regarding resource allocation and service development and redevelopment.

Health services will receive seed funding to assist each of them to take action on the key focus areas. An equity consultant funded by the NSW Department of Health will be available to provide expert advice to health services in supporting these local efforts.

A starting point will be local profiles of health inequity developed by area health services as a part of their public health plans. These profiles will help to determine where action is required. *Integrating Equity into Practice: A Strategies Document for Addressing Health and Equity* will provide a practical guide to assist in local planning and decision making about what action to take in refining existing strategies or developing new approaches to improve health equity outcomes.

The goal of developing comprehensive and sustainable ways of reducing some of the underlying causes of health inequities cannot be achieved by NSW Health alone. We also have a role in advocating for interagency action that is beyond our control but not beyond our influence.

To do this we must work in partnership at all levels of the human services system with a range of interest groups, including communities, other government, and non-government organisations.

IMPLEMENTING IN ALL FAIRNESS : WHAT IS HAPPENING?

Equity Profiles and Public Health Plans

The area health services are developing and refining equity profiles for their populations, for use in the development of public health plans. These plans will contain specific strategies to reduce health inequities.

Health Impact Assessments

NSW Health has funded the NSW Health Impact Assessment (HIA) Project to explore the feasibility and scope of HIA in NSW and to identify the key areas where capacity needs to be developed. Phase 2 of this project is focusing on testing HIA in a NSW context through five developmental HIA sites. The Aboriginal Health Impact Statement is a specific tool also being developed to ensure a consistent approach to the development of Aboriginal health initiatives at the state and national levels.

Accountability for program impact

Consideration is being given to appropriate accountability mechanisms which provide for reporting on program impact using meaningful health equity indicators.

Equity workshop and funding

Equity workshops at state and local levels will be conducted following the Statement's release to discuss implementation issues. Seed funding will be available to facilitate local planning and action.

Health and Equity Symposium

A statewide Health and Equity Symposium will be held to showcase equity initiatives and learn from the experiences of the first 12 months in implementing the Statement.

THE ORGANISATIONAL STRUCTURE FOR ACTION**Implementation Review Committee**

Executive-level Steering Committee chaired by the Director-General, NSW Department of Health, and involving independent and academic representation.

Equity Alliance

Operations group with NSW Department of Health and area health service representation.

Statewide Equity Network

A network of equity contacts in the area health services to work with the Equity Alliance. ☒

Copies of *In All Fairness* may be downloaded from the NSW Department of Health website at www.health.nsw.gov.au .

**Measuring
health
inequalities**

MEASURING HEALTH INEQUALITIES IN NEW SOUTH WALES

Citation: *N S W Public Health Bull* 2001; 12(5): 120–125

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This paper presents information on some key indicators of inequality in health in NSW related to demographic, socioeconomic and geographic factors. Its purposes are to highlight some of the more striking health inequalities, and to describe some of the challenges in improving their measurement.

The information presented here is drawn from the reports *The health of the people of New South Wales: Report of the Chief Health Officer 2000*,¹ and the electronic report *NSW Health Surveys 1997 and 1998*.² More detailed information about a wide range of health inequalities is available in these reports.

HEALTH INEQUALITIES BY SEX

Measurement of health inequalities between males and females is relatively simple because sex is available in all the major health data sources in NSW. These demonstrate substantial differences in health, and use of health services, between males and females. For example:

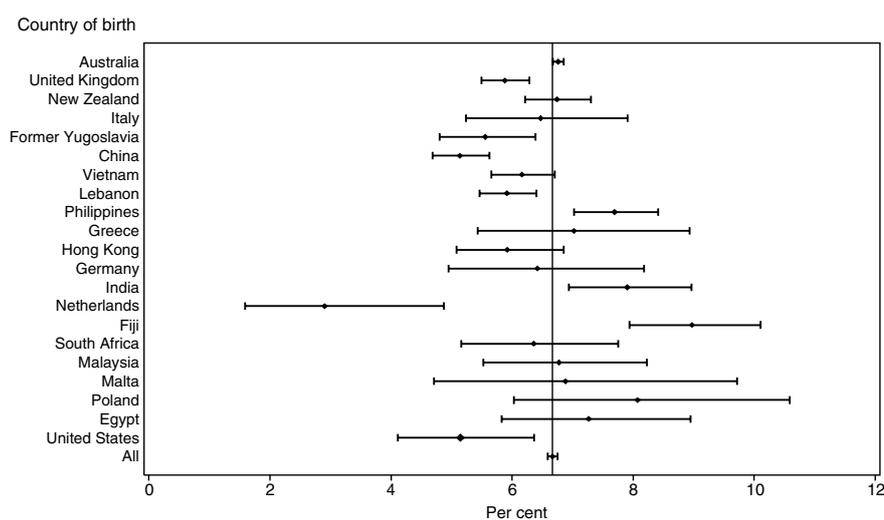
- Women have a longer life expectancy than men, although this difference is decreasing. Between 1965 and 1998, life expectancy at birth steadily increased from 67.1 to 76.5 years for males, and from 73.7 to 81.9 years for females.
- In the 1997 and 1998 NSW Health Surveys, women were more likely to report being admitted to hospital overnight and to report visiting a general practitioner in the last two weeks and the last 12 months, whereas men were more likely to report visiting an emergency department in the last 12 months.
- In the same surveys, men were more likely than women to report being current smokers and being overweight or obese. Men were less likely to report eating the recommended daily quantities of vegetables and fruit. However, fewer women than men reported adequate levels of physical activity.

HEALTH INEQUALITIES BY COUNTRY OF BIRTH AND LANGUAGE SPOKEN AT HOME

Measuring health inequalities among country-of-birth and language groups is not straightforward in NSW. Data on language spoken at home is not available in some data sets (for example, Australian Bureau of Statistics mortality

FIGURE 1

PREMATURE BIRTHS BY COUNTRY OF BIRTH OF MOTHER



Note: Births where gestational age was less than 37 weeks were classified as premature births. Infants of at least 400 grams birth weight or at least 20 weeks gestation were included. Upper and lower limits of the 95 per cent confidence interval for the point estimate least 20 weeks gestation were included. Upper and lower limits of the 95 per cent confidence interval for the point estimate

Source: NSW Midwives Data Collection (HOIST). Epidemiology and Surveillance Branch, NSW Department of Health.

data), and the accuracy of ethnicity data in others (such as the NSW Inpatients Statistics Collection) is unknown. Other limitations include the restricted availability of population denominator data (available only every five years from the Census) for calculation of rates, and the small size of many ethnic communities.

Available data demonstrate that in general, overseas-born residents have better health than Australian-born residents, possibly reflecting a 'healthy migrant effect'.³ Rates of premature death, chronic diseases and recent illnesses tend to be lower for migrants. However, certain diseases and risk factors are more prevalent among some country-of-birth groups. Some key examples are:

- In the period 1994 to 1998, premature births varied by maternal country of birth, from 3.3 per cent for mothers born in the Netherlands to 8.8 per cent for mothers born in Fiji. Mothers born in the United Kingdom and Ireland, countries of the former Yugoslavia and China were less likely to give birth prematurely, while mothers born in Lebanon and Malta were more likely to have premature births (Figure 1).
- In 1997 and 1998, men and women born in New Zealand and men born in Vietnam and Lebanon, reported higher rates of current smoking than their Australian-born counterparts. Men and women born in Italy and women born in China, Vietnam and the Philippines, were less likely to report current smoking.

- While cervical cancer rates were higher in women born in China and Vietnam in 1993–1997 compared with Australian-born women, self-reported Pap Test screening rates were lower, particularly for women born in China.
- There were considerable differences in reported rates of toothache (sometimes, often or very often) in the past 12 months among country-of-birth groups. Men and women respondents born in Lebanon and China and men born in Vietnam, Laos or Cambodia reported higher than average rates of toothache (Figure 2).

HEALTH INEQUALITIES BY INDIGENOUS STATUS

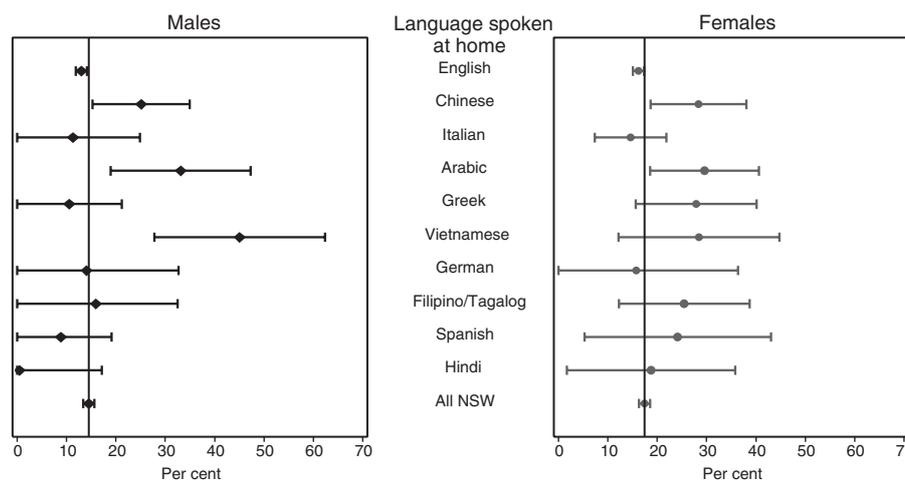
Indigenous status is generally poorly recorded in most health data collections; however, improvements have been made in recent times, particularly for death data. Additionally, examination of trends in indigenous health is complicated by increasing levels of self-identification as an indigenous person. This affects both health datasets and population denominator data.⁴ Despite these limitations, poorer birth and health outcomes and higher prevalence of health risk factors among indigenous people have long been recorded and remain apparent in NSW. Some of the more striking differences include:

- There is currently little information about the mental health and wellbeing of indigenous Australians, nor is there an agreed method for assessing it.⁴ However, in

FIGURE 2

TOOTHACHE EXPERIENCE BY LANGUAGE SPOKEN AT HOME

Toothache experienced very often, often and sometimes in previous 12 months by language spoken at home and sex, persons aged 16 years and over with at least one natural tooth, NSW 1998



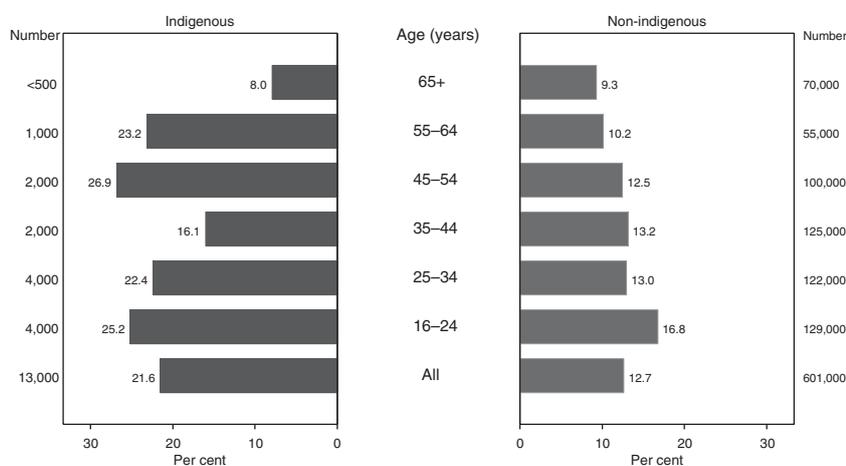
Note: Estimates based on 15,557 respondents with at least one natural tooth (0 in 1997; 15,557 in 1998). 36 (0.2%) not stated for toothache in the previous 12 months. 13,870 respondents spoke English at home; 1,669 respondents spoke a language other than English at home.

Source: NSW Health Survey 1998 (HOIST). Epidemiology and Surveillance Branch, NSW Department of Health.

FIGURE 3

PSYCHOLOGICAL DISTRESS BY AGE AND INDIGENOUS STATUS

Psychological distress score of 60 or more by age and indigenous status, persons aged 16 years and over, NSW, 1997 and 1998



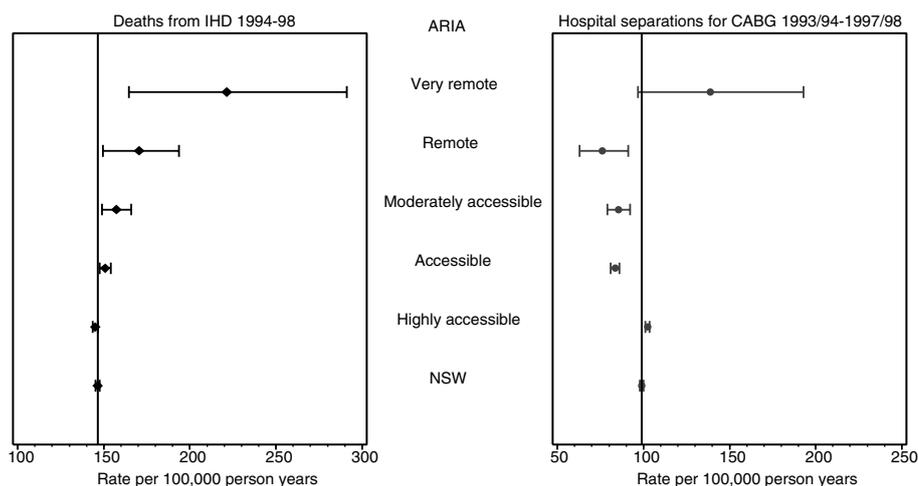
Note: Estimates based on 35,025 respondents (17,531 in 1997; 17,494 in 1998). There were 646 indigenous and 34,360 non-indigenous respondents.

Source: NSW Health Surveys 1997 and 1998 (HOIST). Epidemiology and Surveillance Branch, NSW Department of Health.

FIGURE 4

DEATHS FROM ISCHAEMIC HEART DISEASE AND HOSPITALISATIONS FOR CORONARY ARTERY BYPASS GRAFTS, BY ACCESSIBILITY-REMOTENESS INDEX FOR AUSTRALIA (ARIA)

Deaths from ischaemic heart disease and hospital separations for coronary artery bypass graft by ARIA, NSW



Note: Ischaemic heart disease was classified according to the ICD-9-CM diagnosis codes 410-414. Coronary artery graft was classified according to the ICD-9-CM procedure code 36.1. Statistical local areas were assigned to the Accessibility/Remoteness Index of Australia (ARIA). Rates were age-adjusted using the Australian population as at 30 June 1991. LL/UL95%CI of the standardised rate are shown.

Source: ABS mortality data and population estimates (HOIST). Epidemiology and Surveillance Branch, NSW Department of Health.

the 1997 and 1998 NSW Health Surveys,² the reported level of psychological distress, based on the Kessler 10 measure,⁵ was higher among indigenous than non-indigenous respondents of both sexes (Figure 3).

- Among people who reported having an overnight hospital admission in the last 12 months, indigenous people (19.7 per cent) were more than twice as likely as non-indigenous people to rate the care they received in hospital as ‘fair’ or ‘poor’ (9.3 per cent).
- In 1997–1998, indigenous people living in rural areas in NSW (162 per 100,000 population) were just over three times more likely to receive haemodialysis than indigenous people living in urban areas (53 per 100,000 population), and five times more likely to receive haemodialysis than non-indigenous people living in rural areas (32 per 100,000 population).

HEALTH INEQUALITIES BY PLACE OF RESIDENCE

Measurement of health inequalities associated with geographic remoteness has been facilitated by the development of the Accessibility–Remoteness Index for Australia (ARIA).⁶ This is based on road distance travelled from major service centres and provides a measure of service access on a population basis. ARIA scores can be assigned on the basis of postcode of residence. Examples of inequalities demonstrated by analysis by ARIA category include:

- In 1994–1998, death rates from ischaemic heart disease increased progressively with increasing remoteness. By contrast, hospital separation rates for coronary artery bypass graft (CABG) showed a less consistent pattern, with little difference in rates for those living in remote and highly accessible areas, and slightly lower rates for those living in areas with intermediate levels of service access (Figure 4).
- In the 1997 and 1998 NSW Health Surveys, a higher percentage of people living in remote (60.0 per cent) and very remote (69.6 per cent) areas of NSW reported one or more alcohol drinking behaviours that are associated with an increased risk to health compared with those living in highly accessible areas (49.0 per cent).
- In the same surveys, a higher percentage of people living in remote (20.8 per cent) and very remote (41.3 per cent) areas of NSW reported having difficulties getting the health care they needed compared with those living in highly accessible areas (8.2 per cent).

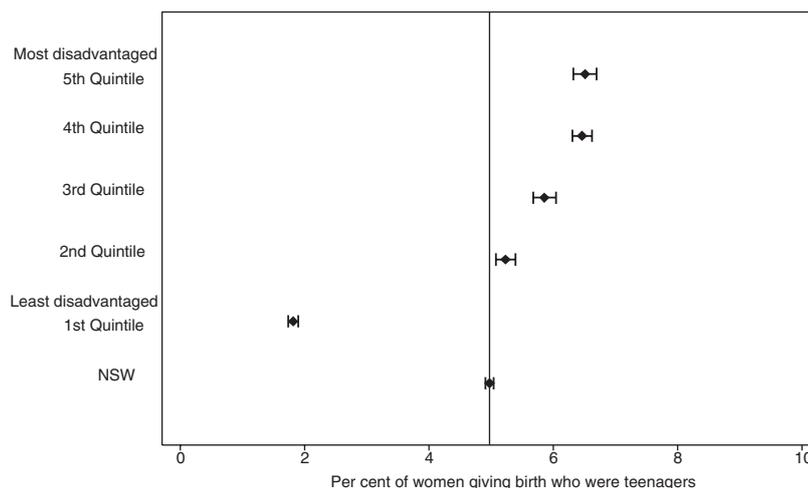
HEALTH INEQUALITIES BY SOCIOECONOMIC DISADVANTAGE, LABOUR FORCE CATEGORY AND EDUCATION

Socioeconomic differentials in health can be measured using data on individuals (for example: level of education, employment status, or income) and relating it to a measure of that individual’s health. An alternative approach is to

FIGURE 5

TEENAGE MOTHERS BY INDEX OF RELATIVE SOCIOECONOMIC DISADVANTAGE

Teenage mothers by socioeconomic disadvantage score for LGAs, NSW 1994 to 1998

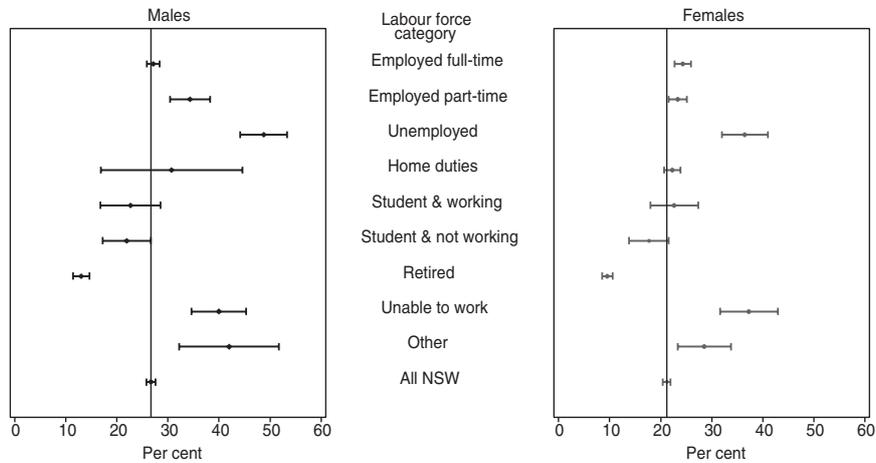


Note: Local Government Areas (LGAs) were classified into quintiles by scores based on the ABS Index of Relative Socioeconomic Disadvantage (IRSD). Lower and upper limits of the 95 per cent confidence interval for the point estimate are shown.

Source: NSW Midwives Data Collection and Census data, and SEIFA index (HOIST). Epidemiology and Surveillance Branch, NSW Department of Health.

FIGURE 6**CURRENT SMOKING BY LABOUR FORCE CATEGORY**

Currently smoke daily or occasionally by labour force category and sex, persons aged 16 years and over, NSW 1997 and 1998



Note: Estimates based on 35,025 respondents (17,531 in 1997; 17,494 in 1998). 6 not stated for current smoking status.

Source: NSW Health Surveys 1997 and 1998 (HOIST). Epidemiology and Surveillance Branch, NSW Department of Health.

use aggregate socioeconomic characteristics of the populations of defined geographic areas (such as postcodes or local government areas) as a proxy for the socioeconomic status of individuals.³ The Socioeconomic Indices for Areas (SEIFA) were developed for this purpose by the Australian Bureau of Statistics using census data.⁷ The SEIFA index of relative socioeconomic disadvantage (IRSD) is compiled from 21 different census indicators summarising underlying social and economic variables of disadvantage, such as low income, low level of education, unemployment, recent migration, lack of fluency in English and indigenous status. Socioeconomic differentials demonstrated by analysis of NSW data using both of these approaches include:

- In 1994 to 1998, the likelihood of giving birth as a teenager was strongly associated with socioeconomic disadvantage. Teenage mothers represented 1.8 per cent of all women giving birth in the least disadvantaged quintile compared with 6.5 per cent of all women giving birth in the most disadvantaged quintile (Figure 5).
- In the 1997 and 1998 NSW Health Surveys, reported rates of current smoking increased with increasing levels of socioeconomic disadvantage. Both male and female respondents who were unable to work, unemployed or employed part-time had much higher reported rates of current smoking than the state average (Figure 6).

- In the same surveys, psychological distress,⁵ was associated with socioeconomic disadvantage. Reported rates of psychological distress were lowest among men and women with university or other tertiary qualifications and highest among respondents who had not completed their high school certificate (Figure 7). It should be noted that the highest level of educational attainment was also strongly associated with age (generally lower level of educational attainment with increasing age).

DISCUSSION

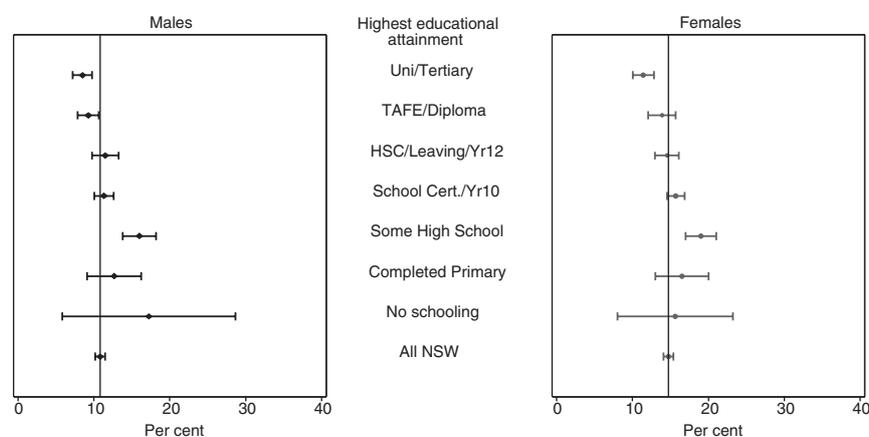
The reports *The health of the people of New South Wales: Report of the Chief Health Officer 2000*,¹ and *NSW Health Surveys 1997 and 1998*,² demonstrate many inequalities in the health of the NSW population, based on sex, ethnicity, indigenous status, area of residence and socioeconomic factors. Whether these differences represent inequities in health relies on an assessment of their fairness and preventability.^{3,8}

Much work is required to improve the measurement of inequalities in health. Issues include the appropriateness of focusing on individual level determinants of health when macrolevel determinants (such as unemployment and income) may have a far greater impact on health and require different policy interventions.⁹ This is particularly important considering evidence that socioeconomic determinants that lead to poor health tend to be concentrated in the same groups in society.¹⁰

FIGURE 7

PSYCHOLOGICAL DISTRESS BY LEVEL OF EDUCATION

Psychological distress score of 60 or more by highest educational attainment and sex, persons aged 16 years and over, NSW 1997 and 1998



Note: Estimates based on 35,025 respondents (17,531 in 1997; 17,494 in 1998). 290 (0.8%) not stated for any question in the K10 instrument. Respondents who partially completed primary school are in the no schooling category which had 236 respondents.

Source: NSW Health Surveys 1997 and 1998 (HOIST). Epidemiology and Surveillance Branch, NSW Department of Health.

Also, for many conditions, notably non-communicable diseases such as cardiovascular diseases, the relationships between social and economic factors and health are more difficult to understand, and therefore to measure. Here, identifying the role of influences that operate throughout life—the ‘lifecourse approach’—may help to tease out differences both between and within socioeconomic groups, which may be different for different conditions.⁸

In future editions of the *Report of the Chief Health Officer* it is planned to present data on trends in health inequalities. Challenges include choosing indicators for monitoring the size and direction inequalities. A range of such indicators has been described by Mackenbach and Kunst,¹¹ and by Gakidou et al.¹² Selecting which ones to present involves making choices between measures of relative and absolute differences; individual–mean differences and inter-individual differences; and simple measures and more sophisticated ones. Ideally, such choices should be informed by eliciting information on community preferences, through mechanisms such as the NSW Health Survey.

ACKNOWLEDGEMENTS

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Margaret Williamson. Members of the Health Equity Forum assisted with text about health inequalities for the *Report of the Chief Health Officer 2000*.

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Updated information from *The health of the people of New South Wales: Report of the Chief Health Officer 2002* can be obtained from the website www.health.nsw.gov.au/public-health/chorep.

Updated information from the *New South Wales Adult Health Survey 2002* can be obtained from the website www.health.nsw.gov.au/public-health/phbsup/adult_health_survey.pdf.

The health of the people of New South Wales: Report of the Chief Health Officer 2004 and the *Adult Health Survey 2003* will be released in 2004.

TRENDS IN POTENTIALLY AVOIDABLE MORTALITY IN NSW

Citation: *N S W Public Health Bull* 2002; 13(11–12): 226–236

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In Australia, mortality rates, prevalence of health risk behaviours (such as smoking and inadequate physical activity), and prevalence of risk factors (such as obesity), have been shown to be significantly higher in lower socioeconomic (SES) groups than in higher SES groups.¹ Similar inequalities in health have also been shown to exist in NSW.²

Avoidable mortality refers to deaths that *potentially* could be avoided either through prevention or through early medical intervention.³ To assess the potential effect of health interventions, it is useful to classify each condition that causes avoidable death according to the level of intervention (primary, secondary, and tertiary) to which that condition is responsive. Primary avoidable mortality (PAM) consists of conditions that are preventable by change in individual behaviour or through population-level interventions including healthy public policy that, for example, may result in introducing laws to reduce exposure to hazards, such as tobacco smoke.³

The study of inequalities in PAM allows an analysis of the effectiveness of primary level health interventions in different socioeconomic status groups and highlights conditions for which primary prevention approaches can potentially reduce inequalities. This article describes trends and differences in PAM by sex and socioeconomic status for some of the diseases and injuries that are amenable to primary prevention.

METHODS

Our analysis is based on death data for NSW for the period 1980–2000. All ‘premature’ deaths—that is, those that occur before 75 years of age—were classified into avoidable and unavoidable deaths, using the 9th revision of the International Classification of Diseases for deaths registered before 1999, and the 10th revision of the International Classification of Diseases for deaths registered from 1999 onwards.⁴ Avoidable deaths were subcategorised using the algorithm of Tobias and Jackson,³ which divides all cases of each potentially avoidable condition into three groups. Cases are allocated to each group based on the evidence for the proportion that could potentially be prevented using primary, secondary, or tertiary interventions. The proportions for lung cancer

are 0.95, 0 and 0.05 (for primary, secondary, and tertiary, respectively); for road traffic injury, they are 0.6, 0 and 0.4 respectively; and for ischaemic heart disease, they are 0.5, 0.25 and 0.25 respectively.

For example, for every 100 potentially avoidable deaths from ischaemic heart disease—where the proportions are 0.5, 0.25 and 0.25 respectively—it is estimated that 50 deaths could be avoided through primary interventions (for example, smoking cessation, improved diet, and increased physical activity); 25 deaths could be avoided through secondary interventions (lowering of cholesterol and blood pressure for those with early stage disease); and 25 deaths could be avoided through tertiary interventions (for example, angioplasties for those who have had heart attacks).

Socioeconomic (SES) groups were constructed using the Index of Relative Socioeconomic Disadvantage (IRSD), which is produced by the Australian Bureau of Statistics from census data.⁵ Each local government area in NSW was assigned an IRSD according to the socioeconomic characteristics of the area’s residents such as income, occupation, education, non-English speaking background, and indigenous status.

Using the IRSD scores for the local government areas, the NSW population was split into three groups: the ‘lowest’ SES group, or the most disadvantaged 20 per cent of the population; the ‘highest’ SES group, or the least disadvantaged 20 per cent of the population; and the balance of the population, consisting of the middle 60 per cent of the population. IRSD scores from the 1986 census were used for the years 1980–1988; scores from the 1991 census were used for the years 1989–1993; and scores from the 1996 census were used for the years 1994–2000.

For each socioeconomic group and potentially avoidable condition, age-standardised rates were calculated for the period 1980–2000, using the Australian population as at 30 June 1991 as the reference population. Additionally, Poisson regression models were used to assess changes in death rates by SES group,⁶ after adjusting for the effect of age.

RESULTS

Rates of PAM have decreased steeply for the three SES groups and for both sexes between 1980 and 2000 (Figure 1), with the rates decreasing by 51 per cent in males and 44 per cent in females between 1980 and 2000. However, the decrease has been more rapid for the highest SES group, which experienced a decrease of 60 per cent in PAM in males between 1980 and 2000, compared with the lowest and middle SES groups, which both

experienced a decrease of about 50 per cent. For females, a similar pattern was observed, although the decrease was not as great, with decreases of 51 per cent (the highest SES), 42 per cent (the middle SES) and 45 per cent (the lowest SES).

The relative 'gap' in PAM between SES groups can be expressed as the percentage by which the PAM rate is higher in one SES group (for example, the lowest SES group) than in another SES group (for example, the highest SES group). The relative gap between groups was calculated using fitted values from Poisson regression models to enable identification of trends. Figure 2 shows that there was an increased relative gap between the highest SES group and the two lower SES groups between 1980 and 2000 for males and females. By contrast, the relative gap between the lowest and middle decreased slightly for males and remained almost constant for females between 1980 and 2000.

Ischaemic heart disease was the biggest contributor to PAM for all years between 1980 and 2000, accounting for 39 per cent of PAM in 1980 and 25 per cent of PAM in 2000. Rates of ischaemic heart disease decreased very steeply for males in all SES groups (see Figure 3). Rates also decreased for females in all SES groups, although the decrease was not as rapid as that observed for males (Figure 3). The relative gap between the highest and the lowest SES group, and between the highest and the middle SES group, also increased with time for both males and females (Figure 4). The gap between the middle and lowest SES groups remained almost constant between 1980 and 2000 for both males and females.

Lung cancer was the second biggest contributor to PAM for all years between 1980 and 2000, accounting for 21 per cent of PAM in 1980 and 35 per cent of PAM in 2000. Between 1980 and 2000, PAM for lung cancer decreased for males in all SES groups but increased slightly for females in the lowest and middle SES groups (Figure 5). The relative gap between the highest and the lowest SES group, and between the highest and the middle SES group, also increased with time for both males and females (Figure 6). The gap between the middle and lowest SES groups was almost constant between 1980 and 2000 for males and females.

Road traffic accidents were the third largest contributor to PAM in 1980, when they accounted for 15 per cent of primary avoidable deaths, and the fourth largest contributor to PAM in 2000, when they accounted for six per cent of primary avoidable deaths. PAM due to road traffic accidents decreased in all SES groups between 1980 and 2000, especially in males (Figure 7). Again, the relative gap between the highest and the lowest SES group, and between the highest and the middle SES group, also increased with time for both males and females (Figure 8).

The gap between the lowest and middle SES groups increased over time for both males and females (Figure 8).

DISCUSSION

During the last two decades, there has been increasing interest in the differences in health experienced by different socioeconomic groups. Socioeconomic health inequalities have become the focus of health sector efforts in many countries around the world. Socioeconomic inequalities in health are not only evident in mortality rates; they are evident at every stage of the life course.⁷

In trying to explain these socioeconomic health inequalities, it has become clear that social, physical, economic, and environmental factors are the most fundamental determinants of health. Government policies and initiatives that address education, housing, and employment opportunities, are likely to have a significant influence on these factors.

Evidence suggests that some of the risk factors for primary avoidable conditions are more prevalent in the lower SES groups than in the highest SES groups. For example, tobacco smoking, which is a risk factor for ischaemic heart disease and lung cancer, was more prevalent in the lower SES groups in NSW in 1994 and 1997–1998 than in the highest SES group.^{7,8} National data show that between 1980 and 1995 the prevalence of smoking among males decreased for all SES groups,^{8,9,10,11,12} but the smallest decrease occurred in the lowest SES group (defined as lower blue collar workers). Overweight and obesity, which are risk factors for ischaemic heart disease, were higher in the lower SES groups than the highest in 1994 and in 1997–1998.^{7,13} Excessive alcohol consumption (as measured by 'Heavy drinking days'), a risk factor for road traffic accidents, was significantly higher in the lowest SES group (39.5 per cent of those who drink occasionally or regularly) than in the highest SES group (32.8 per cent) in NSW in 1997–1998.¹³

As described in this article, the gradients in PAM that are seen with socioeconomic status also suggest that primary prevention strategies are much more effective in the highest SES group than in the middle and lowest SES groups. There is also international evidence to suggest that this is the case.⁷ This might be because people from lower SES groups have less access to preventive health services, because health promotion messages might be less appropriate to these groups and because lower SES groups face greater impediments that hinder behavioural change.^{3,7} Increasingly, health promotion messages are being designed to be more relevant to lower SES groups and culturally and linguistically diverse communities.¹⁶ Over time, this should lead to a greater decrease in PAM in the lower SES groups.

It is also of interest that, in 2000, rates of PAM are only slightly higher—six per cent higher for males and five per cent higher for females—in the lowest SES group than in the middle SES group, and that the relative gap between these groups has decreased slightly for males and has been almost constant for females between 1980 and 2000 for PAM. The exception to this is road traffic accidents, where the gap between the lowest and middle SES groups increased between 1980 and 2000. This may be due to an overrepresentation in the lower SES group of people from rural areas, where rates of road traffic accidents are significantly higher.⁴

CONCLUSION

To date, the call to reduce socioeconomic inequalities in health has mainly resulted in interventions targeted at the lowest SES group. PAM data and other health status⁴ data indicate that in many cases the greatest gap is between the highest SES group and the rest of the population (lowest and middle SES groups). This raises a number of issues for health policy development:

- the need to continue to target the lowest SES group to maintain its rate of improvement in PAM in the future;
- the need to develop programs that are aimed at reducing the gap between the rest of the population and the highest SES group.

The biggest gains in health across the population will be in improving health outcomes for both the middle and lowest SES groups. This analysis suggests that interventions that target smoking, other risk factors for cardiovascular disease, and road traffic accidents in these groups are likely to have the biggest impact on reducing inequalities in PAM.

Inter-sectoral action is required to identify and address the determinants of health inequalities.

In NSW, a Health and Equity Statement has been developed in an attempt to reduce health inequalities through engaging the health sector, the community and other government and non-government organisations.¹⁵

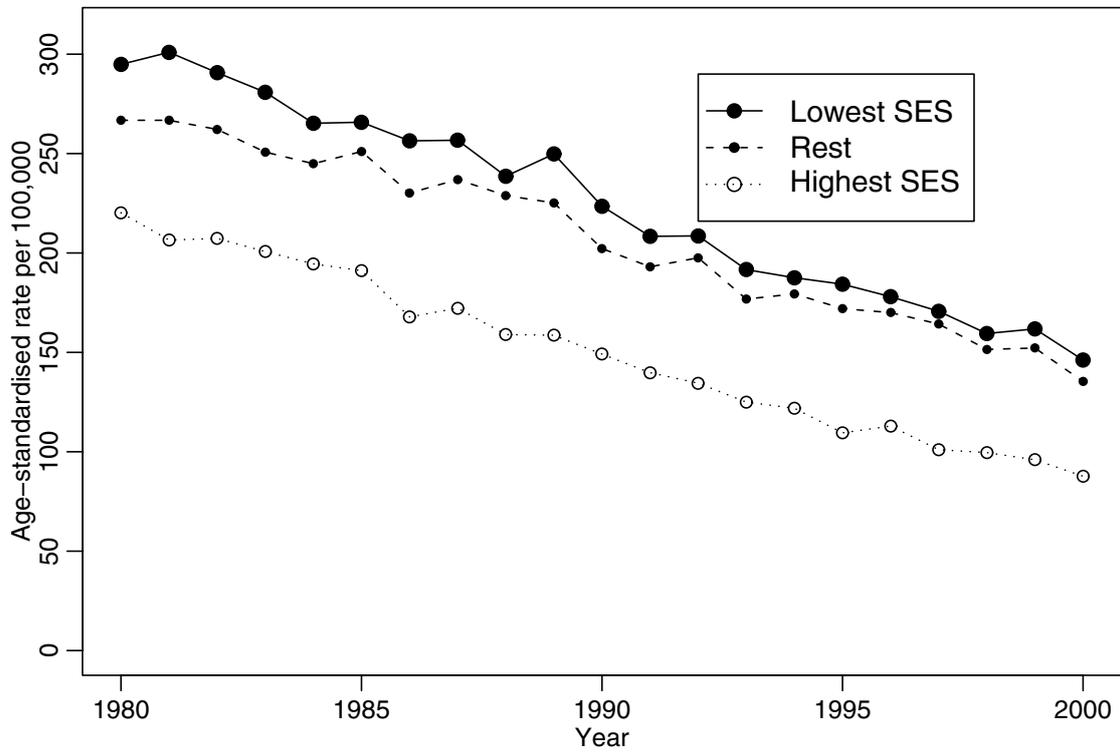
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FIGURE 1

PRIMARY AVOIDABLE MORTALITY, NSW, 1980–2000

(a) Males



(b) Females

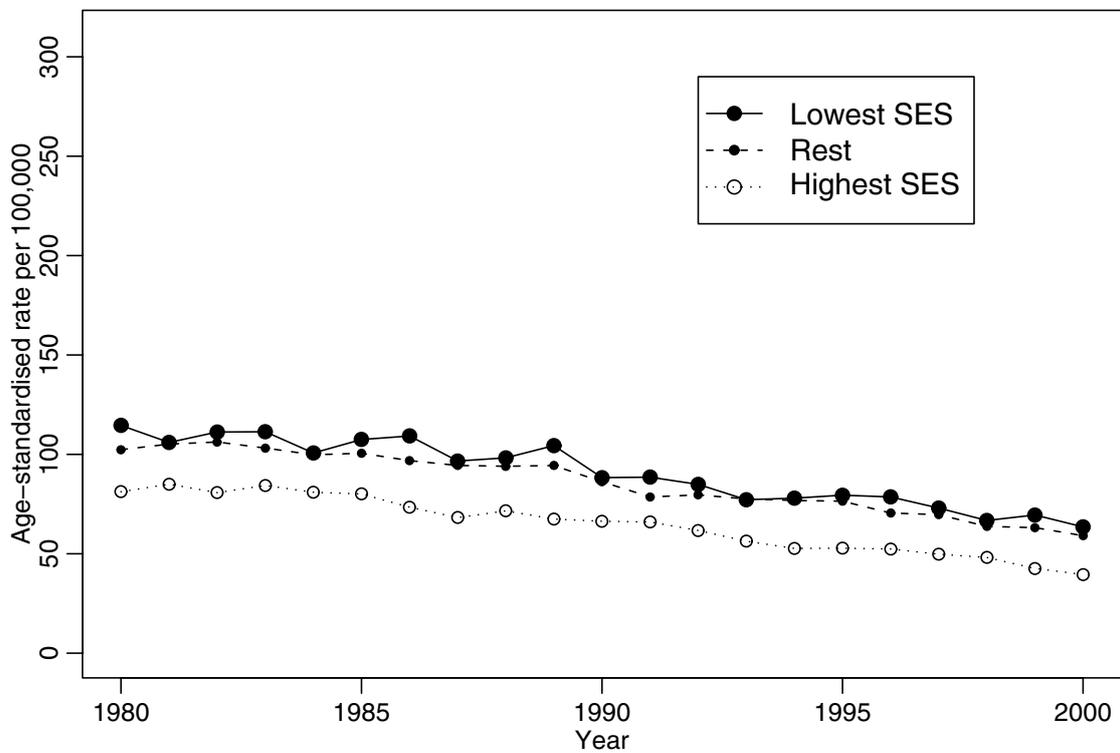
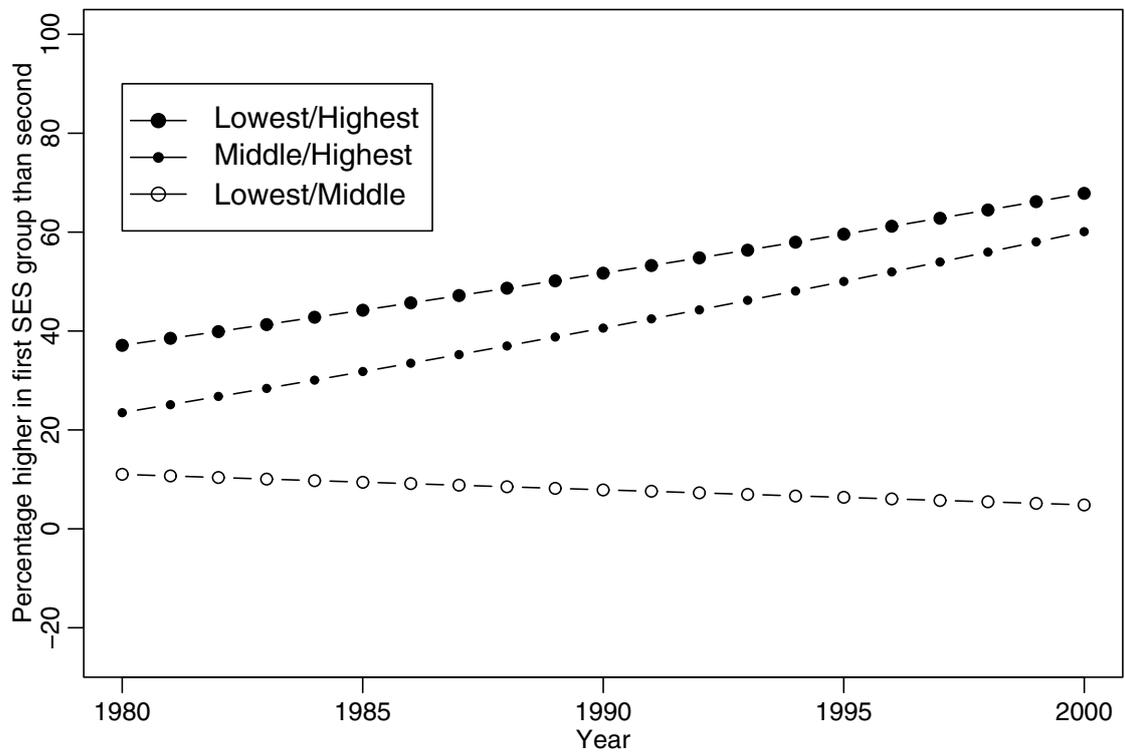


FIGURE 2

GAPS IN PRIMARY AVOIDABLE MORTALITY, NSW, 1980-2000

(a) Males



(b) Females

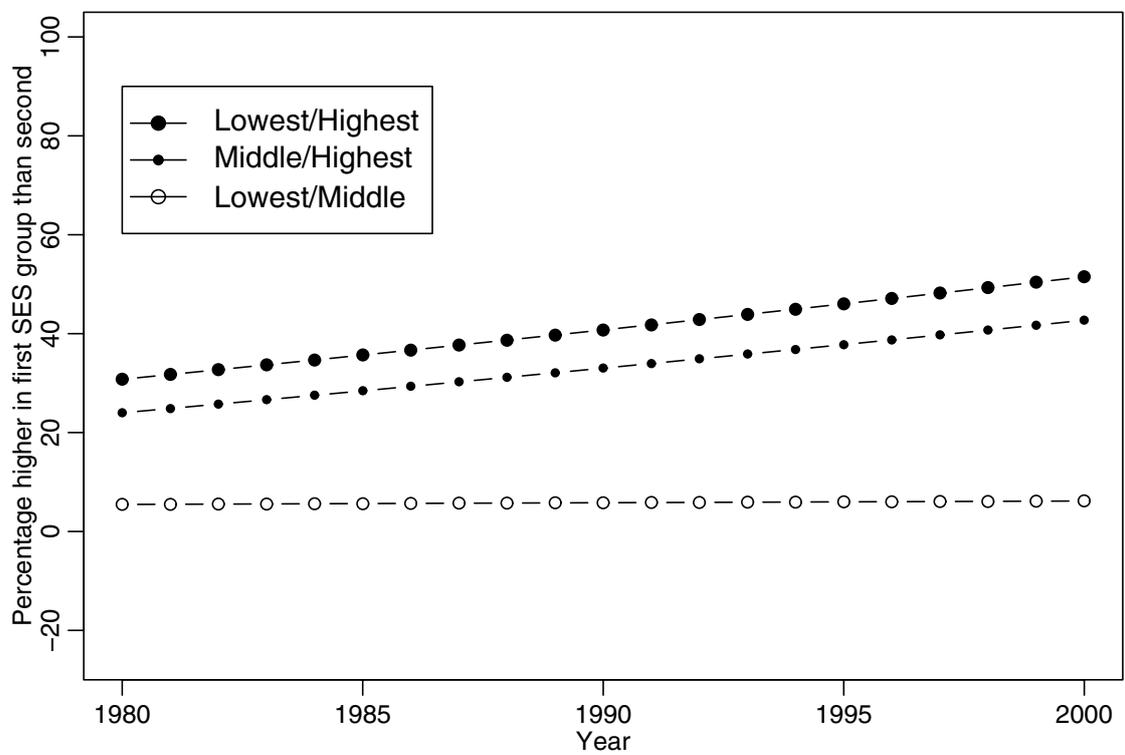


FIGURE 3

PRIMARY AVOIDABLE MORTALITY DUE TO HEART DISEASE, NSW, 1980–2000

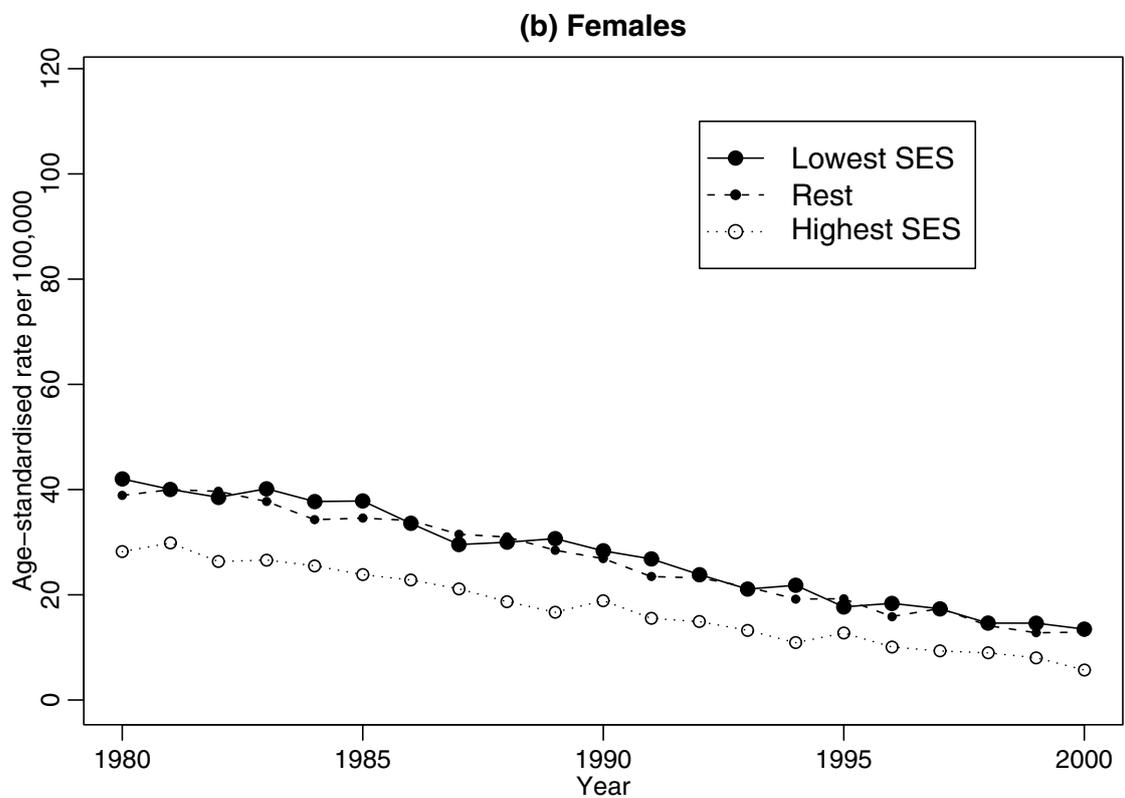
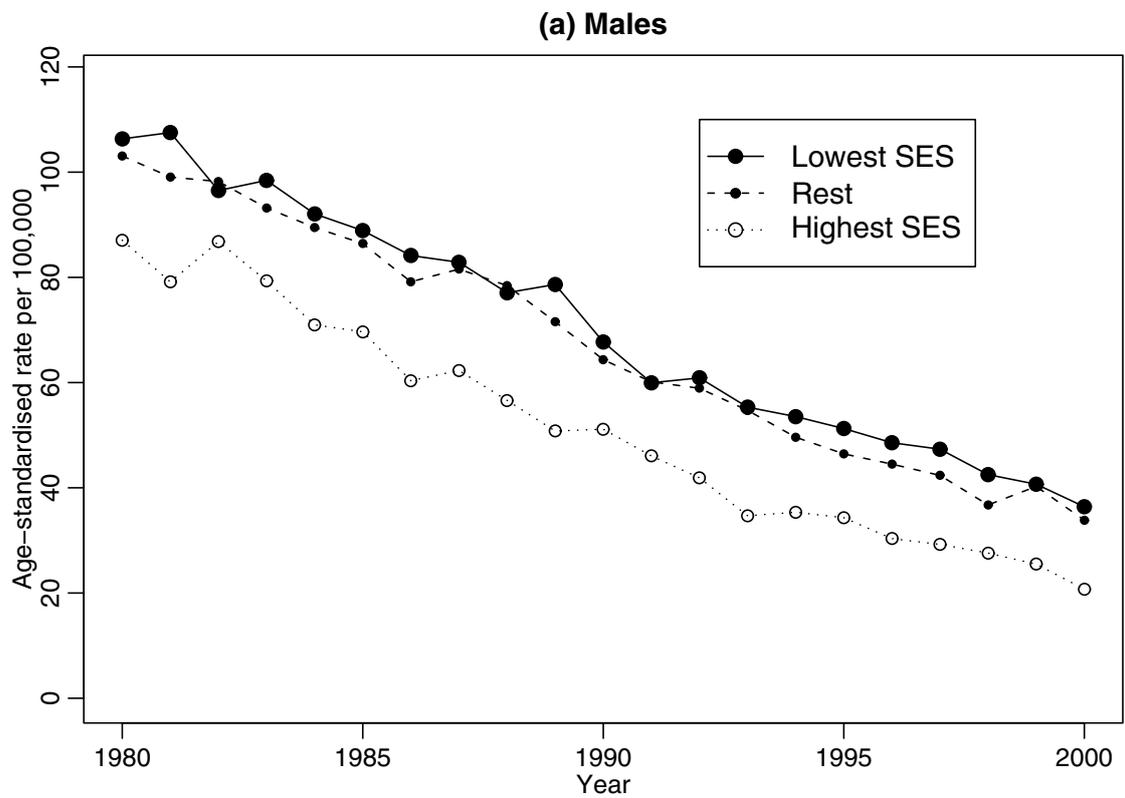
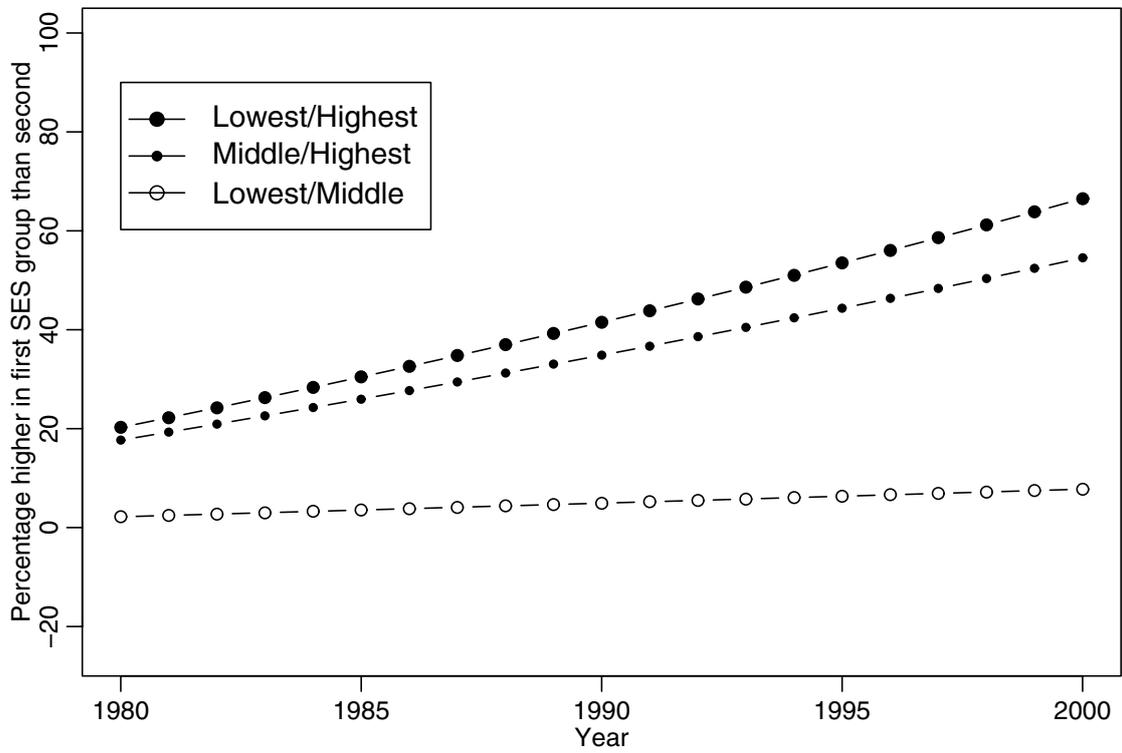


FIGURE 4

GAPS IN PRIMARY AVOIDABLE MORTALITY DUE TO HEART DISEASE, NSW, 1980–2000

(a) Males



(b) Females

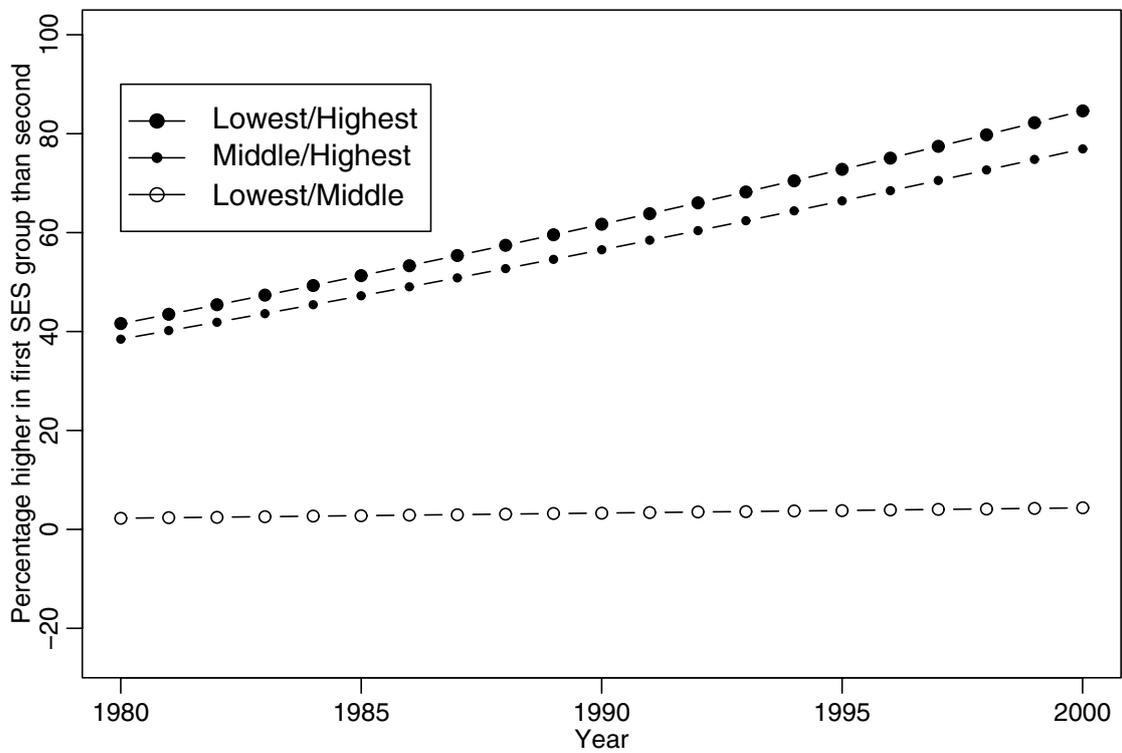
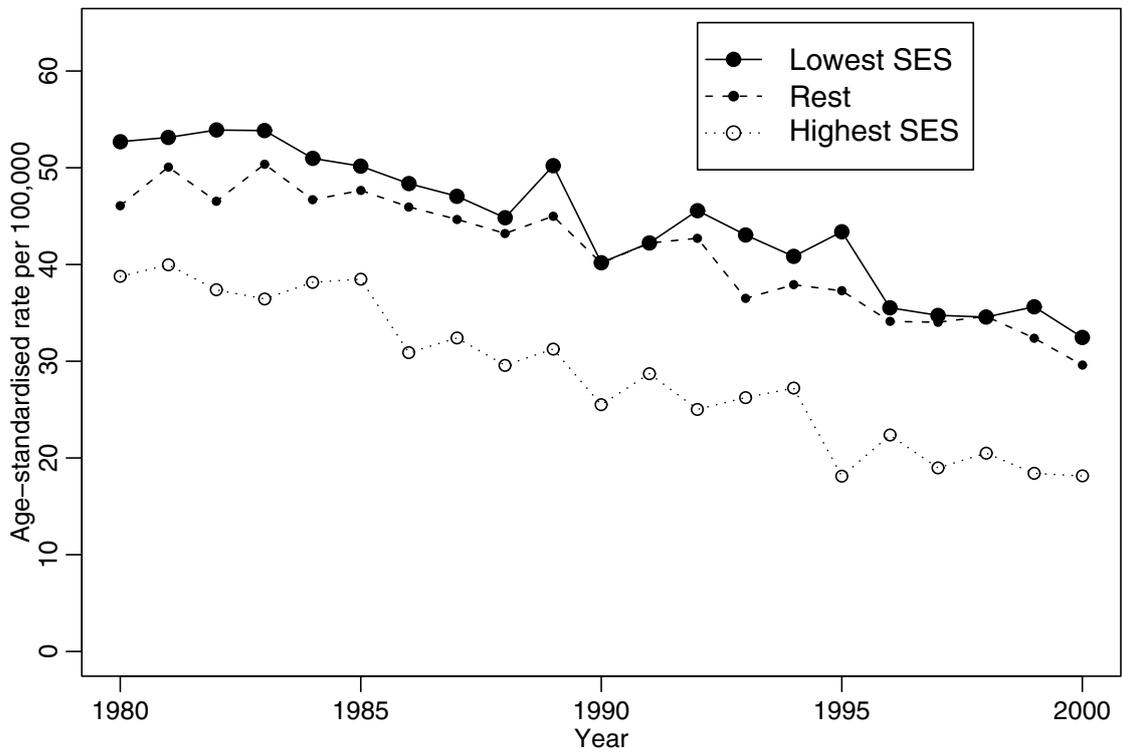


FIGURE 5

PRIMARY AVOIDABLE MORTALITY DUE TO LUNG CANCER, NSW, 1980–2000

(a) Males



(b) Females

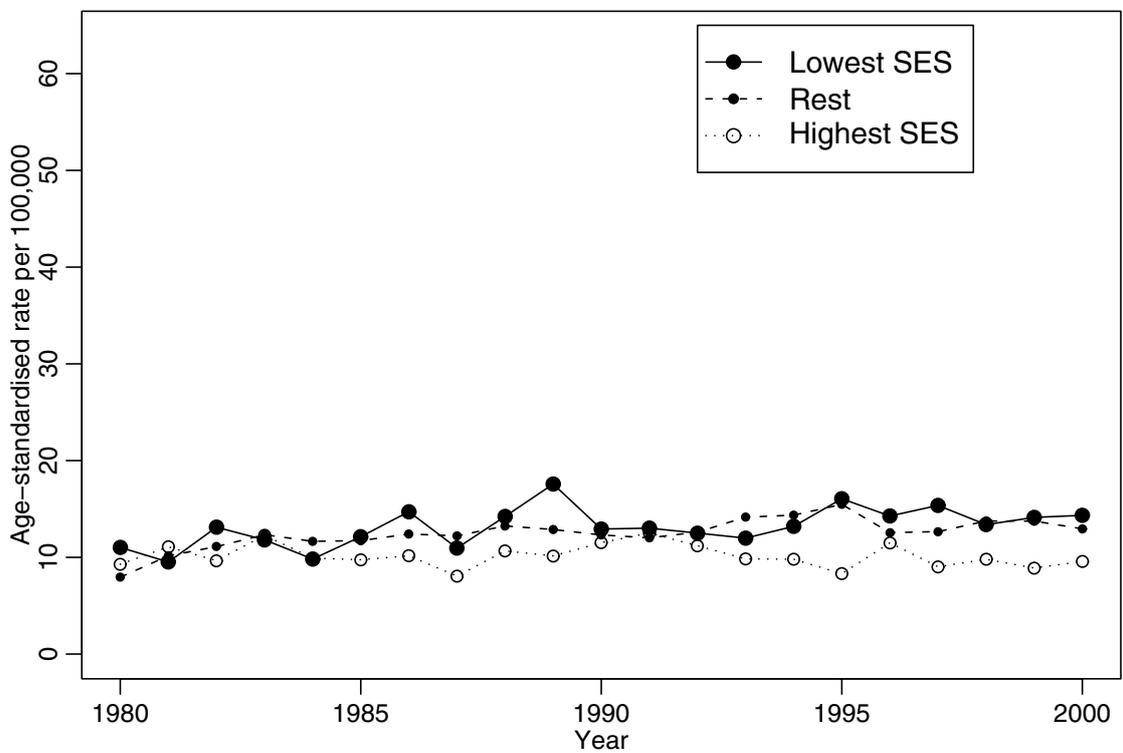
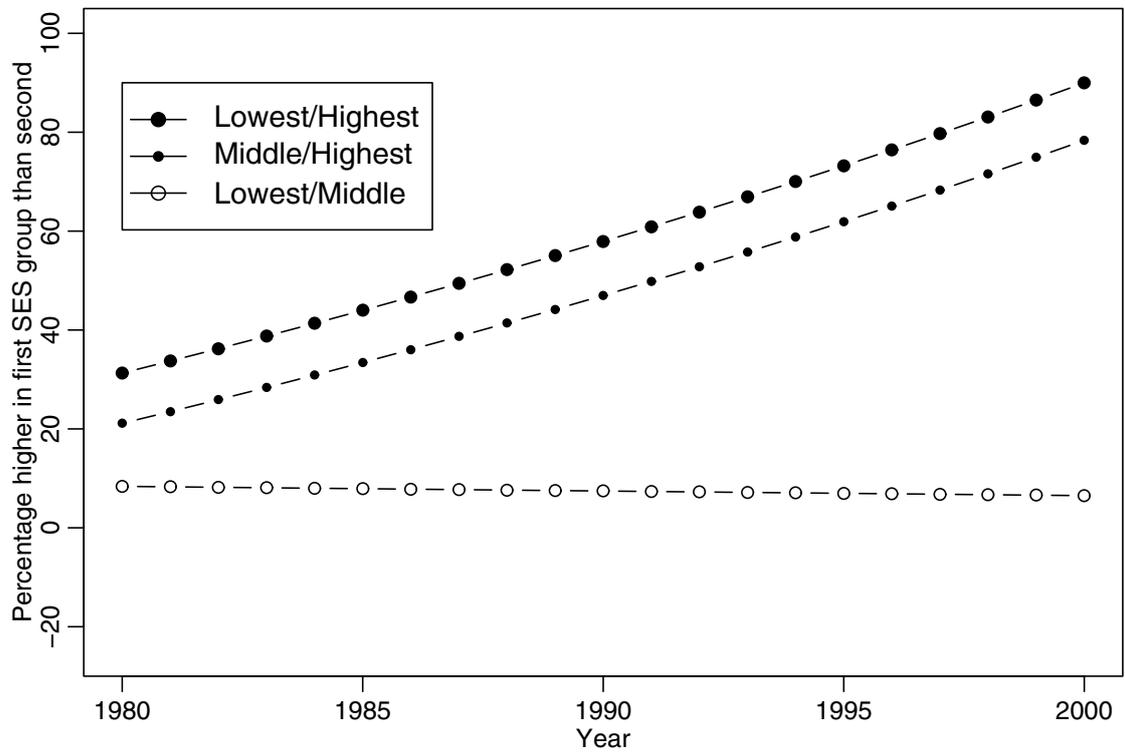


FIGURE 6

GAPS IN PRIMARY AVOIDABLE MORTALITY DUE TO LUNG CANCER, NSW, 1980-2000

(a) Males



(b) Females

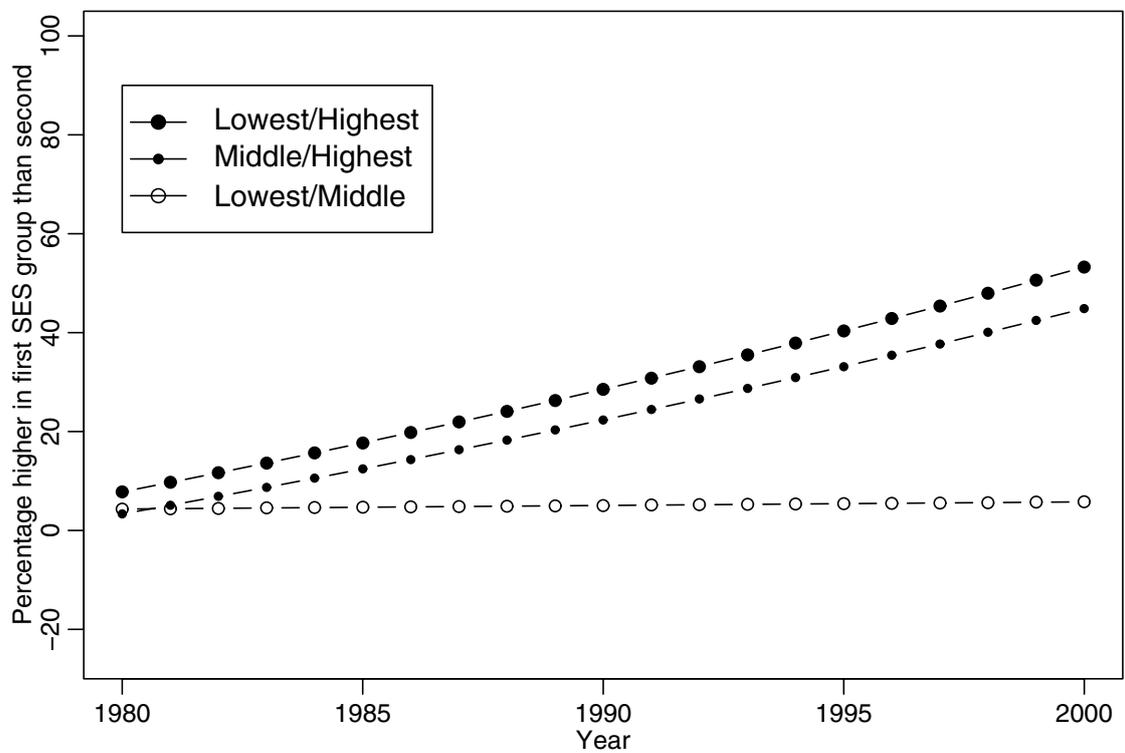


FIGURE 7

PRIMARY AVOIDABLE MORTALITY DUE TO ROAD TRAFFIC ACCIDENTS, NSW, 1980–2000

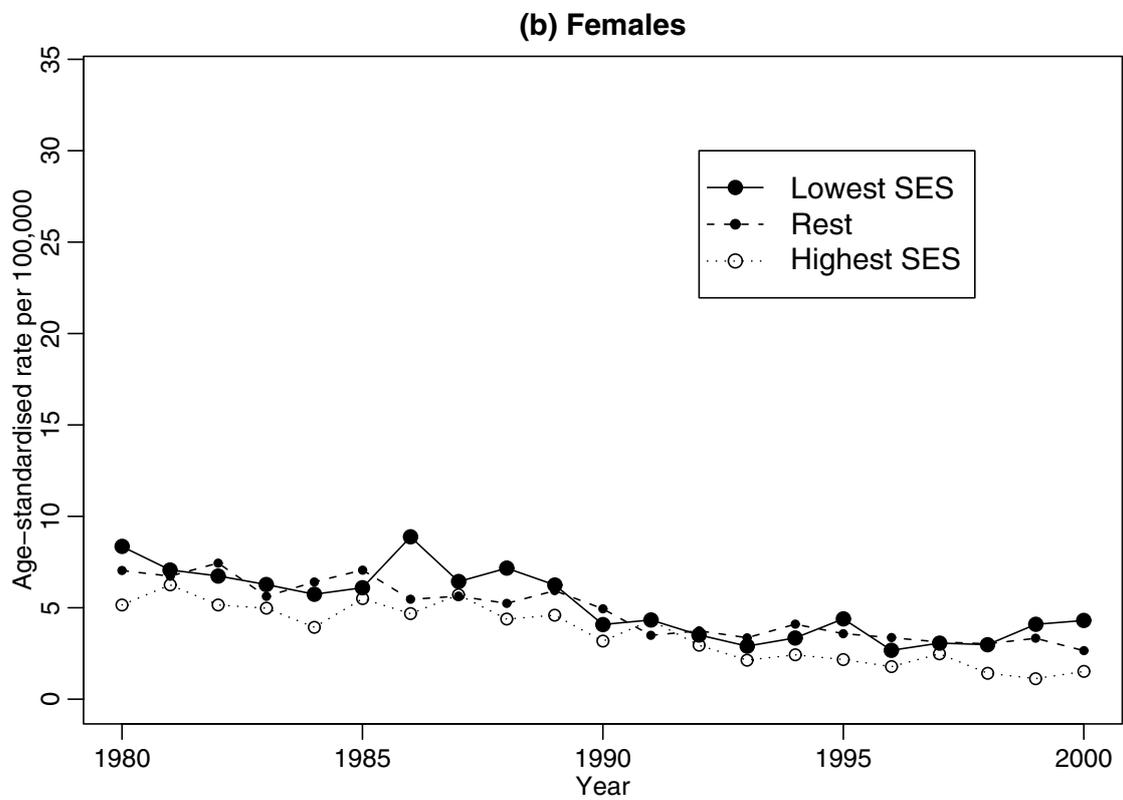
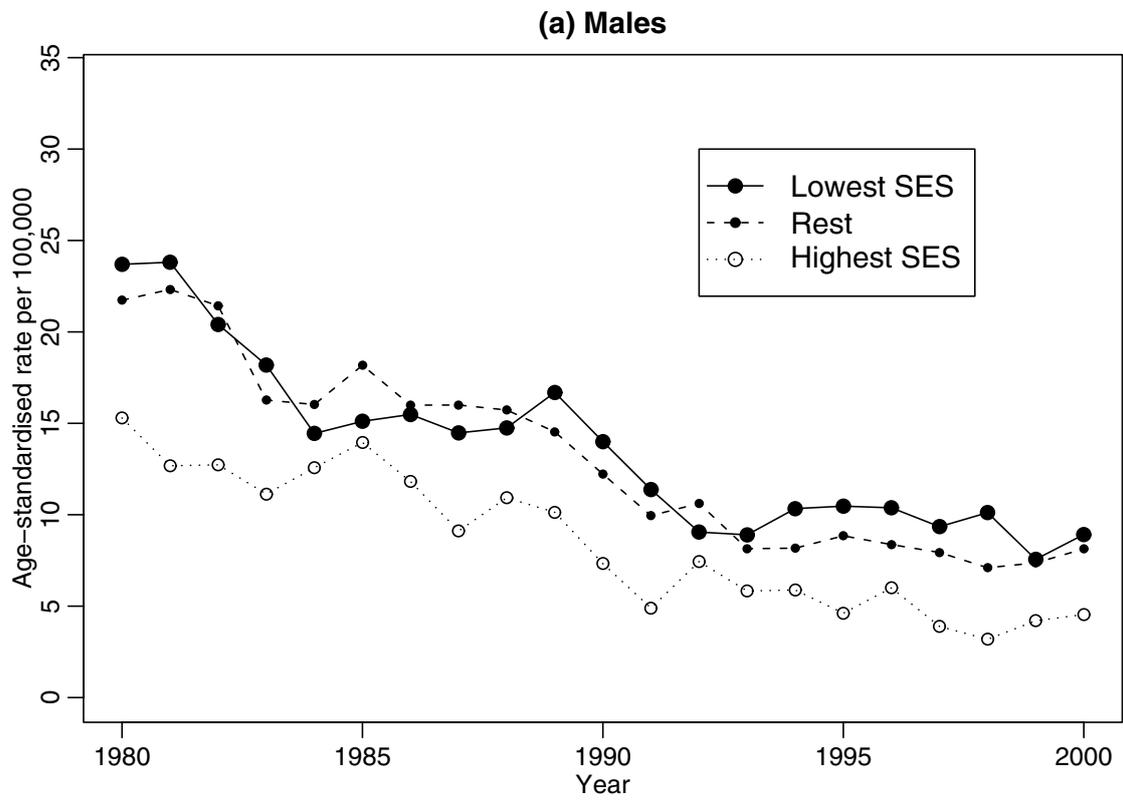
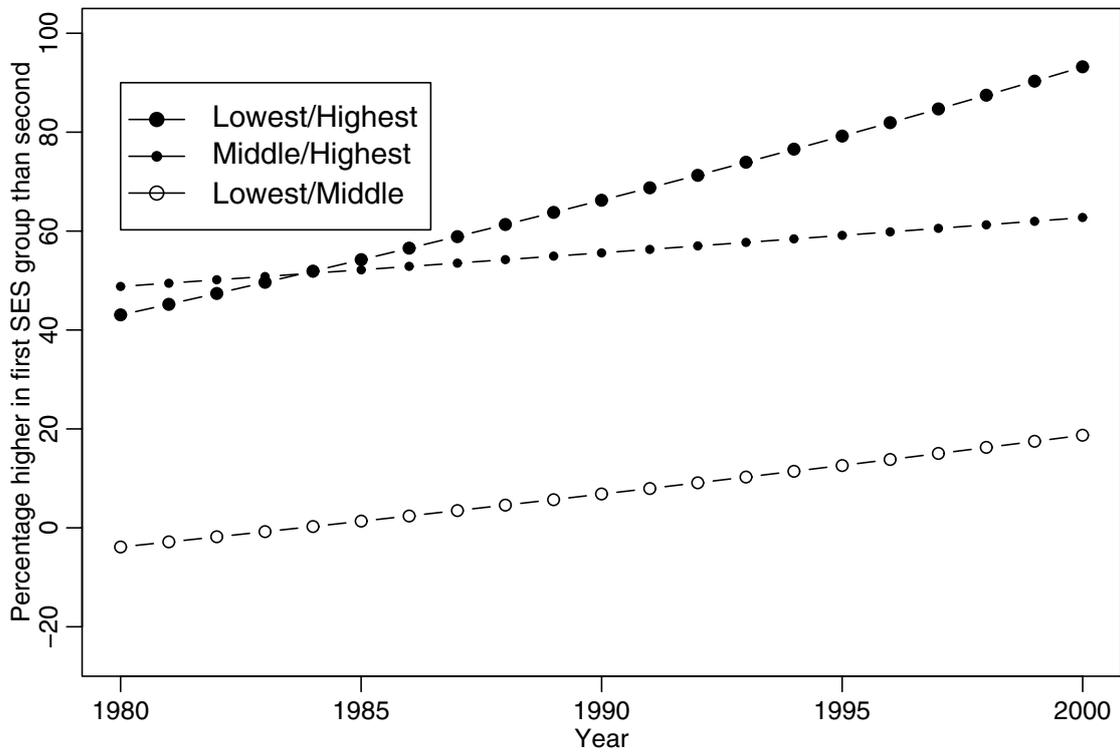


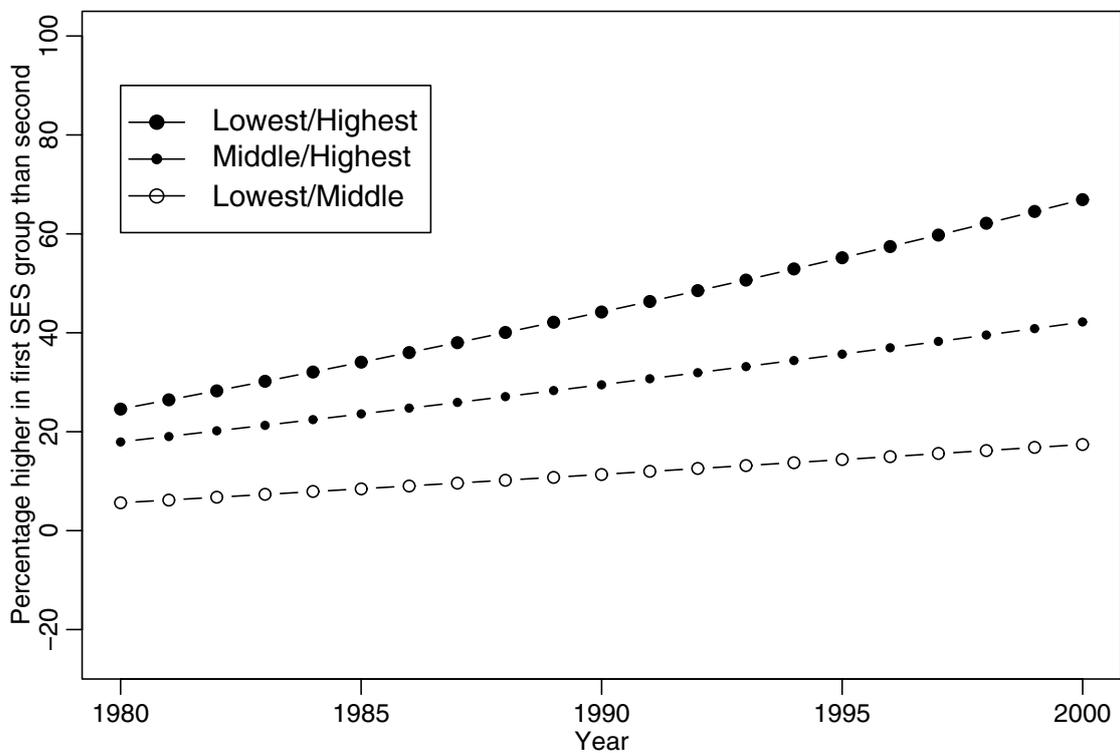
FIGURE 8

GAPS IN PRIMARY AVOIDABLE MORTALITY DUE TO ROAD TRAFFIC ACCIDENTS, NSW, 1980–2000

(a) Males



(b) Females



WHAT IF NEW SOUTH WALES WAS MORE EQUAL?

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In the international health status ‘league tables’, Australia ranks among the best in the world. For example, on the measure of healthy life expectancy (that is, disability-adjusted life expectancy), the *World Health Report 2000* rated Australia second out of 191 countries.¹ However, as Sainsbury and Harris remind us in the guest editorial to the first issue in the health inequalities series of the *NSW Public Health Bulletin* (Volume 12, Number 5): ‘there are substantial inequalities in health in NSW and Australia’ and ‘these inequalities translate into large differences in levels of mortality and morbidity’.²

This article describes the excess mortality burden in NSW and focuses on the following questions: What if NSW was more equal? Each year, how many people in the State go to unnecessarily early graves?

Clearly, there is no unequivocal or precise answer to these two questions, as the answer depends on how ‘excess’ mortality is identified and measured. Despite the elusiveness of any definitive answer, the questions are worth posing because they remind us of the scope that still remains for reducing premature mortality across New South Wales.

BACKGROUND—APPROACHES TO MEASURING EXCESS MORTALITY

The notion of excess (or avoidable, unnecessary, and preventable) mortality has a lengthy history, dating back at least to the mid-nineteenth century in the work of the English statistician, William Farr.³ Concerted research interest in the topic, however, is more recent, developing over the past three decades or so.

Two basic types of methodologies have been employed to estimate excess mortality. The first type of methodology has been based on identifying causes of death that supposedly can be prevented in various ways. Work in this methodology derives from a compilation of a list of ‘unnecessary untimely deaths’ (that is, ‘sentinel health events’) by a working group on preventable and manageable diseases in the United States.⁴ Subsequent researchers have used and extended this list in studies of avoidable mortality in a wide variety of geographic settings.^{5–10} Early work in this methodology tended to focus on mortality from conditions amenable to medical intervention (that is, secondary and tertiary prevention), but some of the more recent studies have extended the concept of avoidability to cover primary prevention (that is, reducing the incidence of the condition through individual behavioural change and population level interventions).^{11,12}

The second type of methodology has been based on the idea of selecting a favourable level of mortality as a standard and then defining excess deaths as those above that reference level. This, in fact, was the approach taken by Farr in the nineteenth century.³ Farr noted that, in districts in England with the most favourable sanitary conditions, the crude death rate did not exceed 17 per 1000 population; and, accordingly, he adopted this rate as representing ‘natural’ deaths. Any deaths above this rate were deemed to be ‘unnatural’. Several variants of this ‘best mortality’ criterion have been used by modern researchers. One strategy has been to use the age-specific and sex-specific mortality prevailing in the highest social class as a benchmark.^{13,14} Another has been to assemble the lowest age-specific and sex-specific death rates recorded in selected geographic units as a benchmark.^{15–17} An interesting recent British study, meanwhile, has placed the ‘best mortality’ approach in a government policy framework, by estimating the effect on death rates if life in Britain was changed through three successful government policy initiatives: the achievement of full employment, the eradication of child poverty, and a modest redistribution of income.¹⁸

METHODS AND DATA

For the analyses reported here, the ‘best mortality’ approach has been employed. Two geographic areas are used as ‘best mortality’ reference benchmarks, the Northern Sydney Area Health Service (NSAHS) and the Ku-ring-gai Local Government Area (KLGA). The NSAHS has the lowest age-standardised mortality rates for both males and females of the State’s 17 area health services,¹⁹ while the KLGA—which is located within the NSAHS—has the lowest age-standardised and sex-standardised premature mortality ratio of any large (that is, >100,000 resident population) local government area within NSW.²⁰ These ‘best mortality’ positions have been consistently held by both geographic units for many years.

Unpublished deaths tabulations by age (in five-year groups), and by sex and cause, for the years 1995–1997 (combined) for NSW local government areas were purchased from the Australian Bureau of Statistics. Average annual age-specific and sex-specific death rates for the NSAHS (Model A) and KLGA (Model B) were calculated from these data and from 1996 estimated resident population (ERP) figures. These rates were then applied to NSW’s ERP and the ERPs of each of the State’s area health services to calculate the number of deaths the State as a whole (and each area health service) would have experienced if they had had the age-specific and sex-specific death rates of the reference populations.

Excess mortality was defined as the difference between the actual number of deaths experienced and the expected number, and excess deaths were expressed as a percentage

TABLE 1

NUMBER OF LIVES POTENTIALLY 'SAVED,' AND OBSERVED DEATHS, NSW*, 1995–1997

Age Group	Number of lives that could have been saved per year								Observed Deaths	
	Model A (NSAHS rates unadjusted)		Model B (KLGAs rates unadjusted)		Model C (NSAHS rates adjusted)**		Model D (KLGAs rates adjusted)**		New South Wales Average Annual Deaths 1995–1997	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
0–14	115	33	202	58	34	0	30	58	407	318
15–34	383	112	231	230	213	19	0	133	1098	373
35–54	720	311	1123	399	478	126	616	94	2199	1250
55–64	881	219	1097	465	689	92	641	90	2682	1534
65–74	1387	599	2787	1048	1067	349	2107	443	6137	3753
Total	3486	1274	5440	2200	2481	586	3394	818	12523	7228

* Based on New South Wales' estimated resident population at 30 June 1996.

** For some age groups the confidence interval adjustment made the NSAHS and KLGAs rates higher than the NSW ones. In such cases the number of lives potentially saveable was taken as zero.

of actual deaths to give an index of proportional excess mortality (PEMI). The procedure is thus simply indirect standardisation, but with selected 'best mortality' age-specific and sex-specific rates used as the standard, rather than the normal practice, in NSW Department of Health publications, of using rates for NSW as the benchmark.

To dampen the influence of random fluctuations in the data, three years of mortality statistics combined were used. To this end, one run of the NSAHS-based calculations of excess mortality (Model C) was conducted using the area's specific rates adjusted up to the upper limit of their respective 95 per cent confidence intervals to give a more conservative estimate of avoidable deaths. A similarly-adjusted KLGAs model (Model D) was also run.

The consideration of excess mortality was confined to deaths under 75 years of age. This is not to deny the occurrence and importance of avoidable deaths at higher ages. However, deaths before age 75 can be thought of as premature and thus of particular concern. Most of the previous work on excess (avoidable) mortality has used an upper age limit of 64 years; but, in recognition of improvements in life expectancy, the higher limit was chosen here.

RESULTS

All-causes mortality in NSW

Table 1 summarises the annual excess death toll for the State under the four models. Using the unadjusted NSAHS and KLGAs age-specific and sex-specific rates, Models A and B, produce excess mortality figures of 4760 and 7640 people respectively. On the other hand, the more conservative confidence interval-adjusted NSAHS rates (Model C) gives a total of 3067, while the adjusted KLGAs rates (Model D) yield an excess of 4212. The proportion of total actual deaths (males and females combined)

identified as excess varies from 24 per cent (Model A), to 39 per cent (Model B), to 16 per cent (Model C) to 21 per cent (Model D).

In all four models, males dominate the excess figures, with a sex ratio ranging from 4.2:1 in the adjusted NSAHS model to 2.5:1 in the unadjusted KLGAs model. The age group in which excess deaths are proportionately strongest varies among models (Table 2), though in absolute terms in each case the greatest number of such deaths is in the 65–74 year bracket.

All-causes mortality by area health services

Estimates of excess mortality in each of the area health services are given in Table 3. Only the unadjusted NSAHS rates (that is, Model A) were employed for these calculations. In terms of this reckoning, excess deaths range in number from 514 in the Hunter Area to 122 in the Far West Area, with the NSAHS—by definition as the benchmark—having zero. These figures give each area health authority a simple quantitative indication of the 'saveable lives' (per the chosen algorithm) within its bounds. They of course, though, reflect the population size as well as mortality level of each area health service, and so the proportional excess mortality index (PEMI) also needs to be considered. By this measure, the Far West Area has the highest degree of excess mortality in the State, just under half of total deaths in that area rating as such. The Macquarie Area (37 per cent) and the New England Area (34 per cent) have the next highest indexes.

Causes of death in NSW

The overall NSW results, disaggregated by leading causes of death, are presented in Table 4. Again only Model A (that is, NSAHS rates unadjusted) was used for these calculations. By this estimation, ischaemic heart disease offers the greatest absolute potential for saving lives (1113 people), followed by respiratory diseases and lung cancer.

TABLE 2**PROPORTIONAL EXCESS MORTALITY INDEX, IN PERCENTAGES, NSW*, 1995–1997**

Age Group	Model A (NSAHS rates unadjusted)		Model B (KLGAs rates unadjusted)		Model C (NSAHS rates adjusted)**		Model D (KLGAs rates adjusted)**	
	Males	Females	Males	Females	Males	Females	Males	Females
0–14	28	10	50	18	8	0	7	18
15–34	35	30	21	62	19	5	0	36
35–54	33	25	51	32	22	10	28	8
55–64	33	14	41	30	26	6	24	6
65–74	23	16	45	28	17	9	34	12
Total	28	18	43	30	20	8	27	11

* Based on New South Wales' estimated resident population at 30 June 1996.

** For some age groups the confidence interval adjustment made the NSAHS and KLGAs rates higher than the NSW ones. In such cases the number of lives potentially saveable was taken as zero.

TABLE 3**PREVENTABLE MORTALITY BY AREA HEALTH SERVICE, NSW*, 1995–1997**

Area health service	Lives that could have been saved	PEMI (%)	Area health service	Lives that could have been saved	PEMI (%)
Central Sydney	486	30	Northern Rivers	211	23
Northern Sydney	0	0	Mid North Coast	210	21
Southeastern Sydney	369	17	New England	219	34
South Western Sydney	511	25	Macquarie	142	37
Western Sydney	489	27	Mid Western	195	33
Wentworth	190	25	Far West	122	49
Central Coast	289	27	Greater Murray	291	31
Hunter	514	28	Southern	194	29
Illawarra	304	25	NSW Total	4760	24

Note: The area health service lives that could have been saved do not sum to the NSW total as area health service of residence details were not available for a small number of recorded deaths.

* Based on New South Wales' estimated resident population at 30 June 1996.

Proportionally, respiratory diseases (41 per cent) and motor vehicle accident (41 per cent) deaths have the largest excess component. For some causes of death other area health services have lower rates than the NSAHS, and thus different cause-specific results would obviously be obtained if those areas were used as the standard.

DISCUSSION

The results reported above clearly show the scope that still remains for reducing premature mortality in NSW, despite a very favourable level of life expectancy overall. Employing the 'best mortality' approach is a useful variation from the norm in the NSW Department of Health publications of using the overall State rates of mortality as the comparative benchmark. Taking the State level as the benchmark usefully identifies areas with above average mortality and need for special attention, but carries the risk of glossing over the potential for still further improvement in areas with better than average rates. The more rigorous best mortality criterion is a reminder of this potential.

Obviously, the assumption that all areas can achieve age-specific and sex-specific mortality rates as low as those in the 'best mortality' area does not completely hold. The higher mortality of some areas, for example, may reflect above average proportions of people exposed to determinants of health not amenable to prevention: for instance, genetic predisposition to certain diseases. However, the bulk of the inequality in mortality among population subgroups in NSW, and throughout Australia as a whole, is socially and behaviourally determined; and thus, at least theoretically, is open to improvement.

To return to the opening question of how many people in NSW each year go to unnecessarily early graves, the author's view is that the unadjusted NSAHS rates model (Model A) offers a reasonable working figure; that is, close to 5000 persons under the age of 75. The confidence interval adjustment (Models C and D) was introduced into the analysis in recognition of the fact that mortality rates comprise both random and systematic variation. That adjustment naturally reduced the identified excess toll.

TABLE 4

PREVENTABLE MORTALITY FROM SELECTED CAUSE OF DEATH, NSW*, 1995–1997

Cause of Death ICD9 Code	Name	Lives that could have been saved	PEMI (%)
153–154	Colorectal cancer	101	11
162	Lung cancer	531	35
410–414	Ischaemic heart disease	1113	30
430–438	Cerebrovascular disease	219	20
460–519	Respiratory diseases	575	41
E800–E949	Accidents	388	37
E810–E819	Motor vehicle accidents	210	41
E950–E959	Suicide	121	16
001–999	All causes	4760	24

* Based on New South Wales' estimated resident population at 30 June 1996.

However, examination of area health service all-causes mortality patterns through the 1990s shows that:

- the NSAHS to have consistently had the lowest male and female rates;
- the relative mortality standing of the 17 area health services to have been very stable.

The correlation between the areas' 1990–1994 and 1994–1998 age-standardised and sex-standardised all-causes rates was $r = 0.98$. Hence the support for the unadjusted NSAHS model.

It might well be argued, though, that the feasible reduceable excess toll is even higher, as the unadjusted KLGA model (Model B) suggests. While, theoretically, the smaller population and number of deaths involved makes those rates more sensitive to random fluctuation, the KLGA, like the overall NSAHS of which it is part, has a consistent record of very favourable mortality and thus might be considered a proven achievable target level. Adopting the KLGA as the benchmark also has the benefit of identifying the scope for improvement that remains even within the area health service with the 'best mortality'. In turn, within the KLGA itself there are still deaths occurring that are avoidable.

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THE RELATIONSHIP BETWEEN THE INCIDENCE OF END-STAGE RENAL DISEASE AND MARKERS OF SOCIOECONOMIC DISADVANTAGE

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The relationship between socioeconomic disadvantage and the health of Australians has frequently been reported,^{1–3} but there has been no research on the relationship between socioeconomic disadvantage and end-stage renal disease (ESRD). Research on patterns of incidence of ESRD has generally been limited to a description of differences according to age, sex, 'race', and state or territory. In this article we describe the relationship between the incidence of ESRD and indicators of socioeconomic disadvantage at the area level.

METHODS

We report two separate but related studies:

- ESRD incidence among indigenous Australians by Aboriginal and Torres Strait Islander Commission (ATSIC) region;⁴
- ESRD incidence in the total population by Statistical Sub-Division (SSD) within capital cities.⁵

We obtained approval for the studies from the joint institutional ethics committee of the Royal Darwin Hospital and the Menzies School of Health Research.

Databases

Both studies used data from the Australia and New Zealand Dialysis and Transplant Registry (ANZDATA), which maintains a database of patients treated in Australia by maintenance dialysis or renal transplantation.⁶ The registry, funded by commonwealth and state governments and the Australian Kidney Foundation, enjoys the participation of all renal units that provide ESRD treatment. Individual data on levels of income, education, and employment are not collected by ANZDATA. We therefore used regional level socioeconomic data from the 1996 census and the National Perinatal Statistics Unit to examine the relationship between ESRD and disadvantage.

Statistical analyses

In both studies, we allocated patients to geographical regions and calculated an age- and sex- standardised incidence for ESRD. The methods used to allocate patients to regions have been discussed in detail elsewhere.^{5,7} We performed appropriate tests of correlation to determine the association between the standardised incidence ratios for ESRD and markers of regional disadvantage. In both studies, we used Australian Bureau

of Statistics (ABS) population figures, derived using 1996 Census information on place of usual residence, to calculate rates. The total Australian resident population was the index group (that is, where SIR = 1).

STUDY 1: INDIGENOUS ESRD INCIDENCE BY ATSIC REGION

From 1st January 1993 to 31st December 1998, 719 indigenous patients started treatment in Australia. The 36 ATSIC regions constituted the geographic units for our analysis because they are the smallest areas for which accurate population estimates are available.⁸

Because no generally accepted area-based index of socioeconomic disadvantage for indigenous Australians has been developed, we selected the following five indicators that feature in deprivation indexes:^{9–11}

- the proportion of adults who had left school aged 15 or less, or who had not attended school;¹²
- the unemployment rate (Community Development Employment Project [CDEP] participants have been classified as unemployed);¹²
- median household income divided by the average number of persons per household;¹³
- the average number of persons per bedroom;¹²
- the proportion of births less than 2500 grams.¹⁴

We generated an overall rank of socioeconomic disadvantage by combining the regional rankings on each indicator, with each indicator given equal weight.

Strong associations were evident between the incidence of ESRD and indicators of socioeconomic disadvantage (Table 1). The correlation with the overall rank of socioeconomic disadvantage was particularly strong (Table 1 and Figure 1).

STUDY 2: TOTAL ESRD INCIDENCE BY SSD IN CAPITAL CITIES

The 5013 patients who started ESRD treatment during 1993–1998 were included in this analysis. We analysed SSDs, as defined in the Australian Standard Geographical Classification,¹⁵ as our geographical units. With the exception of Hobart, which is a single SSD, capital cities contain several SSDs. These aggregate to form Statistical Divisions (SDs), which, in turn, aggregate to form states and territories. The majority (97 per cent) of patients in capital cities were non-indigenous.

The ABS has developed indexes to describe the socioeconomic characteristics of an area. This study used the Index of Relative Socioeconomic Disadvantage (IRSD). The IRSD, constructed using principal-component analysis, is derived from attributes such as income,

educational attainment, employment status, and occupation.¹⁶ The higher an area's index value, the less disadvantaged the area. The index scores are standardised so that the national mean score is 1000.

There was a significant correlation ($r = -0.41, p = 0.003$) between the standardised incidence ratio for ESRD and the IRSD (Figure 2), which indicates a higher incidence of ESRD in areas of greater disadvantage. There was up to three-fold variation within capital cities. In Sydney, an east-west corridor containing Inner Sydney, Canterbury-Bankstown and Fairfield-Liverpool areas had the highest standardised incidence of ESRD (Figure 3 and Table 2).

DISCUSSION

These studies demonstrated a gradient in the incidence of ESRD among indigenous and non-indigenous Australians

that is strongly associated with area-based markers of socioeconomic disadvantage. The gradient in the incidence of ESRD among indigenous Australians (at least 30-fold variation) is much steeper than the gradient in the general population (approximately three-fold variation), possibly indicating the relevance of both absolute poverty and relative disadvantage to ill-health. The findings of the few previous studies of the association between socioeconomic disadvantage and the incidence of ESRD have been inconsistent.¹⁷⁻²⁰

There are potential sources of bias in our studies. First, in the indigenous study, the propensity to identify as indigenous might differ between regions. ANZDATA relies on self-identification, as does the Australian Bureau of Statistics in its census collections. Because ESRD treatment requires frequent contact between patients and staff, and

TABLE 1

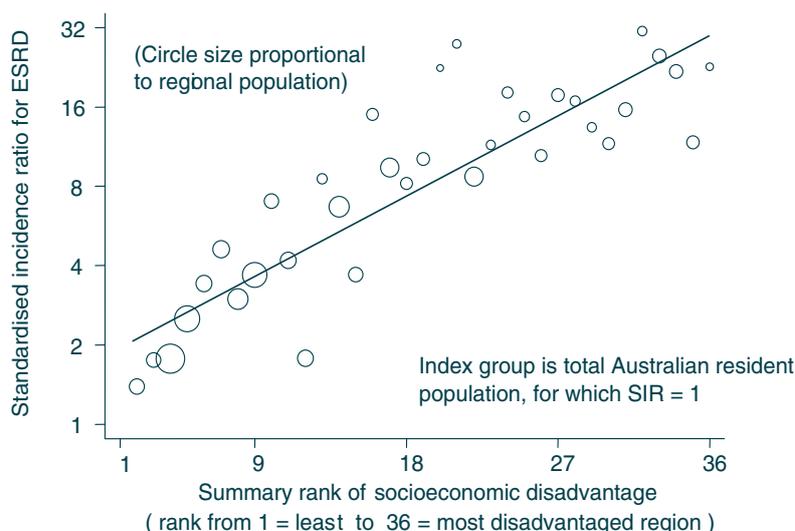
CORRELATION BETWEEN INDICATORS AND STANDARDISED INCIDENCE OF ESRD FOR INDIGENOUS AUSTRALIANS

Socioeconomic indicator (units)	Range	Correlation coefficient*	P value
Early school leavers (%)	12.5-52.4	0.68	<0.001
Unemployment rate (%)	20.2-74.8	0.72	<0.001
Household income (\$ AUS per household member per week)	\$80-194	-0.71	<0.001
House crowding (persons per bedroom)	1.1-3.2	0.84	<0.001
Low birthweight (%)	7.6-21.6	0.49	0.003
Summary rank of disadvantage	1-36	0.88	<0.001

* Spearman's rank correlation coefficients.
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FIGURE 1

SOCIOECONOMIC DISADVANTAGE AND INDIGENOUS ESRD INCIDENCE BY ATSI REGION, 1993-1998



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TABLE 2

STANDARDISED INCIDENCE OF ESRD IN SYDNEY 1993-98

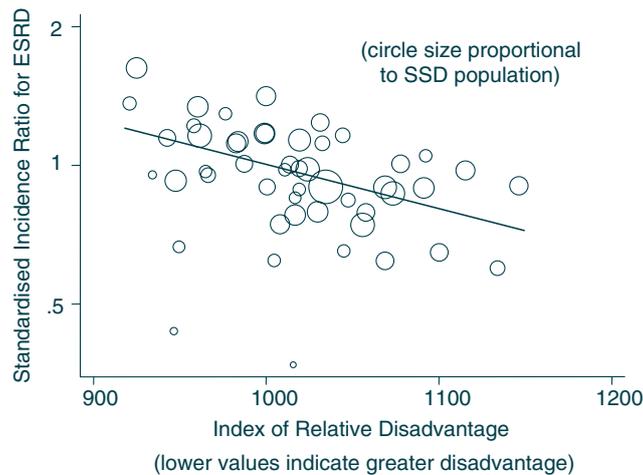
Area (map references)	Population	Cases	SIR* (95% CI)
Inner Sydney (1)	255,499	165	1.41 (1.21, 1.65)
Eastern Suburbs (2)	227,080	109	1.01 (0.83, 1.22)
St George-Sutherland (3)	393,497	142	0.74 (0.63, 0.87)
Canterbury-Bankstown (4)	290,138	188	1.34 (1.16, 1.55)
Fairfield-Liverpool (5)	302,046	197	1.63 (1.41, 1.87)
Outer South Western Sydney (6)	209,973	74	1.01 (0.79, 1.26)
Inner Western Sydney (7)	147,774	85	1.16 (0.93, 1.44)
Central Western Sydney (8)	268,683	137	1.13 (0.95, 1.33)
Outer Western Sydney (9)	293,242	90	0.79 (0.64, 0.98)
Blacktown-Baulkham Hills (10)	352,697	158	1.13 (0.96, 1.33)
Lower Northern Sydney (11)	264,779	123	0.97 (0.81, 1.16)
Hornsby-Ku-ring-gai (12)	236,562	102	0.90 (0.74, 1.10)
Northern Beaches (13)	212,387	68	0.65 (0.50, 0.82)
Gosford-Wyong (14)	263,055	152	1.12 (0.95, 1.31)

* Indirectly age and sex standardised to the rates for the total Australian resident population.

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FIGURE 2

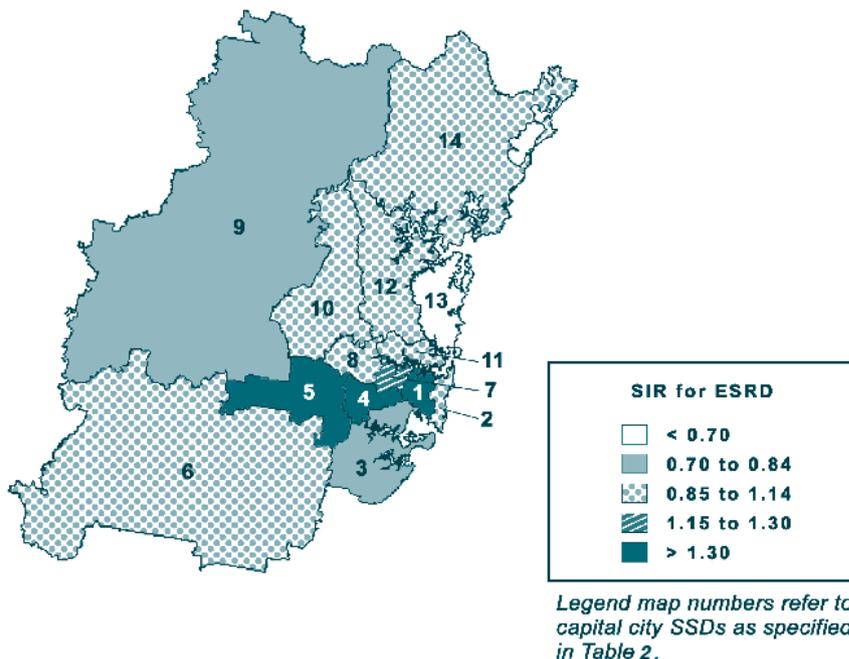
SOCIOECONOMIC DISADVANTAGE AND CAPITAL CITY ESRD INCIDENCE BY STATISTICAL SUB-DIVISION (SSD), 1993-1998



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because renal staff have a strong awareness of ESRD among indigenous Australians, we believe that the quality of identification in this study is high. Problems in identification, which may lead to an imprecise estimate of the true incidence of ESRD among indigenous Australians living in urban areas, are unlikely to alter the large observed gradient in ESRD incidence. Second, in both studies, we have used area-based indicators of socioeconomic status, which measure the average level of disadvantage of all people in that area, to infer an association between disadvantage and the incidence of

ESRD. Factors operating at community level may directly affect health outcomes: people living in disadvantaged areas may have poorer access to preventive health services and may lack a community infrastructure that promotes healthy lifestyles. We do not exclude the possibility that other individual, area, or population level factors—not measured in this study—might explain our observed associations. Third, in both studies, we have described an association between current disadvantage and the incidence of ESRD. Typically renal disease progresses towards ESRD over at least several years. Therefore, the

FIGURE 3**SYDNEY STANDARDISED INCIDENCE RATIO (SIR) FOR ESRD 1993–98**

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most relevant etiological data would be socioeconomic data from an earlier period.

What are the implications of our finding that populations in disadvantaged areas have a higher incidence of ESRD? First, clinicians understand renal disease from a biomedical perspective, with primary disease processes as the causes. The high ESRD incidence in indigenous populations has formerly been attributed to ‘racial’ differences in physiological and pathological responses, in turn regarded as being due to genetic factors,²¹ or to congenital factors such as low birthweight.²² Such a limited biomedical perspective cannot explain the strong association with socioeconomic disadvantage within the indigenous population. Access to treatment facilities for indigenous ESRD patients, particularly from remote areas, is known to be inequitable,⁷ and it is likely that the distribution of services within capital city areas does not accord with the need for these services. Equity in the provision of renal treatment facilities in disadvantaged areas needs attention. A broader understanding of the etiology of ESRD, encompassing social, environmental, and cultural determinants of health, has implications for how and where to target prevention efforts. Public policy initiatives beyond the scope of the health care system will be required if we are to reduce the burden of chronic renal disease.

ACKNOWLEDGEMENTS

The data reported here have been supplied by the Australia and New Zealand Dialysis and Transplant Registry. The interpretation of these data is the responsibility of the authors and should not be seen as an official policy or interpretation of the Australia and New Zealand Dialysis and Transplant Registry. Alan Cass receives PhD scholarship funding from the Colonial Foundation. This study is an approved research project of the Cooperative Research Centre for Aboriginal and Tropical Health. Joan Cunningham is supported by a fellowship from the Menzies Foundation. We acknowledge the journals *Australian and New Zealand Journal of Public Health* and *Ethnicity and Disease* for permission to reproduce figures and tables in this article.

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GROWING APART: FURTHER ANALYSIS OF INCOME TRENDS IN THE 1990S

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BACKGROUND

There has been debate in Australia about whether income inequality is increasing. Using *annual* income data, a range of studies suggested that income inequality increased in the 1980s.^{1,2} Using *weekly* income data, Harding found that income inequality had remained stable between 1982 and 1993–94,³ and between 1982 and 1996–97.⁴ However, it has since emerged that there may be major problems with the weekly income data collected in the 1982 Income Survey, so that there are now doubts about the reliability of results based on this data. In addition, recent research conducted by the National Centre for Social and Economic Modelling (NATSEM) has also suggested that income inequality in the 1996–97 Income Survey looks much too equal, relative to earlier and later surveys.⁵ These issues, of possible data problems and data comparability, are currently being examined in a joint project by the Australian Bureau of Statistics (ABS) and the Social Policy Research Centre. This current article is thus restricted to an analysis of data collected at the end of the 1980s and in the 1990s.

INCOME TRENDS

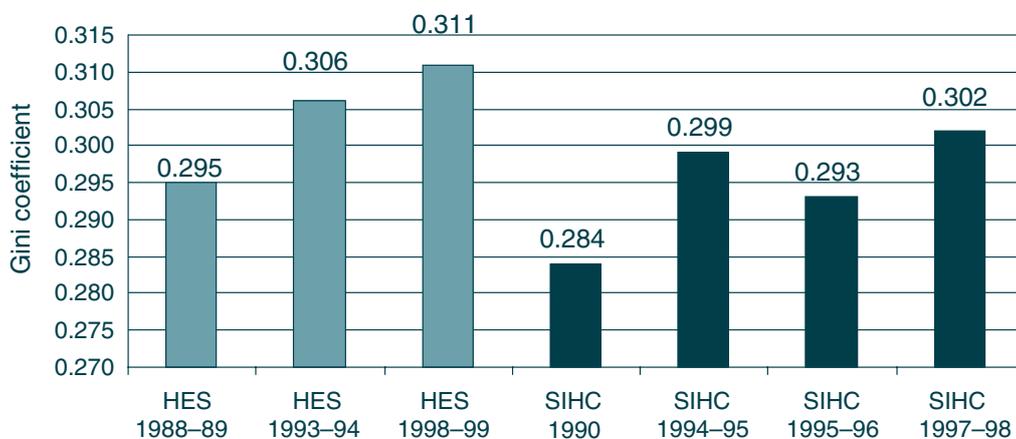
This article uses weekly income data from two sets of national sample surveys undertaken by the Australian

Bureau of Statistics to look at income inequality trends in the 1990s. The methodology of the study is described in detail in Harding and Greenwell.⁵ In summary, the data sources are the unit record tapes released by the ABS for the Household Expenditure Surveys and the Income Surveys; the income unit used is the household; 'dependent children' means all persons aged less than 18 years living in the household except where the young person lived by themselves, with a spouse, or in a group household; the equivalence scale used is the square root of household size, which is widely used internationally; income is current weekly income; in the later surveys negative business and investment incomes have been reset to zero to maintain comparability with the earlier surveys; the measure of resources is disposable (after-income tax) income, adjusted by the equivalence scale to take into account the needs of households of different size; and the income distribution is determined by a ranking of people by their equivalent household income, so that a household containing five people is counted five times, not once, when calculating inequality.

One widely used measure of the change in aggregate income inequality is the Gini coefficient, which varies between 0 (when income is equally distributed) to 1 (when one household holds all income). In general, a higher Gini coefficient is associated with increasing inequality. As Figure 1 shows, data from both the Household Expenditure Surveys and the Income Surveys both suggest that income inequality increased over the course of the 1990s. Thus, the Gini coefficients derived from the Expenditure

FIGURE 1

COMPARISON OF GINI COEFFICIENTS FOR EQUIVALENT DISPOSABLE HOUSEHOLD INCOME FROM THE EXPENDITURE AND INCOME SURVEYS



Data source: ABS Household Expenditure Survey and Income Survey unit record files.

TABLE 1

RANGE OF INDICATORS OF INCOME INEQUALITY, HOUSEHOLD EXPENDITURE SURVEYS AND INCOME SURVEYS

	Expenditure Surveys			Income Surveys		
	1988–89	1998–99	% change 1989–99	1990	1997–98	% change 90–98
Weekly income at particular points in the distribution						
95th percentile	\$1,770	\$2,103	18.8%	\$1,967	\$2,121	7.9%
90th percentile	\$1,533	\$1,775	15.8%	\$1,709	\$1,843	7.8%
75th percentile	\$1,155	\$1,318	14.1%	\$1,326	\$1,390	4.9%
Mean	\$908	\$1,011	11.4%	\$1,025	\$1,073	4.7%
Median	\$804	\$890	10.7%	\$944	\$956	1.3%
25th percentile	\$542	\$586	8.1%	\$624	\$625	0.1%
10th percentile	\$393	\$410	4.2%	\$443	\$449	1.5%
5 th percentile	\$343	\$327	-4.6%	\$364	\$376	3.2%
Ratios						
95/10 ratio (very top/bottom)	4.5	5.13	14.1%	4.44	4.72	6.3%
90/10 ratio (top/bottom)	3.9	4.33	11.2%	3.86	4.1	6.3%
90/50 ratio (top/middle)	1.91	2	4.6%	1.81	1.93	6.4%
50/10 ratio (middle/bottom)	2.04	2.17	6.2%	2.13	2.13	-0.1%
Decile shares						
Bottom 10%	3.2	2.7	-14.7%	3.1	3	-3.1%
Bottom 20%	8.1	7.4	-6.3%	8	7.7	-3.7%
Middle 20%	17.8	17.6	-1.2%	18.3	17.8	-2.7%
Top 20%	37.4	38.2	2.1%	36.1	37.5	3.9%
Top 10%	22.2	22.5	1.3%	20.9	22	5.6%

Note: The income measure is the International equivalent weekly disposable household income of individuals. All incomes have been adjusted for inflation to March 2001 dollars, using the CPI. The 95/10 ratio is the ratio between the incomes of those at the 95th percentile of the income distribution with those at the 10th percentile of the income distribution.

Source: ABS Household Expenditure Survey unit record files.

Surveys increase by 0.016 between 1988–89 and 1998–99, while those derived from the Income Surveys increase by 0.018 between 1990 and 1997–98.

Another popular way of looking at income inequality is to examine real (that is, inflation adjusted) incomes at different points in the income distribution. Percentile 10, for example, is the equivalent disposable household income of the person at the 10th percentile of the income distribution. According to the Household Expenditure Survey, weekly income at this point has remained fairly stable in real terms, rising from A\$393 in 1988–89 to A\$410 10 years later (Table 1). Above this point, incomes at the lower-middle and middle of the income distribution pick up between the 1993–94 and 1998–99 surveys, after little change over the previous five years. But perhaps the most significant movement is at the top end of the distribution, with the average real incomes of those at the 90th and 95th percentiles of the distribution increasing strongly over the last decade—and apparently particularly in the last half of the 1990s. For example, the left hand column in Table 1 indicates that real weekly incomes at the 95th percentile have increased from A\$1770 to A\$2103 over the 10 years to 1998–99, which is an increase of 18.8 per cent.

This suggests that there has been a growing gap between the top and the middle as well as between the top and the bottom. This is confirmed by the ratios between these various income points, shown in the middle panel in Table 1. Both the 90/10 and the 95/10 ratios have increased markedly over the 10 years to 1998–99. The gap between the top and the middle has also grown since 1988–89 but not by as much, as shown by the lesser increase in the 90/50 ratio over those 10 years. The relative distance between the middle and the bottom has apparently increased in the last 10 years, with median income now reaching 2.17 times that of the 10th percentile.

Do the Income Surveys tell us the same story about income inequality as the Expenditure Surveys? In comparing the two, we have to keep in mind the slightly different time periods covered. In particular, the Expenditure Surveys cover two additional years, so higher increases in income might be expected given the longer time period.

The Income Surveys tell a somewhat different story about what is happening at various points within the income distribution (Table 1). Relative to the Expenditure Surveys, the Income Surveys suggest that:

- the bottom has fared better;

- the middle has fared worse;
- the top has fared less well than indicated in the Expenditure Surveys.

However, there is still some consistency within the results from the two sets of data, in that the top has experienced larger gains in income than either the bottom or the middle over the 1990s. It is also important to note that, even after taking out the impact of inflation, both sets of surveys suggest that both the average and median (middle) households enjoyed higher incomes at the end of the 1990s than at the beginning.

INCOME SHARES

Finally, the bottom panel of results in Table 1 present a third set of measures commonly used to look at income inequality. This is the share of total income received by various groups in the population. For example, according to the Expenditure Surveys, the poorest 10 per cent of the population saw their share of the income pie decline from 3.2 per cent to 2.7 per cent of the total. Similarly, the middle 20 per cent of the population, when ranked by their household income, experienced a marginal fall in their income share, down to 17.6 per cent of the total pie in 1998-99. The Income Surveys also suggest that the middle and the bottom lost ground over the 1990s. Both surveys indicate that the most affluent 10 and 20 per cent of the population increased their share of the pie.

CONCLUSION

The results from the two sets of ABS data differ in some respects, but some clear conclusions emerge. First, income inequality has increased over the course of the 1990s, although it is not entirely clear how much of that increase occurred primarily in the first half of the decade. However, all of the inequality measures used suggest growing income inequality for the decade as a whole.

There has been strong growth in incomes at the top end of the income spectrum. Growth in incomes has been slower at the middle and the bottom of the income spectrum. As a result, the gap between the top and the middle, and between the top and the bottom, has increased during the 1990s. There has been a decline in the share of the total income cake going to the bottom 10 per cent and the middle 20 per cent of Australians. This has been offset by the increase in the share of total income going to the top 20 per cent of Australians.

It is not entirely clear how middle Australia has been faring relative to those on the lowest incomes. The Income Surveys suggest that the middle and the bottom have experienced comparable income increases over the course of the 1990s, so that the relative gap between the incomes of the two groups has remained constant. The Expenditure Surveys paint a very different picture and suggest that middle incomes have increased more rapidly than the incomes of those at the bottom of the income spectrum.

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**Tackling
health
inequalities**

REDUCING SOCIOECONOMIC HEALTH INEQUALITIES: ISSUES OF RELEVANCE FOR POLICY

Citation: *N S W Public Health Bull* 2002; 13(3): 47–49

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BACKGROUND

During the twentieth century, the health of the Australian population improved markedly: life expectancy increased; the toll of communicable disease was reduced; and, in more recent times, death rates for cardiovascular disease and a number of major cancers have begun to decline.^{1,2} However, against this backdrop of improving overall health, large health inequalities continue to exist between socioeconomic groups;^{3,4} and, for some conditions, these inequalities are increasing over time.⁵ Table 1 illustrates that, despite substantial reductions in age-standardised death rates between 1985–87 and 1995–97, the size of the mortality gap between the most and least disadvantaged areas (indicated by the rate ratio) widened for many conditions. Further, the excess mortality figures show that the burden of death in Australia attributable to socioeconomic inequality is large, and that substantial improvement in this country's national health profile would occur if mortality rates for all areas were equivalent to those of the least disadvantaged areas. This

article presents a general discussion of the issues that need to be considered as part of the development and implementation of policies and interventions that are aimed at narrowing the health gap between socioeconomic groups, and halting the widening of mortality differentials.

A reference point for the discussion is evidence from studies that have investigated the main causes of health inequalities.³ This evidence is summarised in Table 2, where each cause is positioned according to whether it represents an upstream (macro), midstream (intermediate), or downstream (micro) determinant of disease. As the ordering and flow of the evidence suggests, illness and disease are ultimately a consequence of adverse biological reactions (for example: hypertension, fibrin production, and suppressed immune function) that occur as a result of changes or disruptions to the functioning of various physiological systems (for example: the endocrine and immune systems). Thus, the poorer health of disadvantaged social groups is due to more sustained and/or longer term adverse changes to physiological and biological functioning.⁶ Importantly, however, we must not lose sight of the fact that these changes are brought about by psychosocial processes and health behaviours (acting independently and inter-dependently), and that

TABLE 1

AGE STANDARDISED MORTALITY RATES (PER 100,000), RATE RATIOS, AND EXCESS MORTALITY, BY AREA SOCIOECONOMIC STATUS (SES): MALES, 25–64 YEARS, 1985–87, 1995–97^a

	1985–1987				1995–1997			
	Age standardised rate ^b		Rate Ratio ^c	Excess mortality ^d	Age standardised rate		Rate Ratio	Excess mortality
High SES	Low SES	High SES			Low SES			
All causes	338.4	568.5	1.68	24	250.4	410.8	1.64	26
Circulatory system	125.7	207.8	1.65	24	63.2	118.2	1.87 ^e	32
Coronary heart disease	96.0	149.0	1.55	21	43.0	80.7	1.88 ^e	33
Stroke	13.1	27.5	2.10	34	7.7	16.0	2.07	36
Diabetes mellitus	4.2	7.3	1.73	24	4.3	9.0	2.07 ^e	32
Cancer	117.9	150.6	1.28	12	90.3	125.4	1.39 ^e	19
Lung cancer	29.7	47.3	1.60	23	17.6	34.8	1.98 ^e	35
Injury and Poisoning	50.6	99.2	1.96	30	43.7	76.9	1.76	30
Suicide	19.5	33.7	1.73	24	22.2	33.8	1.52	23
Motor vehicle accidents	16.8	28.9	1.73	27	8.4	19.6	2.33 ^e	41
Respiratory system	13.7	31.7	2.31	37	8.0	20.0	2.49 ^e	43
Chronic lung disease	5.1	9.7	1.90	33	4.4	13.3	3.02 ^e	53
Digestive system	10.3	31.4	3.06	48	8.8	19.3	2.20	37

- a. Source: Adapted from Turrell and Mathers.⁵
- b. High and low correspond to the least and most disadvantaged quintiles of the Index of Socioeconomic Disadvantage respectively.
- c. Ratio between the standardised mortality rate for the most and least disadvantaged quintile.
- d. Per cent of deaths that would be avoided if all quintiles had the same mortality rate as the least disadvantaged quintile.
- e. Statistically significant increases in mortality inequality between 1985–87 and 1995–97.

TABLE 2

SOCIOECONOMIC DETERMINANTS OF HEALTH ^{A,B}

Upstream (macro)	Midstream (intermediate)	Downstream (micro)
<p>Social, physical, economic, and environmental factors</p> <ul style="list-style-type: none"> • Education • Employment • Occupation • Working conditions • Income • Housing • Area of residence 	<p>Psychosocial factors</p> <ul style="list-style-type: none"> • Control • Stress • Depression • Self esteem • Social support & networks • Hopelessness • Demand–strain • Isolation and marginalisation <p>Health Behaviours</p> <ul style="list-style-type: none"> • Food and Nutrition • Smoking • Physical activity • Alcohol • Self harm • Preventive health care use 	<p>Physiological systems</p> <ul style="list-style-type: none"> • Endocrine • Immune <p>Biological reactions</p> <ul style="list-style-type: none"> • Hypertension • Fibrin production • Adrenalin • Blood lipid levels • Body mass index
<p>Main direction of influence </p>		
<p>a. Adapted from Turrell and Mathers. ⁴</p> <p>b. The table is not exhaustive in terms of its identification of the socioeconomic determinants of health.</p>		

these in turn are a consequence of differential exposure to adverse social, physical, economic, and environmental circumstances: this latter group of upstream factors is where the ‘problem’ of socioeconomic health inequalities originates.

An important first issue for policy is at what stage in the disease process do we intervene. It is implied in Table 2 that policy and intervention efforts can be directed at upstream, midstream, or downstream influences. However, where we focus and concentrate our efforts has implications in terms of making a measurable impact on health inequalities. Attempts to tackle health inequalities by focusing on upstream factors are likely to result in the greatest impact on population-wide differentials. However, societal-level changes are the most difficult to bring about, and the most politically sensitive. By contrast, policies and interventions that focus on midstream factors might benefit the groups or areas that are targeted, but they are unlikely to reduce inequalities at the national level. In other words, midstream efforts might improve psychosocial health, or result in behaviour change, but they are not likely to alter the social and economic conditions that gave rise to the problems in the first place. We could also focus our efforts at the micro level via, for example, health promotion information provided at visits to general practitioners. This approach, however, while important, probably only serves to improve individual health, and it is not likely to impact in any discernible way on national-level health inequalities.

Second, while approaches will differ in their impact depending on where they are directed (upstream, midstream, or downstream), attempts to tackle health inequalities should focus simultaneously on all three levels of influence. Policies and interventions need to be implemented on a broad front.⁷

Third, evidence about the causes of socioeconomic health inequalities points to the need for a ‘whole of society’ approach to the problem. Health inequalities originate from societal-level conditions associated with housing, employment, education, income, transport, etc; and reducing inequalities will not be achieved exclusively (or even primarily) by actions taken within the health sector. An effective response to the poorer health of disadvantaged groups will therefore require actions from all public sectors, and thus inter-sectoral collaboration and joined-up efforts are essential. In this respect, workers in the health sector can play an important advocacy role by ensuring that public policy makers are informed about the possible consequences of their decisions and actions for the health of disadvantaged groups.

Fourth, sociologists have long argued that social, economic, physical, and environmental contexts exert an independent influence on health, separate from the characteristics of individuals within these contexts. Recent studies using multi-level research designs and statistical methods have provided empirical support for these claims.⁸ In terms of policies and interventions, this evidence suggests that efforts to tackle health inequalities should focus on both contexts and individuals by taking

a social–ecological approach to the problem.⁹ To date, policy and intervention efforts have largely been non-contextual, and targeted at individuals, which has had limited success in terms of reducing socioeconomic health inequalities. Indeed, an individualised approach may have actually widened health differences between social groups.¹⁰ For example, health promotion programs that attempt to change individual behaviour have been more effective among the socioeconomically advantaged.¹¹ This is because disadvantaged groups are often constrained by their social and economic circumstances in ways that make behavioural change difficult.

Fifth, while national public (health) policy and interventions have apparently been effective in terms of improving average health, population-wide approaches do not necessarily alter underlying health inequalities. This is clearly evident in Table 1, which shows that socioeconomic health inequalities remained unchanged (or increased) between 1985 and 1997 even though everyone's overall health improved. This suggests that national efforts to improve health need to be complemented by policies and interventions that are designed with, and for, socioeconomically disadvantaged groups.

Sixth, attempts to understand the genesis of socioeconomic health inequalities have increasingly focused on the influence of factors that occur at early or critical stages of development (in utero, infancy, childhood),¹² and across the lifecourse.¹³ Studies examining these issues have shown that propensity for poorer health in adulthood is greatest among those from disadvantaged backgrounds in childhood (irrespective of what happens in the intervening years between childhood and adulthood). Moreover, it is now clear that disease risk accumulates longitudinally over the lifecourse, such that the worst health is experienced by those who have the greatest cumulative exposure to social and economic adversity. Taken together, this evidence suggests that early life, and mothers and young children in particular, should form an important focus of our policy and intervention efforts to reduce socioeconomic health inequalities. Focusing on this lifecourse stage and social group is likely to result in health benefits for current and future generations.

Finally, the Australian health care system plays a crucial role in terms of moderating and hence minimising health inequalities. Integral to this is the maintenance of a universal, non-targeted system that is economically, geographically, and culturally accessible. Importantly, the health care system is more than simply a biomedical curative entity: it also encompasses primary and community care, including home care, community health centres, disease prevention and health promotion, and the public health sector. Those who preside over the distribution of health care funds might want to consider evidence from overseas studies which suggest that the

greatest potential impact of the health care system in terms of minimising health inequalities is via a more equal distribution of funding and resources between these non-clinical preventive components and the more clinically oriented curative component.^{14,15}

In summary, reducing socioeconomic health inequalities represents a major policy challenge. Health inequalities need to gain greater public visibility, for public opinion and support are likely to be important 'push' factors in any government's decision to address the problem. Public policy and health policy need to work in concert, to inform one another, and be directed at countering the life circumstances that generate poor health, and promoting those that give rise to good health.

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TAKING RESPONSIBILITY TO ADDRESS INEQUALITIES IN HEALTH

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For many people, access to the prerequisites for health outlined in the preamble to the Ottawa Charter: peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity, continues to be a distant dream.¹ Despite ‘major efforts by governments and international financial institutions in the latter half of the twentieth century to reduce poverty, primarily by promoting economic growth, we have more poor people today than when we started’.² Many of the population health gains that have been achieved over the past 150 years are in danger of being reversed. This article describes ways in which public health practitioners can take a greater personal responsibility for reducing inequalities in health.

CHALLENGING THE ‘INEVITABILITY’ OF GLOBALISATION

Current economic theories that drive globalisation regard unemployment, insecurity, a declining sense of wellbeing, and the erosion of ‘social capital’, not as evils to be fought against but at best as side effects to be treated by social policy, or at worst as levers to discourage resistance by wage earners.³ Current economic and social policies have redistributed national incomes in favour of profits to individual shareholders; strengthened the grip of private investors on the economy; and limited policy choices to those that have been approved by the financial markets. Economic policy choices are based on a value system that undermines the notion that public expenditure is an *investment* in education, health care, public health, welfare, employment creation, or even infrastructure such as roads. Instead, the underlying value system regards public services simply as *expense*.²

On the other hand, there are examples of globalisation working positively, through the combination of communication technologies and greater numbers of literate men and women, and through the consequent democratisation of knowledge. Hartigan pointed out that ‘this explosive spread of information and knowledge drove the winds of democratisation throughout most of Latin America in the 1980s to overthrow autocratic governments. It contributed to the fall of communism in the 1990s and supports now both a rising awareness of what our pattern of production and consumption is doing to the environment and a heightened sensitivity to the inequalities that continue to limit the choices and opportunities available to men and women in different parts of the world’.³

Like Stilwell [*NSW Public Health Bulletin* 2001; 12(7): 183–185], Kelsey challenges the notion that the directions being taken by economic globalisation are inevitable and irreversible, pointing out that they result from decisions made by individuals and organisations.⁴ It is possible to make alternative decisions to achieve different goals based on different values.

If we are to succeed in reducing inequalities in health, it is vital to harness the positive aspects of globalisation. There is a growing body of knowledge about actions that could and should be taken by governments and organisations to bring about reductions in social and economic inequalities; and therefore a reduction in health inequalities. Recent examples can be found in Australia, the United Kingdom, North America, and other countries.^{5, 6, 7, 8}

CONTRIBUTING TO THE SOLUTION: WORKING GLOBALLY

Multiple organisations and individuals are working to change the goals and directions of globalisation: economic, social and environmental. For example, the World Bank has been influenced to establish a major initiative in poverty reduction, and the decisions made by the World Trade Organization are now under intense scrutiny. A recent meeting of non-government organisations in Genoa canvassed specific methods by which less powerful people, organisations, and governments can participate equally with the more powerful in decision-making about world trade.⁹

CONTRIBUTING TO THE SOLUTION: WORKING NATIONALLY

Labonte points to the importance of working through our own government by suggesting that, while we may need to establish global governance for the common good, ‘we may need even more to reduce the need for such governance by ensuring our national-level efforts are maintained, if not increased. The health (and social and environmental) inequalities arising from globalisation are not caused by globalisation per se. They are phenomena of national-level forms of economic and political organisation. Globalisation, through structural adjustment programs and the World Trade Organization, merely extends this organisation globally, reducing the ability of civil society groups to maintain healthy compromises between state and market control, or to challenge unhealthy forms of economic and political practices, within their own borders’.⁹ The nation-state still matters.

CONTRIBUTING TO THE SOLUTION: WORKING INDIVIDUALLY

When considering ‘what can I do as an individual?’ the first step is to be clear about the extent to which it is *our*

governments, *our* institutions and organisations, and *our* decisions that create the conditions that determine the health of populations. It follows that the action that can be taken and should be taken to address the determinants of health is within *our* capacity to take—individually as well as collectively. This does not mean it is easy.

It is easy, however, to feel that individual efforts amount to little given the scale of the problem. It is also true that some of the reluctance to act is because of a perceived need for more evidence before acting. There is now overwhelming evidence describing social, economic and health inequalities, and about many of their determinants. There is also some evidence of ways to address these—although much more evidence is needed. The challenge confronting individuals is to do what we can with the knowledge we have. The alternative to doing is waiting: for others to act, for more information, for an invitation to participate.

The ideas outlined below represent an attempt to bridge the gap between what should in general be done and what individuals can do.

Establish the reduction of health inequality as a national goal

Reducing preventable inequalities in health across and between populations should be a principal goal of governments, of the health sector and other sectors, and of individual public health practitioners. Much current policy assumes that through economic growth all people will become not only wealthier but also healthier. However, in Australia, as elsewhere, there appears to be limited concern about the growing inequalities in the distribution of wealth and health in the population.

A first step to reducing health inequality is the establishment of a national goal making equality of access to economic, social and environmental resources an outcome for which government is responsible to the public. This goal sets a policy framework for action, and accountability for progress; and highlights priorities for the investment of resources.

Becoming informed as a health practitioner: what and how

Every health practitioner should learn about:

- the determinants of health;
- the theories, policies and practices that are leading to increasing inequalities in health;
- alternatives that could guide the policy decisions of governments and organisations;
- how to influence decision-making, through learning about the governance and structures of organisations, and about processes used to set agendas and make decisions;¹²
- how other individuals engage in the process of bringing about change. There are significant and

influential constituencies in all nations that recognise the need for global cooperation, leadership from international organisations, venues for debate and advocacy, and the exchange and monitoring of information;

- the many perspectives on what constitutes ‘progress’ for different countries, different communities, and different individuals;^{10,11}
- the World Wide Web and its potential to bring about social and economic change.

Taking action

Because public policy is the outcome of decisions made by individuals, the challenge for public health practitioners is to become a more active part of this process as individual members of different groups.

Many of us work in or manage academic institutions and service-delivery organisations that have the power to set goals and to act to reduce inequalities in health. Many of us are members of professional associations such as the Public Health Association of Australia, the Australian Health Promotion Association, the Australian Medical Association, and the Australian Nurses’ Federation; or we belong to community organisations such as Parents and Citizens’, a sporting club, or a church. All of these associations and organisations represent constituencies that can influence the decisions of governments in relation to public health policy and practice. They also offer opportunities to collaborate with other individuals and groups who are concerned to reduce inequalities—within Australia and globally.¹³

If we do not act, who will?

Individuals should take every opportunity to act to reduce inequalities. It is not necessary to work on a large scale; but it is important to act within many individual spheres of influence. We can belong to different constituencies, and we can make every effort to influence the decisions of policy-makers. The challenge is to ensure constant vigilance, and to ensure that our actions are contributing to the solution rather than to the problem.

None of the ideas presented below are new. They recall the earlier days of the women’s movement in the 1970s when women acted to overcome exclusion from full participation in public life. They also reflect the methods used by gay men to bring about action to address the threat of HIV–AIDS; and by environmentalists to draw attention to the effects of unrestrained markets on the environment.

Because the voices for equality and social justice have been fragmented, it is necessary to mobilise advocacy in new ways as well as old. Global communication technologies, including the World Wide Web, make activism possible on a wide scale. The protests at meetings of the World Trade Organization have been reminders of the power of community mobilisation. International

efforts by groups of individuals have succeeded in forcing pharmaceutical companies to waive their patents to allow developing nations a greater access to cheaper drugs to combat the HIV–AIDS epidemic.

In relation to health inequalities, the role of the public health practitioner seems to have been confined to that of describing the problem and its determinants, although policy solutions are being proposed.¹⁴ To ensure that these policies are implemented, however, means becoming and staying informed about policy-making and implementation processes. It means using this information ourselves and with our communities. Public health practitioners can do this by:

Becoming more ambitious within our own organisations

As individuals we must ensure that we are key players in setting agendas, and in developing and implementing health policy. We need to move in from the margins and become central players within the health system. More than eight per cent of Australia's gross domestic product is invested in the health sector,¹⁵ and the health sector employs approximately eight per cent of the Australian workforce. This is an enormous sector with great influence, and capacity to reduce health inequalities lies, in part, within the health sector itself.

For example, as a health service manager:

- Does your health service state explicitly that its goal is to contribute to reducing inequalities in health?
- Do you actively seek to build relationships with members of disadvantaged groups to assist in making decisions about priority services?
- Does your service actively seek to employ members of disadvantaged or disenfranchised groups across all levels of the organisation?
- To what extent do you provide support and career development opportunities for such groups?
- To what extent do you report on progress in reducing inequalities directly to the community?
- To what extent do you support and encourage debate on these issues among staff?

Working closely with communities—particularly with those who are most marginalised

We need to build constituencies for change, capacities to act, and systems for active participation.¹³ This is much more likely to occur through membership of and participation in community organisations or activities than through our professional roles. Communicating with fellow parents, with other members of the branches of our political parties, with members of the golf club, with members of our churches, or with the local health action group, is likely to be as powerful as formal, official communication.

For example, as a member of a Parents and Citizens' committee or sports club:

- Do you 'know' the members of your Committee?
- What active measures are taken to encourage and support membership by disadvantaged groups?
- What active measures are being taken by your school to encourage and support children whose families are poor and not well educated to complete their education?

Moving into other sectors

Influencing the policies, programs and services provided by sectors other than health is clearly one of the keys to reducing inequalities in health. Working in partnership with other sectors is obviously important. But working from within sectors such as education, agriculture, trade and treasury is equally vital. Further, seeking to influence the curricula for undergraduate and continuing education for all professionals is a powerful role for academics, as is conducting relevant intervention research.

Actively participating in professional organisations

If you are a member of a professional association:

- Do you know the backgrounds of the members of your Board or Executive?
- Do you know the interests of your fellow members?
- What are the goals of your organisation, and to what extent do they contribute to reducing inequalities in health?
- Does the organisation have a working group focusing on action to enhance the organisation's contribution to reducing inequalities in health?
- What opportunities are there for members to be informed about the issues and to debate solutions? Are there regular opportunities for communication and action planning with members of disadvantaged groups? Are decision-makers from sectors other than health regularly invited to speak at conferences and workshops?
- To what extent does your organisation advocate directly, and with partner organisations, to influence the decisions of managers, politicians, and international agencies?

CONCLUSION

It will be impossible to reduce inequalities in health if individuals do not act to influence the goals and directions of globalisation. The role of public health practitioners and their professional networks will then be reduced to that of describing and alleviating the effects of inequality on the health of populations, and we will find ourselves continuing to respond to the problem rather than influencing its causes. Building evidence and developing

professional solutions are important; but so are personal and political activism.

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HEALTH, WELLBEING, AND PROGRESS

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Is it enough to say that, because we are growing richer and living longer, life is getting better? Wealth and health are the main indicators by which we judge progress, and by these measures Australia, and most of the rest of the world, are making good progress. So is all well and good? Not exactly. There is growing evidence that standard of living is not the same as quality of life, and that how well we live is not just a matter of how long we live, especially in rich nations such as Australia. This article describes the relationship between health, wellbeing, and progress.

The increasing interest in how we define and measure 'progress' has paralleled the resurgence of interest in the social determinants of health. Just as the literature on social determinants provides a larger context to the focus on 'individual risk factor' of much health research—and so improves our understanding of the causes and correlates of disease—so research related to measuring progress can enlarge our understanding of social determinants of health and wellbeing. This research spans several disciplines, including developmental studies, economics, environmental science, sociology, and psychology.

From a political perspective, progress is about chasing economic growth. It is striking just how much the political framework of growth is regarded as a 'policy constant' that is beyond scrutiny or debate. Political leaders explicitly state high growth as their prime objective, believing it to be the foundation on which social progress, including better health, is built (the Prime Minister, John Howard, once said that his Government's 'overriding aim' was to deliver growth of over four per cent per year).¹

What does the literature on social determinants reveal about this priority? Life expectancy rises with per capita income at lower income levels, but among rich nations, it is at best only weakly related to average income.² In these countries, health may be more strongly associated with income distribution, with more equal societies enjoying better health. However, this population-level association between inequality and health is contested.^{3,4} At the individual level, the findings are unequivocal: health inequalities exist in all societies. On average, people at any point on the socioeconomic scale enjoy better health than those below them, but poorer health than those above. Overall, the research suggests that increasing equality in Australia would do more for population health than increasing average income.

Doubts about the nexus between growth and progress have spurred the development of indices, such as the Index of Sustainable Economic Welfare and the related Genuine Progress Indicator, that attempt to correct some of the anomalies and omissions of Gross Domestic Product or GDP, by which we measure growth.⁵ The new indices adjust GDP for a wide range of social and economic and environmental factors, including income distribution; unpaid housework and voluntary work; loss of natural resources; and the costs of unemployment, crime and pollution. These 'GDP analogues' show that trends in GDP and social wellbeing, once moving together, are diverging in most, if not all, Western countries for which they have been constructed, including the United States, United Kingdom, and Australia.^{5,6}

The new indicators support a threshold hypothesis proposed by the Chilean economist Manfred Max-Neef.⁶ In the late 1980s, he and his colleagues undertook a study of 19 countries, both rich and poor, to assess the things that inhibited people from improving their wellbeing. They detected among people in rich countries a growing feeling that they were part of a deteriorating system that affected them at both the personal and collective level. This led the researchers to propose a threshold hypothesis, which states that for every society there seems to be a period in which economic growth (as conventionally measured) brings about an improvement in quality of life, but only up to a point—the threshold point—beyond which, if there is more economic growth, quality of life may begin to deteriorate.

International comparisons show a close correlation between per capita income and many indicators of quality of life, but the relationship is often non-linear: as with life expectancy, increasing per capita income confers large benefits at low income levels, but little if any benefit at high income levels. This is especially so with subjective indicators such as happiness and life satisfaction. Further, the causal relationship between wealth and quality of life is often surprisingly unclear. While surveys show most people are happy and satisfied with their lives, personal life satisfaction and happiness have not increased in Australia and other rich nations in recent decades (50 years in the United States) despite increasing average per capita income.⁷

People are more negative about social conditions and trends than they are about their own lives.^{8,9} Polls over the past four years have shown that, at best, less than one-third of Australians believe overall quality of life in Australia is getting better; as many as a half think it is getting worse. The research indicates many people are concerned about the greed, excess, and materialism that they believe drive society today, underlie many social ills, and threaten their children's future. They want a better

balance in their lives, believing that when it comes to things like individual freedom and material abundance, people do not seem to 'know where to stop' or now have 'too much of a good thing'. In one study, the most common reasons given for perceptions of declining quality of life were: too much greed and consumerism; the breakdown in community and social life; and too much pressure on families—factors linked to economic growth processes.¹⁰

The research on progress highlights the need to question the assumptions about growth that inform our politics. The first is that wealth creation comes first because it allows us to spend more on meeting social and environmental objectives. This is understandable: higher growth, more revenue, bigger budget surpluses, more to spend on new or bigger programs. However, if the processes by which we pursue growth do more damage to the social fabric and the state of the environment than we can repair with the extra wealth, then we are still going backwards. 'Efficiency' in generating wealth may well mean 'inefficiency' in improving overall quality of life.

A second, related assumption is that increased income is better, 'all other things being equal', because it increases our choices, our 'command over goods and services'. Again, this view seems straightforward and compelling. But other things rarely if ever remain equal because the processes of growth tend inevitably and inherently to affect 'all other things'. If the pursuit of growth becomes so dominant that it crowds out or undermines the personal, social, and spiritual ties that underpin health and happiness, then 'more' is not better but worse.

What emerges from this broader view of progress—and what the literature on health inequalities pays scant attention to—is the importance of culture to health and wellbeing.¹¹ Culture refers to the webs of meanings, beliefs, and values that define how we see the world and our place in it, and so what we do in the world. Healthy cultures bind societies together; they allow us to make sense of our lives and sustain us through the trouble and strife of mortal existence.

Our focus on economic growth reflects defining cultural characteristics that include consumerism, individualism, and economism (regarding human societies primarily as economic systems in which economic considerations govern choice). There is growing evidence that these cultural factors can directly affect health and wellbeing. The complexities of the associations between sociocultural factors and health can be illustrated by looking at psychosocial problems in young people, particularly youth suicide, which have increased in most developed nations in the past 50 years.

There is a clear socioeconomic gradient in suicide among young men (aged 15–24) in Australia—that is, rates decline with rising socioeconomic status—and the gradient increased (became steeper) between 1985–87 and

1995–97.¹² With death related to drug-dependence, however, the gradient apparent in the mid-1980s had almost disappeared a decade later—that is, there was little difference between groups. Among young women, the gradients for both suicide and drug deaths are reversed over this period—that is, deaths in the mid-1990s are higher in the high socioeconomic group than in the low. For all causes of death, the socioeconomic gradient increased for young males, but declined for young females. Clearly, factors other than socioeconomic status affect health.

In a cross-country analysis, a colleague and I found strong positive correlations between several different measures of individualism and youth suicide, especially for males.¹³ In contrast, socioeconomic factors—such as youth unemployment, child poverty, income inequality, and divorce—did not show significant correlations, which is not to say that these factors do not play a role. Individualism places the individual, rather than the community or group, at the centre of a framework of values, norms, and beliefs; and emphasises personal autonomy, independence, and 'self-actualisation'. Most of the measures of individualism used in our analysis were based on survey questions—for example, asking how much freedom of choice and control over their lives young people felt they had.¹³

While individualism might affect health and wellbeing through specific effects on families and parenting, for example, it could also exert a more pervasive influence, contributing to a lack of appropriate sites or sources of social identity and attachment; and, conversely, a tendency to promote unrealistic or inappropriate expectations of individual freedom and autonomy. And individualism, when taken too far, may be more harmful to men than to women because men and women construe the self differently—men as independent, women as interdependent.¹⁴

CONCLUSION

Several observations flow from a broad perspective on progress, health, and wellbeing: our health is influenced by the most fundamental characteristics and features of our societies; these qualities are cultural as well as material and structural, a question of subjective perceptions as well as objective realities; and the complexities and subtleties of the interactions between these factors make a mockery of our crude equation of growth with progress.

Further, a strategy that is beneficial at one stage of social development is not necessarily appropriate at another. Standard of living, measured as rising income, may once have been a useful, easily measured proxy for quality of life and wellbeing, and it may remain so today for developing countries. But in Australia and other rich countries, the pursuit of ever-greater wealth may now be

becoming a health hazard. We need to pay attention to the content of growth—and the values and priorities it reflects and serves—not just to its rate.

We ought to think less in terms of a ‘wealth producing economy’ and more about a ‘health producing society’, where health is defined as total wellbeing: physical, mental, social, and spiritual.

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**Strong
beginnings:
Investing in
the early
years of life**

CAN THE *FAMILIES FIRST* INITIATIVE CONTRIBUTE TO REDUCING HEALTH INEQUALITIES?

Citation: *N S W Public Health Bull* 2002; 13(3): 38–41

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This article describes the ways in which *Families First*—a coordinated strategy of the NSW Government that has increased the effectiveness of early intervention and prevention services in helping families to raise healthy and well adjusted children—can contribute to reducing health inequalities.

CHILD HEALTH INEQUALITY TODAY

Inequality of health outcomes continues to be a major (and potentially reversible) feature of the health of Australia's children. The health of children is particularly sensitive to their socioeconomic environment. This environment can diminish the potential of 'reactive' or 'clinical' services to reduce health inequalities in children.

In spite of this, there has been progress in reducing some health inequalities over the past century. In 1970, the gap in infant mortality between Aboriginal and non-Aboriginal children was approximately four-fold. In 1998 this gap had reduced to approximately three-fold, but there has been little change over the last decade. Almost every health indicator related to children and youth continues to reveal a significant gap between the Aboriginal and non-Aboriginal populations.¹ However, in Australia, there is a dearth of health outcomes data for children and youth by other indicators of disadvantage such as family income, occupation of parent(s), and income distribution.

There are abundant data indicating the relationship between socioeconomic inequality and poor health outcomes; and of growing income inequality in Australia.² For example, the share of equivalent gross household income received by the bottom 10 per cent of Australians decreased from 7.44 per cent in 1986 to 7.35 per cent in 1996; and that received by the top 10 per cent increased from 13.7 per cent in 1986 to 14.96 per cent in 1996; also, there has been an increase in child poverty in Australia.^{3,4} Similar trends towards growing inequality have been even more clearly established between the developed and developing worlds. In the face of this, at best, unchanging income inequality—or, more probably, growing income inequality—how likely is it that the strategies underpinning *Families First* can reduce health and social inequalities?

It is also worth recalling that serious health inequalities can persist (and even widen) in spite of the implementation

of 'effective' interventions as these may produce improvements in the average rates of problems or diseases, but result in a widening of the gap between the upper and lower social strata.^{5,6,7}

WHAT IS *FAMILIES FIRST*?

Families First is a coordinated strategy of the NSW Government to increase the effectiveness of early intervention and prevention services in helping families to raise healthy, well adjusted children. The NSW Government has committed \$54.2 million to implement the strategy in all areas of NSW over a four-year period.⁸

The implementation of *Families First* is the combined responsibility of a number of NSW government agencies (the area health services; the Department of Community Services; the Department of Ageing, Disability and Home Care; the Department of Education and Training; the Department of Housing; and the Department of Health) and non-government agencies funded by the NSW Government.

The main objectives of the *Families First* strategy are to:

- help children grow to their full potential; support parents in enhancing parenting skills and to have a sense of control over their lives; support those who are expecting or caring for babies, infants, and young children up to eight years of age; and assist families who require extra support;
- help communities build and sustain networks to support families through strengthening the connections between communities and families.

These objectives will be met through a combination of universal and targeted services:

- a universal home visiting program that also concentrates services to vulnerable and disadvantaged families;
- extra support to families with specific health and social problems; for example: mental health, substance abuse, social isolation, financial stress, homelessness, etc;
- a coordinated network of services linking all sectors relevant to the health and social wellbeing of families with young children;
- community capacity building and community development programs targeting disadvantaged communities, using the *Schools as Community Centres* and other models.

These strategies are supported by research indicating that early intervention services and community capacity building programs can produce a sustained improvement in children's health, education, and welfare.^{9,10,11,12} There

is also evidence that early intervention services have the greatest impact when they are capable of addressing a broad range of issues and are provided as part of a coordinated network.^{13,14}

THE LINKAGES BETWEEN *FAMILIES FIRST* AND THE PROBLEM OF INEQUALITY

How much potential do the strategies underpinning *Families First* have for reducing inequalities of health outcomes? Which particular components of *Families First* are more likely to be effective?

Two of the overseas programs whose design underpin *Families First* (the Prenatal–Early Infancy Project and the High–Scope Perry Preschool Project) have demonstrated that the greatest benefit accrues to children in families at greatest social disadvantage.^{9,10} These findings suggest significantly better prospects for the reduction of health inequalities through *Families First* than through conventional service-based initiatives.^{9,15}

A number of randomised controlled trials of home visiting programs delivered to disadvantaged and vulnerable families predominantly in the USA,¹⁶ but also in Australia,¹⁷ have demonstrated positive health and social outcomes for children and mothers. These have included:

- reduced rates of smoking in pregnancy, hypertension of pregnancy, low birth-weight, preterm babies, child abuse, accidental injury, behavioural problems, high risk behaviours among adolescents, running away from home, delinquency, and mothers' dependency on welfare;
- increased rates of breastfeeding and immunisation, and better use of health services.

The data are less clear regarding the impact of a universally offered home visiting program with a concentration of services on the vulnerable and disadvantaged.

Intuitively, one would expect even better outcomes because the whole socioeconomic gradient is addressed and thereby potentially influencing greater numbers of children and families. However, there is some evidence that indicates that one home visit may be of little or no benefit.¹⁸ There are also data indicating that the proportion of children living in relative poverty in the USA is greater;¹⁹ and, in general, outcomes for the disadvantaged in the USA are worse than in Australia. Therefore, the degree of benefit observed in home visiting studies in the USA may be attenuated in the less-extreme Australian context. Although the funding currently provided to implement *Families First* is significant, it may yet prove insufficient to provide the levels of home visiting required to make a difference. For example, the Central Sydney Area Health Service would require an additional recurrent allocation of \$1.2 million per year to implement a universal home visiting program to the level indicated by effective programs, with resources focused on vulnerable and disadvantaged families.

Joint planning of services and preventative programs, which have been very successful in the Central Sydney Area Health Service as a means of addressing health inequities, has also not formally been evaluated. However, since health outcomes have multiple determinants, and approximately 70 per cent of which are not related to traditional health services,²⁰ the potential to further reduce health inequities is significant through joint planning with housing, education and community services, and other relevant agencies, including non-government agencies.

There is indirect evidence that community capacity building, and improving levels of social capital, have the potential to significantly improve not only child health outcomes but also adult health outcomes. There is a strong association between levels of social capital and total mortality rates; infant mortality rates; and deaths from cardiovascular disease, stroke, cancer, and homicide.^{21,22} Improving children's and young people's perception of connectedness with their family and schools has also been demonstrated to be associated with reduced risk taking behaviours and better mental health outcomes among adolescents.²³

POTENTIAL CONTRIBUTION OF *FAMILIES FIRST* TO REDUCING HEALTH INEQUALITIES

There is a growing body of evidence about the relative contributions of healthcare services, and of social and economic determinants of health, to measures of health outcome (such as mortality rates). It indicates that the contributions may be different at different ages, with socioeconomic factors having a greater effect at younger ages.^{24,25}

Considering the importance of programs that address social and economic determinants to population health outcomes in children, *Families First* has the potential to significantly affect brain development in the early years of children's lives. Home visiting has been shown to decrease smoking rates in pregnancy in disadvantaged women; decrease rates of low birth-weight and preterm babies; increase rates of breastfeeding and the duration of breastfeeding; and improve education outcomes.^{9,15} Provision of books, reading support programs, and transition to school programs for disadvantaged children, have been shown to improve readiness to start school.^{26,27} Community capacity building programs such as the *Schools as Community Centres* program have improved social capital and empowered families in disadvantaged communities.²⁸ Taken together, these kinds of strategies—which form the basis of *Families First*—have the potential to start to break the cycle of poverty, vulnerability, and disadvantage for this cohort of children and their families; and to begin to reduce health inequalities.

There is also compelling evidence that cognitive function in adulthood is dependent on parents' socioeconomic circumstances (and parents' level of education).²⁹ This

suggests that the health, developmental, and social benefits of the strategies underpinning *Families First* are likely to extend into adulthood—something confirmed in some studies.^{9,10}

POTENTIAL LIMITATIONS OF *FAMILIES FIRST*

There are a number of possible risks to the likelihood that *Families First* will achieve improvements in health outcomes and reductions in health inequalities.

‘Shifting attention away from the population distribution of health, *health inequalities*, to the health of the poorest groups in society, *health poverty*, and to conditions that the poor tend to suffer from in isolation of the circumstances in which those conditions are suffered’ has not been shown to have had any beneficial impact on existing health inequalities.³⁰

Nor is it clear how much the socioeconomic distribution of risk factors explains the observed health inequalities, making it risky to base efforts to reduce health inequities on strategies that focus on risk factors.^{30,31,32}

If *Families First* focuses on strategies providing ‘reactive’ services to ‘high-risk’ families or individuals, rather than providing population-based preventative interventions, there can be little confidence from the evidence that the anticipated improvements in population-level child health outcomes will be achieved.^{33,34}

It is unclear from the evidence that targeting of services, such as the selection of geographically disadvantaged areas for community capacity building programs, will reduce existing health inequalities. Research from Glasgow, Scotland, concluded that selective targeting of resources on an area basis would miss more deprived people than it would include.³⁵ Such an analysis has not been done in NSW, but it is probable the same would apply. Furthermore, other determinants of health can all negate the potential benefits of *Families First*. These include: a world recession, or war; government policies that continue to contribute to widening the economic and social gap (such as retrogressive taxation and support of the privatisation of education and health systems); job insecurity; inappropriate design of public housing, which contributes to further erosion of social capital; tolerance by government and the community of discrimination and marginalisation based on gender, race, religion, and class; support of inequity as inevitable; and sustainability of the environment.

CONCLUSION

Families First has the potential to reduce inequalities in health outcomes in children, and so to contribute to breaking the cycle of poverty for disadvantaged children, their families, and the adults they will become. However, this initiative cannot succeed on its own; it must be supported by other political, economic, and social developments.

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CHILD HEALTH POLICY IN NSW: BUILDING ON A CENTURY OF CARE

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The NSW child health policy framework is informed by a long and successful history of providing health services to children and their families, as well as recent policy developments at the national level. This article describes the background to the development of the NSW child health policy, *The Start of Good Health: Improving the Health of Children in NSW*,¹ and provides information on NSW Health policy directions for child health.

COMMUNITY CHILD HEALTH SERVICES IN NSW: A HISTORY

The origin of community child health services in NSW is found in the infant welfare movement at the beginning of the 20th century. This movement was one of the most significant and successful public health initiatives, stemming from an awareness that children's health and welfare represented a particularly sensitive index of the wellbeing and progress of our society. At that time the issues were the high infant mortality rate associated with infectious disease and poor nutrition, and advocacy from mothers and grandmothers seeking support for the physical and nutritional needs of children. There was also recognition that poorer families could not afford medical advice for their children except in an emergency. The infant welfare movement played a major role in reducing the infant mortality rate, and led to the establishment of baby health services, which were the forerunner of our current child and family health services.

Early innovations in care

A study of these early services revealed considerable innovation in delivering flexible and responsive services to the community.² For example, in the early 20th century, trained health visitors were employed to visit, at home, the mothers of all new-born babies in the city of Sydney and surrounding industrial suburbs. These trained health visitors instructed mothers on proper feeding and hygienic care of their infants, and noted the living conditions for appropriate further action. Health visiting obtained dramatic results in reducing the infant mortality rate.

Another example of an innovative model of service delivery was found in the 1930s. A railway car was fitted as a travelling home for a nurse, with bedroom, bath, kitchenette with refrigeration, and with a large space furnished as a consulting room and clinic. The railway car travelled to rural centres, staying in each centre from two to ten days, as the work demanded. The service was

extended by using local transport to reach towns beyond the station. The establishment of these Travelling Baby Clinics ensured that children and families in rural and remote areas of NSW, who most needed the services, received them.²

Critical factors for success

The success of children's health services over the last century has been the result of a number of critical factors. These include:

- securing the support of the public
- establishing partnerships with the community
- understanding the causes of ill health
- emphasising prevention
- the ongoing dedication and commitment of staff
- the flexibility of services
- a capacity to respond to changing social circumstances.

These same factors remain central to future progress in child health.

During the last 25 years, the focus of children's health care shifted again, as it came to be recognised that child health can be profoundly affected by social and family changes and new technologies. Child health services responded to these societal changes by increasing the range of services offered, reorientation of existing services, and further specialisation. With components coming from different public health, community health and hospital sector perspectives, this has meant that services have become increasingly specialised and more disparate. This has often resulted in poor coordination and communication between services.

The last decade

A number of initiatives in the 1990s started a process of bringing together the wide range of health services for children and young people. The development of the national *Health Goals and Targets for Australian Children and Youth* (1992),³ represented the first step in determining, across Australia, common aims and objectives for the development and provision of child health and youth health services. Five key goals were established as a starting point for planning to improve the health outcomes for Australian children and young people. These were:

- reducing the frequency of preventable mortality;
- reducing the impact of disability, including reductions in the occurrence of new disability and in the impact of established disabilities;
- reducing the incidence of vaccine-preventable diseases;

- reducing the impact of conditions occurring in adulthood which have their early manifestations in childhood or adolescence;
- enhancing family and social functioning.

The Health of Young Australians: A National Health Policy for Children and Young People, the first statement of national child and youth health principles and policy directions, followed in 1995.⁴ This was accompanied by an action plan, *The National Health Plan for Young Australians*,⁵ which was endorsed by Australian Health Ministers in 1996.

MEASURING AND REPORTING ON THE HEALTH OF YOUNG AUSTRALIANS

An initiative that arose from the action plan was the development of a national information strategy for measuring and reporting on the health of young Australians. The Australian Institute of Health and Welfare (AIHW) was commissioned to develop this information framework to monitor the health of young Australians and to produce biennial reports on the health of children and young people. *The National Child Health Information Framework*, covers the main issues relevant to the 0–14 year age group, and forms the basis for monitoring and future reporting of child health information. The first national report on the health status of children in Australia was published by AIHW in 1998. *Australia's Children 1998: Their Health and Wellbeing*,⁶ provides comprehensive information from currently available sources of data on the health problems of children in Australia.

Health problems experienced by today's children reflect a complex interaction between children, their family, and their socioeconomic, political and cultural environments. Further coordination of activity across the health system—and more meaningful partnerships between health, education and welfare sectors—are needed if we are to maximise the opportunities to improve the health and wellbeing of children.

THE NSW CHILD HEALTH POLICY

In response to the national developments described above, and the need for increased collaboration between health and other sectors, NSW Health developed its first overarching child health policy. The child health policy *The Start of Good Health: Improving the Health of Children in NSW* was launched by the Minister for Health in October 1999.

The Start of Good Health policy provides a framework for the provision of services by NSW Health, for children 0–12 years, over the next five years. It brings together current knowledge of the health care needs of children in NSW, and identifies priorities and strategies for addressing those needs. It also acknowledges that children require

specifically-designed health care services to meet their needs at each stage of their development. It further recognises that health services must become more responsive to the needs of parents for support in the important job of caring for children. The poorer health outcomes of children from socioeconomically-disadvantaged families are highlighted, and the policy emphasises that health services must reach those with the greatest need.

The Start of Good Health identifies four goals for NSW Health. These are to:

- improve the health and wellbeing of children;
- improve the accessibility and appropriateness of health services for children;
- improve the quality of health services provided to children;
- promote partnerships within the health system and with other public and community-based agencies which impact on the health of children.

The NSW child health policy identifies and highlights examples of good practice and brings, within a single document, the range of initiatives aimed at improving the health of children. Priority health issues are identified, based on the *Health Goals and Targets for Australian Children and Youth*, and flexibility is promoted in the delivery of child health services, to include different settings such as family homes, child care centres, preschools and schools. Key interventions are identified for each developmental stage, which address a variety of health issues simultaneously and adopt a settings-based approach. The policy is also intended to assist in preparing the health system for the implementation of the Government's *Families First* strategy.

CONCLUSION

The directions of *The Start of Good Health* policy are supported by international research findings from the past three decades. This research has indicated that:

- early life experiences are vital to the growth and development of children;
- multiple health outcomes can result, for both parents and children, when parents have early support;
- prevention and early intervention services have the greatest effect on health, education and welfare when they cover a broad range of issues and are provided through a coordinated network.

The Start of Good Health draws on lessons from the past, recognises our achievements, and identifies directions for the future. *The Start of Good Health* provides the framework for reviewing and planning child health services in Area Health Services. It encourages active participation from all levels of NSW Health, and collaboration with other sectors,

to focus on promoting the health and wellbeing of children and their families in NSW.

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**Increased
participation:
Engaging
communities
for better
health
outcomes**

IMPROVING THE HEALTH AND LIFE CHANCES OF WOMEN IN DISADVANTAGED COMMUNITIES

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Health and opportunities for health are not equally distributed in our community; for most measures of disease the least advantaged have almost a doubling of risk compared to the most advantaged. While the health differentials between women are often narrower than between men,¹ when examining mortality and morbidity by any measure of social class (such as education, employment status, or place of residence) it is the similarities between men and women within each socio-economic group that is more striking than the differences between genders.²

There are socially-determined differences in the life experiences and circumstances between men and women: women are more likely than men to have lower incomes, have left school early, head sole parent families and be in marginal employment.³ There are broad social and economic forces that have profound influences on the health of those who are most disadvantaged that are independent of their gender. Those interested in women's health therefore need to be concerned with the significant differences in health and opportunities for health between groups of women along the social gradient. This article describes studies that show that where people live has a

strong and independent influence in their health outcomes.^{4,5} In NSW there is growing interest in understanding how government can strengthen disadvantaged communities and this article suggests ways of achieving this.

PLACE OF RESIDENCE AND HEALTH

The Renew and Paisley Study of cardiovascular risk factors and mortality, which included approximately 7,000 men and 8,000 women, found that individually-assigned (for example: personal income, employment status) and area-based (for example: median income for an area, unemployment rates) socio-economic indicators were independently associated with several important health outcomes.⁶ Put simply, poor people living in poor areas had worse health outcomes than poor people living in wealthy areas. The authors concluded that action aimed at reducing socio-economic inequality needs to focus on the areas where people live as well as the characteristics of the people who live in these areas.

In Australia a social gradient has been found when looking at the relationship between self-reported health and place of residence.¹ (See Table 1) Women living in the most disadvantaged area were 64 per cent more likely to report fair or poor health than those from more advantaged areas. Twenty-one per cent of this difference could be explained by income and employment status, seven per cent by risk factors (such as smoking), and nine per cent by other socio-economic factors (such as country of birth, education level). This left 27 per cent of the difference unexplained.

TABLE 1

SELF-REPORTED HEALTH STATUS BY SOCIO-ECONOMIC DISADVANTAGE OF AREA

Odds ratio adjusted for age, family income, employment status and other socio-economic factors, Australians aged 25–64 years, 1989–90. The 1st Quintile represents the least disadvantaged and the 5th Quintile the most disadvantaged areas.

Health Status Indicator– Socioeconomic Area for Women	Age	Odds Ratio Adjusted for			
		(and) Income	(and) Employment Status	(and) Risk Factors	(and) Other Factors ^(a)
Fair/Poor Health					
1st and 2nd Quintile	1.00	1.00	1.00	1.00	1.00
3rd and 4th Quintile	1.43***	1.29***	1.29***	1.22***	1.20**
5th Quintile	1.64***	1.44***	1.43***	1.36***	1.27***

Adapted from Mathers.¹

(a) Other socio-economic factors: education, metropolitan/non-metropolitan location, country of birth, period of residence, language spoken (refer to Appendix B in Mathers for detail)

* p <0.05, **p <0.01, ***p<0.001

TABLE 2

RESPONDENTS' PERCEPTIONS OF THE GOOD AND BAD THINGS ABOUT LIVING IN THE STUDY AREA

Four most commonly mentioned good things about living in the study area

- Good neighbours and living near family and friends
- Schools, shops, churches and other services in close proximity
- Having a house which provided shelter, some independence and stability
- The country feeling with lots of trees, clean air and birds

Four most commonly mentioned bad things about living in the study area

- Crime and vandalism
- Drug and alcohol problems, especially drinking and drug use in public places
- Poor local infrastructure such as no butcher or fruit shop, only one public telephone, refusal by fast food and other services to deliver in the area
- Houses and open spaces poorly designed and maintained

The findings of a household survey conducted in a socially-disadvantaged community of 3,000 people in outer Sydney in 1997 provides a useful starting point for thinking about the issues within disadvantaged communities that may affect health.⁷ The survey area was recently identified as one of the 30 most disadvantaged communities in NSW.⁸ The survey was completed by 78 per cent of the 354 households where someone was found at home who was able to complete the survey (15 households were excluded because of language difficulties). This may represent a biased sample, as no

one was found home in about half the households and those with language difficulties were excluded.

Findings that are presented here relate to the local environment, feelings of safety and connectedness. When asked to identify good and bad things about living in the survey area, seven per cent of respondents had three or more good things to say compared to more than half (51 per cent) who reported three or more bad things. (See Table 2 for the most common issues identified). Thirty per cent of participants did not report any good things, whereas only seven per cent did not report any bad things. When asked the question: 'How attractive or pleasant do you think it is to walk around the streets during the day', 43 per cent of the survey area residents found it very pleasant, or pleasant compared to 86 per cent of those interviewed in the Statewide Health Promotion Survey.^{7,8} Thirty-three per cent of survey area residents reported they were worried or extremely worried about leaving their house in case it was burgled while they were out.

Three questions were asked about feelings of connectedness with the local area. (Table 3) The responses of women with children under five years in the survey area were compared to the findings of a random telephone survey of mothers with young children in the local government area in which the disadvantaged community is located.⁹ Forty-eight per cent of mothers in the survey area compared to 25 per cent in the phone survey reported they did not have much interest at all in what goes on in their area. Thirty-one per cent said they 'did not feel at home' compared to six per cent in the phone survey. And 60 per cent in the survey area 'would not be sorry to leave' compared to 24 per cent of the phone survey.

TABLE 3

COMPARISONS OF PERCENTAGES OF BELONGING TO THE NEIGHBOURHOOD IN THE SURVEY AREA COMPARED TO THE MACARTHUR INFANT AND TODDLER [TELEPHONE] SURVEY.

	Study area mothers with children under 5 (n=177)	Local Government Infant-Toddler Health Status Telephone Survey (n=1,025)
Much interest in what goes on in your neighbourhood		
Yes, a lot	22.6	31.7
Yes, a bit	28.8	42.0
No, not much	21.5	18.6
No, not at all	26.6	6.7
Feel at home in your neighbourhood		
Yes, a lot	36.7	75.2
Yes, a bit	32.2	17.7
No, not much	9.0	3.5
No, not at all	22.0	2.6
Sorry to leave your neighbourhood		
Yes, a lot	19.8	48.8
Yes, a bit	19.8	26.4
No, not much	11.3	12.9
No, not at all	48.6	10.9

These figures paint a powerful picture of many people who are already socially disadvantaged living in areas where they feel vulnerable and disconnected. However, even within this disadvantaged community there are still many people who are interested in what goes on, who do feel safe and who can identify good things about the area in which they live. In any intervention to improve the health of this community it will be important to recognise these strengths as well as address identified problems or difficulties.

STRENGTHENING COMMUNITIES

In NSW there is growing interest in understanding how government can strengthen disadvantaged communities. For example, the Strengthening Communities Unit has been established within the Premier's Department and this unit has established a Community Builders Web site to link activities around the state (see site at www.communitybuilders.nsw.gov.au); and within the health system community health workers and Divisions of General Practice are working to address the needs of disadvantaged communities. The following suggests ways through which we can build on these initiatives and ensure they address needs of women who live and spend most of their time in these communities:

Develop networks/information flow across health services.

It is important to develop networks and flow of information between those within the health system who have an interest in working in disadvantaged communities to provide support, training, and models of best practice.

Fund and encourage evaluation of interventions.

There are few interventions that have been evaluated despite increasing levels of interest and activity. Without systematic evaluation it is not possible to identify where intervention is most effective and where new approaches are required.

Partnership with other departments and organisational structures.

The areas where there are significant health problems are also areas where there are poor educational outcomes, increased levels of violence and poor housing. Government departments working together provide the best chance for achieving a critical mass of commitment and resources necessary to make a difference.

Work with those living in disadvantaged communities rather than for them.

Experience with the most marginalised groups in our society shows that real gains are only made when mainstream services work with those most affected to achieve a change.

CONCLUSION

Anyone who has worked in these disadvantaged communities knows that women are the driving forces for change. The challenge for women's health is to identify the areas where they should work, such as increasing breast screening, addressing social isolation, domestic violence, fear of robbery, women's or community issues. Any decision must be guided by those most directly involved with the problem to ensure that interventions have relevance to the lives of these women who need our support the most.

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THE ABORIGINAL MEN'S HEALTH IMPLEMENTATION PLAN

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Despite an overall improvement in the health of the NSW population, Aboriginal men continue to suffer mortality and morbidity at much higher rates than non-Aboriginal men. Aboriginal men have a reduced quality of life, and unacceptably high rates of illness and premature death. The success of efforts to improve their health has been limited because these efforts have often failed to recognise that Aboriginal men experience health and illness differently from non-Aboriginal men, and that they also approach and use health services in a different manner. These differences are culturally-determined, and have a significant influence on the health outcomes of Aboriginal men. This article examines some of the risk factors and risk behaviours that influence the health of Aboriginal men; describes a community consultation with Aboriginal men in NSW; discusses what is known to 'work' in Aboriginal men's health; and outlines the *Aboriginal Men's Health Implementation Plan*, an intersectoral partnership approach that engages Aboriginal men in the process of planning, designing, and delivering health programs and services.

ABORIGINAL MEN'S HEALTH: RISK FACTORS AND RISK BEHAVIOURS

Alcohol and substance abuse

Alcohol abuse is a major problem facing Aboriginal men, both for their individual health and for the safety of their communities. Aboriginal men start drinking at a younger age, and consume alcohol at more hazardous levels more frequently, than Aboriginal women. Among Aboriginal people, abuse of illicit substances is more prevalent among men. Marijuana, amphetamines, and hallucinogens are the drugs predominantly tried and used by Aboriginal men. Intravenous drug use in the Aboriginal population is predominantly undertaken by men.

Exposure to violence

Aboriginal people are more likely to be the victims of violence and crime than the non-Aboriginal population. Aboriginal people in capital cities are more likely to report having been physically attacked or verbally threatened than Aboriginal people in other urban or rural areas. Aboriginal men are more likely to report being attacked or verbally threatened than Aboriginal females.

Incarceration

Aboriginal men are imprisoned at a higher rate than non-Aboriginal men; the average age of Aboriginal inmates is younger than the total prison population; and the reason

for imprisonment is often drug-related. When they enter the criminal justice system, the health of Aboriginal men is poorer than that of non-Aboriginal men.

Mental health

Among Aboriginal men, mental illness is a contributing factor to issues such as high incarceration rates, violence, and deaths in custody; and is often associated with lower socioeconomic status. Many mental health problems are also related to substance abuse, destructive behaviours, as well as the loss of a sense of self worth.

Problem gambling

Aboriginal people spend significantly more money on gaming machines, and on all forms of gambling, when compared with non-Aboriginal people. Gambling has a significant affect on Aboriginal communities, given the higher rates of unemployment experienced by Aboriginal people and their lower levels of income. Gambling is a significant problem for Aboriginal men, for their families, and for their communities.

TABLE 1

PERFORMANCE INDICATORS FOR THE ABORIGINAL MEN'S HEALTH IMPLEMENTATION PLAN OVER A THREE YEAR PERIOD

- increase the number of Aboriginal men employed within the health system and Aboriginal medical services;
- increase in the number of Aboriginal men using primary health services;
- development of an infrastructure aimed at improving access and acceptability of health services for Aboriginal men, including: implementation of Aboriginal men's days and half days in all area health services, location of programs and services in areas with a substantial population of Aboriginal men, Aboriginal men's resource and reference groups in all area health services;
- increase the number of Aboriginal men's support groups;
- increase the provision of outreach services for Aboriginal men;
- development of a memorandum of understanding between area health services and local Aboriginal medical services concerning the sharing of resources and collaboration in promoting health services to Aboriginal men;
- increase the use, by Aboriginal men, of the Isolated Patients' Travel and Accommodation Assistance Scheme (IPTAAS).

Male parenting

Physical and cultural dispossession, removal of children, assimilation policies, and trans-generational trauma, have all had a profound affect on the erosion of traditional child-rearing practices. High rates of incarceration, early death or disability, and confusion over the loss of the traditional role of Aboriginal men, have made it difficult for a significant proportion of Aboriginal children to receive adequate male parenting. It is anticipated that the development of specialised support programs for Aboriginal fathers will establish better health outcomes for the next generation of Aboriginal children. The role of Aboriginal elders, fathers, uncles and grandfathers—and family ties—need to be strengthened. This means promoting Aboriginal men as positive role models within their communities.

Sexual health

Aboriginal men experience higher rates of sexually transmitted infections, such as gonorrhoea and syphilis, than non-Aboriginal men. Notifications for syphilis and gonorrhoea are especially high in rural areas. The rates of HIV infection among Aboriginal men is similar to that of non-Aboriginal men; however, the trends experienced by the two groups are quite different. The HIV rate for non-Aboriginal men appears to be decreasing, while the rate for Aboriginal men is increasing. In Aboriginal communities, heterosexual contact is the primary mode of transmission of sexually transmissible infections, with some transmission occurring through injecting drug use. For Aboriginal men who identify as gay, bisexual, or transsexual, discrimination and vilification within Aboriginal communities contributes to an increased risk of alcohol abuse, substance abuse, and suicide.

Diet, nutrition and body weight

Good nutrition is essential to good health; however, being overweight increases the risk of cardiovascular disease and stroke and is a major risk factor for diabetes and some forms of cancer. Many Aboriginal men have unacceptably

high levels of fat intake. When compared to the non-Aboriginal population, Aboriginal men have higher rates of obesity and moderate-to-high levels of fat intake. Aboriginal men are more likely to have one or more preventable risk factors that are directly attributed to poorer health status when compared to non-Aboriginal men.

COMMUNITY CONSULTATION WITH ABORIGINAL MEN IN NSW

Over many generations, social policies and community practices have shaped the lifestyle, and consequently the health, of Aboriginal men. Their role within their families, and within their communities, has changed dramatically with the adoption of a non-traditional lifestyle. There are few opportunities for personal achievement and recognition—high unemployment, discrimination, family disruption and breakdown, and social disadvantage, have all contributed to their poor physical and mental health status. The socioeconomic causes and effects of these changes have been well documented.

In developing the *Aboriginal Men's Health Implementation Plan* an extensive community consultation process was undertaken with Aboriginal men across NSW. The community consultation culminated in a two-day Aboriginal Men's Health Forum, which was held in July 2000 at the Gazebo Hotel, Elizabeth Bay, Sydney. The community consultation confirmed that:

- Aboriginal men are less likely to use primary health care services, resulting in increased presentations for secondary and tertiary health care;
- they are more likely to feel disempowered within their communities because of limited education and employment opportunities, because of reduced authority and status, and because of the loss of traditional ceremonial activity;
- they may not want to use health care services because they are seen as places of death. As a result Aboriginal

TABLE 2

KEY WAYS OF BUILDING CAPACITY IN ABORIGINAL MEN'S HEALTH

- ensure that the issue is important for the whole community and is not just your issue;
- ensure that the whole community participates in the prioritising of their issues;
- ensure that the whole community is involved in every stage of the project, including: planning, development, implementation, evaluation, monitoring, and maintenance;
- ensure that all the key stakeholders are involved;
- keep everyone informed about the project and the process;
- remember to meet the whole community's needs and not just your own;
- consider how you will evaluate and maintain the project;
- evaluate whether you would or could do anything different next time;
- determine whether you can change policy with what you are doing.

TABLE 3**WHAT WE KNOW WORKS IN ABORIGINAL MEN'S HEALTH****Addressing men's health through separate gender strategies to women's health**

Developing separate strategies for men's health and women's health can be highly effective in the short term. If a men's health clinic is not at a main health centre but is housed a few blocks away, Aboriginal men are more at ease, are more likely to consult a male doctor for a specific problem, and are more likely to return for follow up. The concept of separate gender strategies also applies to health promotion.

Employing more men within the NSW health sector

There are fewer Aboriginal male health workers compared to Aboriginal female health workers. Aboriginal male health workers may draw Aboriginal men to primary health care facilities, because men feel more comfortable accessing services where they know they can talk to another man about men's business. Increasing the number of Aboriginal male health workers within primary health care settings is therefore desirable.

Making health services relevant for Aboriginal men, their lives and interests

The achievement of Aboriginal men in sport has been a source of great pride and many Aboriginal men are able to demonstrate community leadership through this success. Sports and fitness programs are an important part of Aboriginal community development in general. This is especially true for the health of young people, as sports and fitness programs are likely to contribute to their physical and emotional wellbeing. Physical fitness programs can form a focus for active life skills, as opposed to negative coping mechanisms such as alcohol and substance abuse and other destructive behaviours.

Providing incentives for Aboriginal men to be involved

Successful programs often provide some kind of incentive to Aboriginal men to encourage them to become involved. This might be access to the local golf course, or to the local gym; or it could be providing a meal to encourage a more informal atmosphere and sense of fellowship.

Developing services within the terms set down by local men

A program or service will have greater success if it aims to be relevant to the needs of local Aboriginal men. For example: in one area, Aboriginal men were embarrassed about seeing a female health worker in a sexual health clinic; so they worked together to establish a separate clinic in a location where they felt more comfortable. As a result attendance increased by 600 per cent.

Recognising men's role in Aboriginal society and how that role influences their health

The role of men in Aboriginal society has changed tremendously in only a few generations. Aboriginal men have experienced a loss of their traditional role in both society and family. This results in despair, shame, and a sense of inadequacy. Some men feel that they cannot contribute to their communities any more. This can be influenced by programs and services that highlight a positive role for Aboriginal men in their communities and families.

Addressing the high costs of medication

Compared to non-Aboriginal men, Aboriginal men suffer a higher burden of ill health, and have a significantly lower income, so the cost of medication is an important issue. Aboriginal men need to be informed about any benefits they are eligible for, which can reduce the cost of medication.

Increasing the numbers of medical practitioners with an understanding of, and time to deal with, Aboriginal men's needs

Local medical practitioners should be encouraged to work closely with local Aboriginal health workers, and to develop partnerships with them. In local areas it is essential to increasing the number of health practitioners who understand the needs of local men, and whom local men feel comfortable consulting.

Working in partnership

Partnerships are about working collaboratively in an environment based on respect, trust, and equality. Aboriginal health workers across NSW need to be encouraged to provide the kinds of programs and services that most benefit Aboriginal men in their communities, through partnership between health service delivery and projects of community interest.

Developing an evidence base to improve services

Research is needed to develop an evidence base on which to improve service delivery for Aboriginal men. Issues in need of further research include: how to integrate men's health programs into existing Aboriginal primary health care services; how to increase the participation of Aboriginal and Torres Strait Islander men in the research process; how to better target research that aims to improve Aboriginal men's health; how to improve access to health services for Aboriginal males in urban, rural and remote areas; and what strategies and programs provide the best health outcomes for Aboriginal men. There also needs to be greater encouragement to publish existing research.

men may wait until the onset of a secondary illness before seeking health care;

- considerations of gender (that is, both men's business and women's business) needs to be a part of Aboriginal program and service development, implementation, and evaluation;
- research and the planning of programs and services need to be conducted in collaboration with Aboriginal men to ensure that their health needs are better understood and are relevant to local needs and circumstances;
- there is a growing awareness among Aboriginal men of the difficulties they face; a greater willingness to identify and discuss issues; and a strong desire to take appropriate action to address those issues.

These issues were pursued at the 2nd National Indigenous Male Health Convention, which was held in September 2001 at the Hawkesbury Campus of the University of Western Sydney.

THE ABORIGINAL MEN'S HEALTH IMPLEMENTATION PLAN

Developing strategies to address Aboriginal men's health requires consideration of all of the complex and related issues that contribute to the social, physical and emotional health of Aboriginal men. The *Aboriginal Men's Health Implementation Plan* has been developed by the NSW Department of Health in collaboration with the NSW Aboriginal Health and Medical Research Council, the NSW Department of Aboriginal Affairs, the Corrections Health Service, and Aboriginal communities throughout NSW. The Plan is based on the principles of the NSW Departments of Health men's policy document *Moving Forward in Men's Health*, and is the first of its kind in Australia.

The guiding principles of the Plan are:

- prevention and early intervention;
- focusing on supporting families and enhancing the role and function of Aboriginal men within the family;
- engaging Aboriginal men more effectively in looking after their health and the health of their communities;
- acknowledging and enhancing the considerable resilience that already exists within Aboriginal communities;
- sharing information on existing activities, programs, and services that have made a positive contribution to improving the health and wellbeing of Aboriginal men.

The key focus areas of the Plan are to:

- make health services more accessible and appropriate to Aboriginal men;
- develop supporting environments;
- improve collaboration and coordination of services;
- pursue quality research and information;
- develop and train the health workforce.

The *Aboriginal Men's Health Implementation Plan* will be implemented over the next three years. Regular progress reports will be provided to the NSW Department of Health's Executive, and to the NSW Aboriginal Health Partnership. Table 1 describes the performance indicators that have been developed to ensure effective monitoring and reporting of the Plan by Area Health Services and Aboriginal Controlled Health Services during implementation. Table 2 describes key ways of building capacity in Aboriginal men's health. Table 3 provides a brief background to what we know works in Aboriginal men's health. ☒

**Developing a
strong
primary
health care
system**

HOW CAN PRIMARY CARE INCREASE EQUITY IN HEALTH?

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BACKGROUND

A number of comparative studies have demonstrated an association between the provision of primary care in developed countries and favourable markers of health status.^{1,2} There is also evidence for an association between health-care systems that are organised around a strong primary-care sector and reduced health inequalities.³ Because they reach so much of the population, primary care services such as general practice have an opportunity to address health inequities by improving access to quality care: for example, by providing better anticipatory or preventive care within primary care services themselves, and by outreach into disadvantaged communities. However, to be most effective, these need to be integrated with other multilevel community-based strategies that address the social and economic determinants of health.

ACCESS

Tudor Hart, working as a general practitioner in Wales, first described the ‘inverse care law’ in which those with the greatest need access health services the least.⁴ This applies both to access to primary care services and access to those services that occur subsequent to first contact. In Australia, the evidence for disparities in access to primary care is most apparent in relation to primary, secondary, and tertiary preventive care services. People who are socioeconomically disadvantaged are more likely to need, but are less likely to use, preventive health services such as dentists, immunisation, and cancer screening tests.⁵

For example, single parent and migrant families—and families where the parents are unemployed, on low income, or have low levels of education—are at risk of low levels of age-appropriate immunisation.^{6,7} There is evidence to suggest that women of low socioeconomic status are less likely to have attended health services for a Pap smear, although women living in low socioeconomic areas have a higher incidence of cervical cancer.^{8,9,10} This lack of anticipatory care, leading to more crisis management in health, is most evident for indigenous Australians.^{11,12}

Access to health care services in Australia is mediated by a number of factors:

- geographic availability of services, especially in rural and outer urban areas;¹³

- cost of health care services, especially services to which patients are referred from primary care (for example: allied health, medical specialists, private health care); and cost of treatments (for example, prescribed drugs) including ‘co-payments’ on top of Medicare and the Pharmaceutical Benefits Scheme. An extreme example of restricted access to care is found in the case of asylum seekers who may be without access to primary or hospital care;¹⁴
- waiting times for publicly-funded health services, especially allied health services, outpatient medical specialist services, and elective procedures;
- conscious and unconscious barriers to disadvantaged groups, including cultural and language barriers, which may apply at both the practitioner and the patient level.

One strategy to deal with this disparity in access is to target disadvantaged communities and populations with specific health programs and services. While this may work in the short-term, as commitment wanes it may be more difficult to sustain when compared to ‘mainstream’ programs and services. There is also a potential for stigmatisation. On the other hand, ensuring mainstream services are distributed according to clearly-defined need can assist in ensuring fair access.

QUALITY OF CARE

Disadvantaged groups need not only to access health care services but also for these to be of comparable quality. Subtle and unconscious factors may affect the way in which health care is provided to disadvantaged groups. For example, in primary care we have found differences in the way in which general practitioners (GPs) respond to patients with anxiety or depression—being more likely to prescribe to, and less likely to refer or offer non-pharmacological interventions for, unemployed patients.¹⁵ GPs may spend less time in consultations with socioeconomically disadvantaged patients.^{16,17,18} Other studies have shown socioeconomic differentials in the use of allied health services, waiting times in emergency departments,¹⁹ and referral for investigations such as angiography.²⁰

Systematically addressing the financial, structural, and attitudinal barriers to more equitable quality health care requires more than education for service providers. A key strategy in improving equity and quality of care is, therefore, to carefully examine patterns of service provision. For this to be possible, socioeconomic data needs to be routinely recorded and analysed.²¹ This seems particularly challenging in primary care. While practitioners are often comfortable in being sensitive to gender or ethnicity in their work, being sensitive to social disadvantage appears to have less legitimacy.²²

SPECIFIC INTERVENTIONS IN PRIMARY CARE TO REDUCE HEALTH INEQUALITIES

Strategies that have been shown to be effective in reducing health inequalities include outreaching services, reducing cost and other barriers to access, developing culturally-appropriate services, and increasing access to skills and resources that will enable people to adopt more health-promoting lifestyles.^{23,24} A number of divisions of general practice have developed programs that attempt to improve access for socioeconomically disadvantaged groups, through direct provision of allied health services and raising community awareness of the need to access GPs for preventive care.²⁵ Targeted community-based preventive or outreach programs are effective in reducing behavioural risk factors and improving preventive health care.^{26,27} Outreach programs have achieved improved health outcomes for disadvantaged groups such as homeless people.²⁸ As part of a holistic approach to family support, home visiting has been shown to minimise the risks of child abuse and neglect.²⁹

Approaches to improving the health of disadvantaged communities are most effective when they are tailored to the needs of those communities, involve local communities, and provide services in ways that increase their accessibility.^{30,31} Developing relationships within communities takes time and often needs to start by addressing priority issues identified by the community. These may not be the same issues as identified by local service providers. A study to identify factors that enhanced the capacity of divisions of general practice to develop diabetes programs with indigenous communities found that having a population rather than a patient approach, an active involvement of local community controlled health services or community organisations, and a willingness to move at the pace set by the community, were key features of successful programs.³²

SYSTEMIC CHANGE

Multilevel strategies are more effective than single strategies. In patients with health problems, this includes building systematic approaches to health care within primary care; building linkages between primary care and specialist services; and developing community awareness, health literacy, and self management skills.^{33,34} In the United States, a number of studies have found that, when compared with services that are less well-integrated or specialist-oriented, there is an association between the provision of more 'holistic' and proactive community-based health care services and improved health outcomes at lower cost.^{35,36,37}

Underpinning this, we need a system that is oriented to the needs of populations and communities, and in which the various elements of primary care—especially general practice and community health—work more effectively together and counterbalance pressure from hospitals,

which dominate the health care system in all states and territories. We are a long way from this at present; however, positive developments include:

- establishment of integrative structures at the local level (primary care partnerships in Victoria and primary care networks in NSW);
- various trials and examples of co-location or integrated service delivery between GPs and community health services;
- joint planning and provision of allied health services by some rural divisions of general practice and rural area health services;
- development of some integrated care programs for chronic disease that are focused on the community services rather than on hospital services.

CONCLUSIONS

Primary care can make a major contribution to reducing health inequalities. To do this, it needs to identify and address barriers to access and quality of care for disadvantaged population groups and communities. It also requires systemic change to underpin more specific interventions to provide outreach or targeted preventive services and to build the capacity of individuals and communities.

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MEN'S USE OF GENERAL PRACTITIONER SERVICES

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The use, or rather the non-use, of health services by men is currently one of the main concerns in men's health. The *Health of the People of NSW—Report of the Chief Health Officer, 2000* notes that men access health services (that is, hospital and general practitioner services as well as other providers such as naturopaths and telephone counselling services) at a lower rate than females.¹ It also notes that men use preventive health services at a lower rate than women (although there are fewer preventative and screening services directed at men).¹ Given that men show a higher level of serious morbidity, and have a lower life expectancy in all age groups, this comparatively low usage of services is surprising. Men's use of the major form of primary health care, general practitioners, is estimated to be at least 15 per cent lower than that for women. For example, a recent Australian study shows that men use general practitioner services on 42 per cent of all occasions of service.² This article examines possible explanations that emerge from the literature for this pattern of usage, and describes the findings of a recent study of general practitioners (GPs) undertaken in Sydney.

The literature offers two main types of explanation to account for this lower usage rate of GP services by men, and these explanations are likely to be relevant to considering questions of men's use of other health services. The first focuses on how culture influences individual behaviour. This explanation suggests that our culture conveys different values regarding health to each gender, and that men have not been encouraged to place the same premium on health that women do.^{3,4} For example, a study by Jones of a sample of men in rural Queensland indicated that health only became a priority for men once it is under threat from illness or injury.⁵ These men equated health as 'being able to work'. This relative undervaluing of health by men in Australia can also be seen to be reflected at the level of health policy, planning and provision, in the lack of male-specific services, or services overtly sensitive to the issues and needs of men.

The second type of explanation locates the problem of under-utilisation in the nature, location, accessibility, convenience, and relevance (or 'male friendliness') of the health services themselves. This approach draws on the history of the women's health movement, which highlights the fact that gender-sensitivity by service providers influences both satisfaction with, and degree of use of health services. Alan Wright, a general practitioner in Perth, surveyed men in Western Australia regarding their

perceived barriers to the use of GP services.⁶ His sample indicated that the main reason why men were reluctant to access GP services was the amount of time spent in waiting rooms. Lesser reasons noted in the survey included: negative perceptions of GP knowledge and skills; feeling 'uncomfortable'; cost; time spent and restricted surgery hours. These findings are supported in a further Australian study by Aoun and Johnson.⁷

A study by Woods, Macdonald, and Campbell—which is the subject of this article—was conducted by the Men's Health Information and Research Centre, together with the Hawkesbury Division of General Practice.⁸ It aimed to elucidate possible reasons for the seeming paradox of men's morbidity–mortality levels and the use of GP services. The study focused on both the perceptions of the GP of the main health concerns of men who use their services, and the factors that they believed influenced men's willingness (or not) to use their services.

The study involved lengthy interviews with GPs. The findings regarding men's use of services support a view that incorporates both postulated explanations—that is, the rate of use was believed to be affected by cultural learning in combination with systematic problems of access, location, and nature of service provision. Some findings were that:

- men seem to be using 24-hour medical services in preference to the more traditional general practitioner services. The 24-hour services have the advantage of easy access and rapid service, but may lack the benefits of continuity of care (such as concerns with screening, regular check-ups, awareness of life, context, etc.) provided by traditional general practice;
- patterns of general practitioner usage by men varies depending on age and educational level. Older men and better educated men were more likely to use services; self-employed men tended to avoid general practitioner's until their health problem interfered with work performance; young men, especially those who are unemployed and at greatest risk of psychological problems, rarely access GP services; and men did not tend to use GPs as a means to deal with psychological issues, but focused on physical ailments.

These findings are, with some variations, largely supported by a similar study conducted by Tudiver and Talbot in the United States.⁹ Their study concluded that men's health-seeking behaviour is determined by a combination of:

- systematic barriers (time, access, and non-availability of a male service provider);
- psychological variables (perceived vulnerability, fear, and denial);

- social factors (male learning of social roles that militate against appropriate help-seeking behaviour).

Both the Australian and American studies indicate that effective primary care services for men (and probably preventative services as well) will require two changes in their current arrangements. First, a greater degree of sensitivity to male help-seeking behaviour (location, provider, hours of operation etc) is needed to ensure that males do use services. Second, and a greater challenge, is the need to encourage men and boys to place a higher premium on their health. This cannot be achieved simply by exhorting males to change their social values. We must convey the message to males, and especially boys, that their wellbeing is a matter of broad social concern, and that services are available and responsive to their needs.

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planning and
intersectoral
action**

THE HEALTH OF THE PEOPLE IN AGRICULTURE AND ITS INTERDEPENDENCE WITH THE HEALTH OF RURAL COMMUNITIES

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This article describes the factors that are driving change in Australian agriculture, how they affect the health of the agricultural population and of rural communities as a whole.

BACKGROUND

Australian agriculture comprises a large number of discrete rural industries. While there are some similarities between these industries (such as outdoor work, the use of mobile plant and equipment, and often the structure of a family business), there are many differences between their production processes and enterprise arrangements. For example, the production processes and labour arrangements of a dairy enterprise contrast markedly with those of a cotton or vegetable enterprise.

Further, agriculture industries are in constant change and, while these changes affect the social wellbeing and health of people in those industries, constant change also affects the social and economic position of the wider rural community. A number of factors have been identified as driving change and the restructuring of the agricultural sector in Australia, with flow-on effects on associated rural

communities.¹ These are largely the effects of global changes. As the Australian agricultural sector is primarily supplying overseas markets, farmers tend to be ‘price takers’: that is, they have little capacity to influence the prices that they receive for their products. Because Australia does not provide government subsidy to mitigate the direct economic effect of global market fluctuations, farming enterprises must absorb these effects.

The factors driving change in Australian agriculture are listed in Table 1.^{2,3} The cumulative effect of these factors is an ongoing reduction in the number of farming enterprises across Australia, as demonstrated in Table 2. Production indices in Australian agriculture are shown in Figure 1.⁴

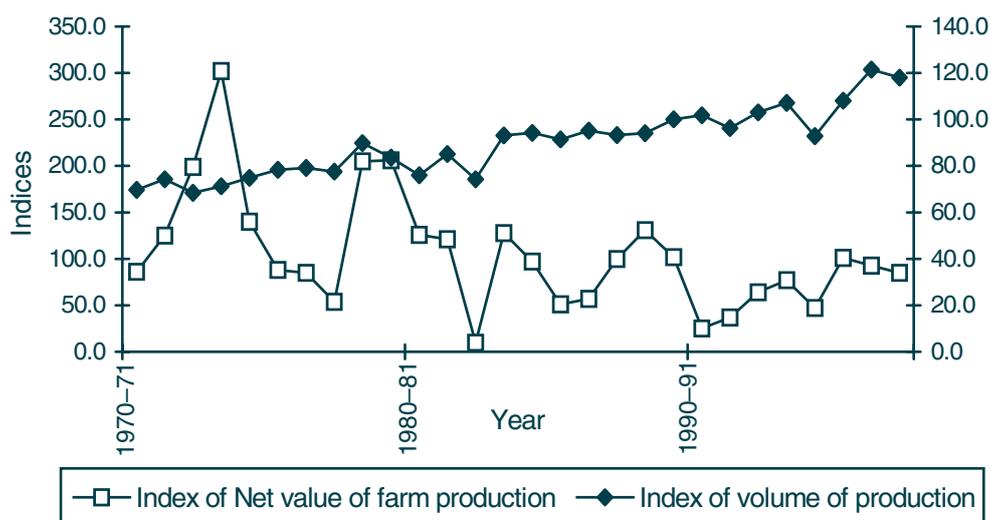
THE HEALTH OF THE FARMING POPULATION

Not surprisingly, the health status of men and women engaged in agriculture—that is, farmers and agricultural workers—is being affected by these pressures, and by a reduction in farm income. The health of the farming population is the subject of several studies at the Australian Centre for Agricultural Health and Safety.

There is early evidence from death data that Australian farmers experience higher death rates than the Australian male population. A paper presented at the National Rural Public Health Conference in 1997 reported that the age standardised death rate for male farmers aged 15–65 in

FIGURE 1

PRODUCTION INDICES IN AUSTRALIAN AGRICULTURE BY FISCAL YEARS, 1970–1998



Data Source: Australian Bureau of Agricultural and Resource Economics, 1998.⁴

the period 1990–1993 was 39 per cent greater than the working age male population.⁵ Table 3 indicates that excessive higher rates of deaths of male farmers are associated with circulatory disease, neoplasms and injury.

Table 4 indicates that death rates are highest in the Northern Territory, New South Wales, Victoria and South Australia. At this stage, similar data is not immediately available for females, due to lack of valid denominator data, nor for agricultural workers. This is the subject of further investigation.

Rates of death due to injury for male farmers and farm managers are excessively high. The National Occupational Health and Safety Commission has undertaken a study of work related deaths for the period 1989 to 1992,⁶ and has made a preliminary report of deaths in the agriculture industry. In the period 1982–1984 there were 19 deaths per 100,000 workers in agriculture, in the period 1989–1992 the rate was 20 deaths per 100,000. These rates for work-related deaths on farms rank among the highest among Australian industries, with deaths from heavy machinery—such as tractors, machinery, aircraft and farm vehicles—being among the leading agents of injury. In addition to these deaths, there are high numbers of bystander deaths and deaths of children on farms: for example, many toddlers die as a result of drowning in farm dams or other bodies of water.⁷

Male farmers die on roads at double the rate of the Australian male population.⁸ A study undertaken by the Australian Centre for Agricultural Health and Safety in association with the Australian Transport Safety Bureau has reported key factors associated with road fatalities in the farming community.⁹ The study examined road traffic deaths of male farm managers and agricultural workers for the years 1988, 1990, 1992, 1994 and 1996. Female death records inadequately defined female farm managers and farm workers and were excluded from the analysis. Characteristics of the crash circumstances included: a majority of single vehicle crashes, mostly within 50 kilometres of home; low seatbelt usage; and between 31 and 46 per cent were associated with high blood alcohol levels. The role that fatigue may have played could not be examined.

TABLE 1

FACTORS DRIVING CHANGE IN AUSTRALIAN AGRICULTURE

Technological advances

- Farm production technology, for example: mechanisation, chemical and biological control of insects.
- Communications, including telephone, computer, internet.

Economic factors affecting the farm business

- The volume of Australian farm production is increasing, but the real value of the Australian farm production has not grown with the growth of production (Figure 1).⁴
- Australian farmers face continual pressure from falling Terms of Trade: that is, increasing input costs and declining product prices.
- While it remains an important contributor to the Australian economy, the overall importance of agriculture to the economy is declining, with the growth of other sectors.
- Changing demands and prices for commodities produced—the 1990s saw major drop in wool prices, marked fluctuation in beef and grain prices.
- Changing demands for quality standards to be met for products.
- Industry policies: for example, dairy deregulation resulting in a sudden drop in milk prices.
- Environmental factors are increasing in importance for sustainability of the farm enterprise.

Social factors affecting the farm family

- Young people leaving the farm for higher education.
- Increasing feelings of loss of control over many factors, including government policies relating to taxation, environment, access to inputs (for example: water, pesticides).
- Lack of services, such as banking, retailing.

Ongoing pressures for restructuring of farm businesses^{2,3}

- Cost-cutting on farm business and personal expenses.
- Diversification of commodities produced.
- Intensification and changes to input level use: for example, fertilisers, more cropping.
- Increasing farm size.
- Changes to marketing methods, transportation, to respond more efficiently to market demands.
- Changes in farm financial arrangements and business organisation.
- Seeking off-farm income for one or both partners.
- Bartering of goods and services with other enterprises.
- In some cases, leaving the farm.

TABLE 2

NUMBERS OF AUSTRALIAN FARMING (AGRICULTURAL ESTABLISHMENTS) UNITS WITH AN ESTIMATED VALUE AGRICULTURAL OUTPUT OF \$5,000

Year	Qld	NSW	Vic	Tas	SA	WA	NT	ACT	Total
No. farms 1986	33,745	51,728	43,931	5,199	18,739	16,004	267	103	169,716
No. farms 1996	31,371	41,578	36,146	4,464	15,562	13,640	221	95	143,211
Number Decrease	2,374	10,150	7,785	735	3,177	2,364	46	8	26,505
Per cent reduction	7.0	19.6	17.7	14.1	17.0	14.8	17.2	7.8	15.6

Source: Australian Bureau of Statistics.¹⁶

TABLE 3**STANDARDISED MORTALITY RATIOS MALE FARMERS–FARM MANAGERS BY FIVE BROAD DISEASE GROUPS 1990–1993 (INDIRECT METHOD)**

Cause of death	Standardised mortality ratio	95% CI L	95% CI U
Circulatory disease	162	151	173
Neoplasms (Cancer)	120	112	128
Respiratory disease	84	65	103
Injuries and poisonings	224	205	243
Other causes	86	74	98
All causes	139	134	144

Source: Fragar et al. 1997 ⁵**TABLE 4****STANDARDISED MORTALITY RATIOS MALE FARMERS–FARM MANAGERS, ALL CAUSES BY STATE, 1990–1993 (INDIRECT METHOD)**

State	Standardised mortality ratio	95% CI L	95% CI U
New South Wales	149	139	159
Victoria	149	138	160
Queensland	118	107	129
South Australia	149	132	166
Western Australia	121	105	137
Tasmania	131	100	162
Northern Territory	158	40	276
Australia	139	134	144

Source: Fragar et al. 1997 ⁵

Deaths through suicide of male farmers and farm workers is also around double that of the Australian male population, and is the subject of a study by Page and Fragar.¹⁰ There is a widespread view among the agricultural population that many suicides of farmers are directly related to the economic circumstances of their farm business, and this relationship is being examined.

The factors associated with the high cardiovascular disease death rates of Australian male farmers and farm managers are also being explored further.

While death rates of farmers associated with lung cancer are lower than for the Australian population as a whole, death rates for cancers of the skin, prostate and rectum are higher.⁸ These findings are consistent with international reports.^{11,12}

People engaged in agricultural production are also exposed to specific environmental health risks associated with their work environment including noise, zoonoses, pesticides and organic dusts.⁸

This brief consideration of the health status of the farming population indicates a relatively poor position for a key population group in rural Australia. It is not unreasonable to suggest an association between the stresses of business and the increasing social isolation being reported by farm families, and the poor health outcomes evident in the data. Increasing loss of control over many factors associated with the farm and business seems to be a common thread that warrants further exploration.

Such a position has been espoused by a number of observers over some time. A paper presented at the United States Surgeon Generals' Conference on Agricultural Safety in 1991 described the changing face of American agriculture,¹³ the physical and psychological symptoms experienced by individuals in response to the stresses of farm financial difficulty, the effects on rural community and the potential effect of the foreshadowed 'destruction of locally regionally self-sufficient food systems in favour of a globalised system'.¹³

THE RURAL COMMUNITY AND THE AGRICULTURAL SECTOR

Socioeconomic changes in agriculture have a significant effect on rural communities:³

- population decline in inland and remote Australia is mainly a result of long term pressures on the agricultural sector;
- employment in primary industries is in decline in inland and remote Australia;
- there has been a significant change in the demography of inland rural communities, with loss of young people to metropolitan centres for education and employment;
- percentage growth in population is closely associated with percentage growth in employment;
- most growth is in coastal regions of Australia;
- mining is now nearly as important to employment as agriculture in 'remote' Australia.

The mutual dependence of rural townships and farms has been demonstrated in inland centres, with farmers and their families responsible for a substantial proportion of wholesale and retail turnover in north-west NSW, as well as towns providing the source of off-farm income.¹⁴

McKenzie investigated the effect of declining rural infrastructure on farming enterprises in the central wheat belt of Western Australia.⁴ Faced with withdrawal of services from the local community, the question posed was whether these changes affect the efficiency of farm enterprises. The following effects on farm enterprises were reported:

- unreliability of services was unacceptable;
- lack of choice of service providers was unacceptable;
- while health services were generally considered adequate if not further pared, mental health was a

recurring theme. Suicide was viewed as a real threat. Many participants indicated that mental health encompassed unresolved family issues and that sustained stress was having a direct effect on economic viability of the farm for some enterprises;

- access to education was reported as the major infrastructure issue that mobilises families. If adequate educational facilities are not accessible, either the child will be sent away to school, or the family will relocate;
- youth drain from communities is seen to indicate loss of community ‘vibrancy and optimism’;
- housing shortages pose difficulties in recruiting casual labour;
- farm people recognise the need to support and participate in local community activities, creating further pressure on time away from farm and domestic duties.

Thus a vicious cycle has been established in many inland rural communities, whereby farming enterprises are forced to purchase lower cost inputs from outside the local community, and forced to reduce labour input, causing restructuring and downsizing of smaller inland rural communities, thereby further disadvantaging farming enterprises.

SOCIAL AND ECONOMIC POLICY FOR IMPROVED RURAL HEALTH

National health strategies for disease prevention in Australia have increasingly recognised the importance of attention to rural populations and Aboriginal and Torres Strait Islander health. Further, there is a similar and admirable tendency for inclusion of community ‘capacity building’ and community development approaches in such strategies. For example, while the National Environmental Health Strategy has a key focus on the physical environment,¹⁵ it requires community participation for its implementation; and it describes strategies for community participation to achieve sustainability, for example:

- a health promotion approach;
- development of infrastructure that enables community participation;
- provision of information and development of appropriate skills.

CONCLUSION

While recognising the importance of active community participation and capacity building in rural health policy, and the imperative for maintaining adequate health services delivery to rural populations, it is suggested that such strategies will fail to deliver reduced differentials in health status between rural and urban Australians unless active attention is given to sustaining the economic and employment base of rural communities. Rural health policy

in Australia needs to be accompanied by a comprehensive policy for improved social and economic wellbeing. This requires an engagement between industry, resource allocation, business development, education and training; and it necessitates a dialogue between those who make public health policy and those who make social and economic policy.

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BUILDING CAPACITY FOR PROMOTION, PREVENTION AND EARLY INTERVENTION IN MENTAL HEALTH

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Building the capacity for promotion, prevention and early intervention in mental health—to contribute to reducing the burden associated with mental health problems—requires a number of approaches. This article discusses three specific areas: establishing the policy context; building the capacity of the community to promote their own mental health; and enhancing the capacity of the workforce for promotion, prevention and early intervention in mental health. Collaboration is a key theme across all of these areas. Other approaches that build the capacity to promote mental health—such as building the capacity for research (including intervention research), allocation of resources and leadership—are referred to.

The burden of mental health problems is large and increasing. It has been predicted that depression will be one of the greatest health problems world-wide by the year 2020.¹ These findings were replicated in a 1999 Australian study.² Further, it is becoming clear that the burden associated with mental health problems and disorders will not be significantly reduced by treatment alone. To achieve this an increased emphasis is required on building capacity within the community to promote and sustain their own mental health; as well as on interventions earlier in the course of mental health problems. The effectiveness of initiatives to promote mental health; and the prevention of, and early intervention in, mental health problems, is strongly supported by evidence.^{3–9}

ORGANISATIONAL CAPACITY TO PROMOTE MENTAL HEALTH

A favourable policy context is critical to ensure that promotion, prevention and early intervention initiatives in mental health are supported and sustained. The policy context provides leadership; a framework for activity; facilitates the incorporation of initiatives to promote mental health into the core business of a service; and can influence resource allocation.

In Australia, including NSW, the current policy context for promoting mental health and preventing the development of mental health problems and disorders is well established, and provides a clear mandate and priorities for action. The Second National Mental Health Strategy has identified promotion, prevention and early intervention in mental health as one of three key priorities.¹⁰ Under this auspice the Mental Health Promotion and Prevention National Action Plan provides

a framework for building capacity and implementing initiatives across the Australian population and, within this, specific population groups.¹¹ These same directions are reflected in strategies in NSW for achieving mental health.^{12–18}

BUILDING CAPACITY IN THE WORKFORCE

Enhancing the capacity of the workforce to implement promotion, prevention and early intervention is also essential. The workforce is spread across: health, including mental health, community health, youth health, hospital services among others; other sectors, including education, community, housing, police and social services; and non-government and community organisations.

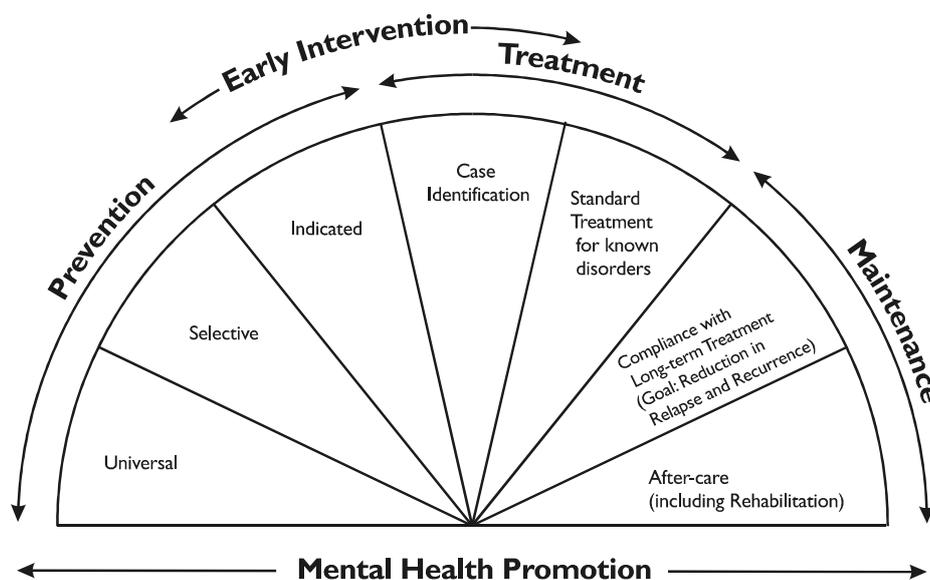
Enhancing the capacity of the workforce includes a wide range of activities from raising awareness through to supporting and sustaining new skills and initiatives that are incorporated as part of routine service delivery. The revised Mrazek and Haggerty framework outlined in the National Action Plan has been important in disseminating the concepts of promotion, prevention and early intervention in the mental health context (Figure 2). Disseminating information on evidence-based programs and their key components (through forums, seminars and resource documents) is an important part of enhancing the capacity of the workforce.^{19,20} The learning of new skills needs to be reinforced through supervision and support. Systems and processes need to be established within and across services that ensure that the range of approaches that promote mental health are supported and sustained. Shifting attitudes to support promotion, prevention and early intervention in mental health, and incorporating such initiatives as part of routine service delivery, are challenges to be addressed. Ensuring an optimal mix of promotion, prevention (universal, selective and indicated), early intervention (indicated and case identification) and treatment initiatives, is also important.²¹ The following are two examples of initiatives that have set out to achieve the above aims.

The Mother Infant Network

The Mother Infant Network (MINET) in South Western Sydney is a comprehensive program, developed over nine years, with the aim of improving the mental health of new mothers and their infants in disadvantaged areas. Key components of this initiative include: definition of roles and responsibilities of service providers; description of pathways to care; development of a psycho-social screening tool with linked information system; and provision of training, clinical supervision and support to early childhood nurses learning new screening and counselling skills.²² Components of the MINET program will be disseminated to other Areas across NSW over the next five years.

FIGURE 1

THE MENTAL HEALTH INTERVENTION SPECTRUM FOR MENTAL DISORDERS



Modified from Mrazek and Haggerty p.23.⁴

DEFINITIONS OF TERMS

Mental health promotion

'Action to maximise mental health and well-being among populations and individuals'.¹¹

Prevention

'Interventions that occur before the initial onset of a disorder'.⁴

Universal prevention interventions

Interventions that are targeted to the general population or a whole population group that has not been identified on the basis of individual risk. Examples include prenatal care for all new mothers and their babies and immunisation for all children of specific ages.⁴

Selective prevention interventions

Interventions that are targeted to a sub-group of the population or individuals whose risk of developing mental disorders is significantly higher than average. The risk may be imminent or lifetime in nature. Further risk groups can be identified on the basis of biological, psychological or social risk

factors known to be associated with the disorder. Examples include: home visiting and infant day care for low birth weight children, or pre-school based programs for children from disadvantaged neighbourhoods.⁴

Indicated prevention interventions

Interventions that are targeted to high risk individuals who are identified as having minimal (but detectable) signs and symptoms foreshadowing mental disorder, or biological markers indicating predisposition for mental disorder, but who do not meet diagnostic levels at that time. Examples include parent-child interaction training programs for children with behavioural problems and their parents.⁴

Early intervention

'Interventions targeting people displaying the prodromal signs and symptoms of an illness...[that] also encompasses the early identification of people suffering from a disorder'.¹¹

The Southern Area First Episode

The Southern Area First Episode (SAFE) program is establishing a comprehensive early intervention program for young people experiencing a first episode of psychosis. Raising awareness—and defining the roles of service providers including child, adolescent and adult mental health workers, general practitioners, and school counsellors—were important first steps. Ongoing knowledge and skill acquisition and the provision of clinical supervision by video conferencing with experts from across NSW are also critical.²³ The SAFE program provides a useful model for other rural Areas considering the introduction of programs to tackle early psychosis.

BUILDING CAPACITY IN THE COMMUNITY

Increasing the capacity of the community to promote and sustain their own mental health is of pivotal importance. Promoting connectedness (in families, schools and communities), and promoting resilience in individuals, can provide a buffer to the development of mental health problems and disorders.²⁴ *Mind Matters* is one example of a school-based program that aims to promote mental health among the school community.²⁵ Enhancing mental health literacy within the community is also important to ensure increased recognition of mental health problems and disorders; and referral to appropriate treatment at the earliest stages.²⁶ Another example is *Dumping Depression*,

an initiative of the Central Coast Area Health Service, which aims to raise awareness of depression and available services among young people.²⁷

Other factors can also affect a community's capacity to promote mental health. These include: the availability of housing, child care and welfare benefits; equitable access to, and availability of, other services; and levels of community discrimination and violence. Community development that empowers community members to have the capacity to define issues and develop solutions, as well as advocate for their adoption, also contributes to improving a community's capacity to promote its mental health. Addressing these factors will effect the connectedness and resilience of individuals. The NSW Rural and Regional Youth Suicide Prevention Program 1997–2000 is an example of an initiative that has promoted community development in rural communities across NSW.²⁸

CONCLUSION

Building capacity to promote mental health and prevent and intervene early in illness is required to reduce the burden associated with mental health problems and disorders. This article has discussed three specific areas of activity necessary to achieve these aims: establishing the policy context; building capacity within the community to promote their own mental health; building the capacity of the workforce to promote mental health and early intervention and prevention in mental health problems and disorders.

Some other areas of activity that are necessary include: building the capacity for research, particularly intervention research; resource allocation; and leadership. *How to apply capacity building to health promotion action: A framework for the development of strategies* provides a framework for considering a range of issues to build capacity to promote mental health and prevent the development of mental health problems.²⁹ The document *Mental Health Promotion in NSW: Conceptual Framework for developing initiatives* outlines a process to assist in developing these initiatives.³⁰

Collaboration is a key theme that links all of these activities across health sectors, across government and non-government agencies, and across communities.

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**Organisational
development:
Building our
capacity to
act**

BUILDING CAPACITY IN RURAL HEALTH

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Capacity building to increase health gains in defined populations is not a new concept. Nevertheless, as interpreted by Penny Hawe and her colleagues,¹ and as developed operationally by the NSW Department of Health,^{2,3} enhancing regional capacity to deal more effectively with the health needs and demands of people living in rural and remote Australia offers real promise as a useful approach for improvement. Essentially, capacity building in public health involves:

- delivering high quality services;
- responses to specified situations or problems;
- developing the regional system to solve new problems and respond to unfamiliar circumstances.

This article describes what effective and sustainable infrastructure is needed to achieve this capacity, with an emphasis on recent initiatives in the education and vocational training of rural health professionals.

THE HEALTH NEEDS OF RURAL AUSTRALIANS

Rural health has been on the political agenda for some time now.⁴ The poorer health status of rural residents has been well documented; and in particular, that of Aboriginal and Torres Strait Islander peoples.⁵

Around 30 per cent of the Australian population lives outside the metropolitan centres in communities that are geographically distinct and dispersed, ranging from major regional centres, country towns, to small isolated settlements and pastoral stations. The prominence of regional centres in economic and infrastructure terms is somewhat offset by the fact that most (>85 per cent) rural and remote communities are small in size with populations ranging between 200–5,000. Access to health services in these smaller communities is often limited, and is further compounded by difficulties associated with the recruitment and retention of health practitioners.⁶

The context of rural practice, and the capacity to develop services within a specific rural or remote region, is influenced by historical and local circumstances. Nonetheless, the size and location of a rural or remote community are the main determinants of the range of resident health professionals and services being delivered locally. Population can be viewed as a proxy for availability of services, such as health and education, where government has a role in provision, funding or

planning.⁷ Also, proximity to, or remoteness from, other larger centres influences the accessibility of other services.

The majority of Australians have access to well-resourced urban centres where effective primary health care tends to be taken for granted and the emphasis is on secondary and tertiary levels of service. By contrast, the focus in rural areas is for meeting basic health needs and demands, and for constructing an adequate provision of primary health care supported by transferral arrangements to centres with higher level services. The extent of the challenge for capacity building in remote Aboriginal communities can be illustrated by what several experienced health professionals in remote areas regard as a set of core activities that are required for the delivery of comprehensive primary health care services:⁸

- 24-hour emergency care;
- immunisation;
- a specific program for child health;
- antenatal care;
- a prevention and control program for sexually transmissible and HIV infections;
- referral and evaluation system;
- chronic disease surveillance and treatment;
- health worker training and support programs;
- systematic approaches to staff recruitment, orientation, support and career development;
- data collection on population, interventions and outcomes;
- evaluation of activities;
- targeted and evaluated programs to manage, reduce and prevent substance abuse.

Another set of core environmental health activities has been recommended for maintaining healthy living conditions in remote communities. It all amounts to a huge task for relatively sparse workforces operating across wide areas and consisting of medical clinicians, nurses and Aboriginal health workers; with support from public health and allied health workers, social workers and community mental health workers.

This is where the operational specifics of capacity building become so important, starting with the definition of precise program goals and objectives that constitute the basis for agreed-upon protocols for clinical care and public health system management. Then follows the creation of essential linkages, networks, multiskilling of health workers and other process requirements for focused primary health care delivery that makes optimal use of available resources. Competent and professional management is, of course, essential for program development, implementation and service delivery.

Until recently, the lack of accessible and relevant education and vocational training had long been a major concern for health professionals considering taking up rural practice, and for those already in rural practice. During the 1990s, improved regional access to education and training was established through a network of Rural Health Training Units.⁹ These initial units operated on discipline-specific lines with a strong emphasis on training rural general practitioners. Subsequent units were required to provide multi-disciplinary training under a single management structure. Some units took a further step by forming inter-disciplinary teams to provide education to different professional groups using an integrated educational curriculum.¹⁰

The location of rural health training units in major regional centres in all states and the Northern Territory still left a number of rural and remote regions without easy access to the new educational infrastructure formed as part of this initiative. The establishment of a training unit at Broken Hill in 1995, and the subsequent unveiling of a Commonwealth government funded program to develop a network of academic Departments of Rural Health and Rural Clinical Schools represented the next phase of building educational capacity in both rural and remote areas.

For the first time both rural and remote regional centres were being targeted for development.¹¹ These academic units were to be responsible for ensuring that health professionals in defined regions, including those residing in the smaller settlements, have access to the new educational and support services. These services include

- library and health information facilities;
- traditional academic teaching at the undergraduate and postgraduate level;
- support for vocational education and ongoing professional development.

The latter role will link with the existing educational service providers to facilitate the integration of educational effort from undergraduate to vocational training and ongoing professional development.

Advances with information technology have obvious implications for capacity building especially with the development of new linkages and networked activities. Sustained utilisation depends, however, on the capabilities of rural and remote telecommunications infrastructure, and on the willingness of governments to maintain effective systems of information technology.

Another prospect for the new rural academic units is to provide on-site bases for research, particularly on the specific health needs of rural communities and the effectiveness of interventions and the resources in the different regions. Introduction of rural research capabilities will facilitate an important aspect of rural health capacity

building, which is to identify such matters as how best to sustain an effective interventional program or to measure the result of efforts to engage a community's willingness to participate in a health improvement strategy.

The capacity of the rural sector is being enhanced through these educational initiatives. It reflects on a general point that where significant gaps exist in education or professional services and support, investment may be required to create new facilities, services and relationships that provide support to rural practitioners. Thus, university departments of rural health—as new infrastructure—fill a gap by attracting experienced academics to work in the bush, and through those institutions provide educational opportunities and support to rural practitioners that were not previously available.

The capacity for rural health is increased when effective collaboration occurs among individuals and organisations to provide new or enhanced services. In fact, progress with capacity building in rural health will depend on encouraging a strong level of participation among rural health workers to look beyond the limits of their established activities and to engage in constructive discussion on improving capacity. In rural areas this has the potential to combine local expertise and networks to achieve greater capacity, self-reliance and sustainability of effort. Both commonwealth and state government incentives and funding have been successful in forging collaborative ventures in local communities (for example: multipurpose services such as is planned for communities like Collarenebri, Lightning Ridge, Brewarrina, and Wilcannia in far western NSW) and at the regional level, as indicated by the recent move to establish regional models of general practice training.

In the broader context, greater regional capacity—and collaboration among rural practitioners and organisations—will enable the rural areas to become more effective in defining and then negotiating the support they require from outside the region. These links are now resulting in strategic alliances between some rural and metropolitan based health services to provide specialist outreach and referral services (such as the eye program in Bourke between the Far West Area Health Service and the Prince of Wales Hospital in Sydney). Regional units of major institutions such as university departments of rural health are also joining with their academic colleagues on main campus to establish new educational courses for rural practitioners. For those providing services and support from a non-rural setting, there is the opportunity to develop a greater awareness, understanding, and regard for the work of rural practitioners.

The three pillars of the public health system are:

- service delivery;
- teaching;
- research.

In rural areas the capacity to carry out all three of these functions has been limited due to inadequate regional infrastructure and human resources. While it is too early to determine what will be achieved with the most recent investment in rural education and training, when considered alongside other investments aimed at building capacity in service delivery and research, it should be the cause for greater optimism about the future of rural health.

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CURRENT THINKING AND ISSUES IN THE DEVELOPMENT OF HEALTH IMPACT ASSESSMENT IN AUSTRALIA

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Health Impact Assessment (HIA) offers a prospective method of:

- ensuring that government health policies improve the position of disadvantaged people;
- assessing the differential impact of health policies across the whole population;
- identifying potential impacts of health policies on specific groups within a population.

Despite there being no agreement on the significance of this process—and the process still needs to be evaluated—HIA is being extensively trialled in many other countries as a way of informing the policy-making processes of government. This article describes some of the discussion around these three applications of HIA. It draws on the findings of a recently-completed study for the Commonwealth Department of Health and Ageing on the potential application of HIA to population health and to the reduction of health inequalities in Australia.¹

THE AUSTRALIAN HIA STUDY

The Australian HIA study sought to understand HIA as a tool for the development of health policy—its strengths and weaknesses, obstacles and limitations, the lessons learned from overseas, appropriate applications, and the training and capacity building needs of health professionals. It involved extensive overseas consultations with key informants working with HIA, a review of the literature, an appraisal of the institutionalisation of HIA in selected countries, and a consultation process within Australia.

THE 'WHY', 'WHO', 'WHEN', 'WHAT', AND 'HOW' OF HIA

HIA has its origins in Environmental Impact Assessment (EIA), which has been used to varying degrees of effectiveness around the world to determine the effects of developments on the environment and specifically on the health of people. In recent years there has been considerable international interest in the specialist application of HIA to policies and programs as they affect health. This application is more akin to Strategic Environment Assessment, which is the policy arm of EIA. Given Australia's extensive history of HIA within EIA processes,² it is important to consider this new application of HIA as a means of increasing population health gains through more evidence-based public health policies.

Impetus can be linked to a number of initiatives including: the WHO European Centre for Health Policy, especially the Gothenburg Consensus Document on HIA;³ the European Union commitment to monitoring the impacts of integration and the effects of policies on population health; commitment to HIA through policy initiatives in each of the individual countries of the United Kingdom; activities in the Republic of Ireland, New Zealand, and some provinces of Canada; and, the ongoing commitment to HIA in Scandinavian countries and the Netherlands.

HIA is defined as 'a combination of procedures, methods, and tools by which a policy, program, or project may be assessed and judged for its potential, and often unanticipated, effects on the health of the population, and the distribution of those effects within the population'.^{3,4} It builds on the notion that a community's health is not only determined by its health services but is also governed by a range of economic, social, psychological, and environmental influences. Health impacts refer to both positive and negative changes that occur to individual and community health, which are attributable to a development or policy. HIA can provide knowledge about the potential impact of a policy or program, inform decision-makers and affected people, and facilitate adjustment of the policy or program in order to mitigate the negative and maximize the positive impacts.³ The term 'policy' is very broad; it can exist at a range of levels and in a range of settings both inside and outside government. 'Policy' also includes actions (such as service plans and advice),⁵ and is often described using alternative titles such as 'strategy', 'plan', 'program', or 'project'.

HIA is underpinned by the desire to create a more inclusive and evidence-based approach to the formation of public health policy. Conventionally, policy-makers draw on policy analysis and evaluation to determine whether policies are meeting their objectives. HIA complements this process by applying tools that provide information on the unintended consequences and side effects of a policy on health, before and after a policy's implementation. Additionally, the application of HIA to the policies of other related sectors such as transport, housing, education, or immigration, provide a mechanism to legitimise health outcomes as important goals for governments alongside other social and economic outcomes.

Macintyre acknowledges that most of the major drivers of population health and of the distribution of health lie outside formal national health services and health structures. When describing the United Kingdom, she states: 'Health ministers have acknowledged the importance of air pollution, unemployment, crime and

disorder, poor housing, poverty, limited educational achievement, the general environment, and other forms of social exclusion. These influences on health are only rarely under the control of the doctors, nurses, or managers who are described as being the key architects in drawing up the plan for a new National Health Service'.⁶

Policy directly affects people's lives; it is a value-driven activity. These values include the desire for democracy, equity, sustainable development, and ethical use of evidence.³ In addition, the goal of HIA is to add value to the decision-making process so the procedures used must display how HIA will lead to better decisions than would otherwise have been made. HIA may add value through, for instance, quantifying the magnitude of effects, clarifying the nature of trade-offs, increasing transparency of decision-making, and changing organisational culture towards health across government.⁷

Process is crucial to outcome in HIA,^{7,11} so aspects such as rigour, inclusivity, thoroughness, and predictive accuracy, are essential features. Another perceived benefit of HIA is through the opportunities it creates to build alliances both across sectors of government and with the community. Consequently, HIA can be used to improve the quality and openness of public policy decision-making.⁸

The review of overseas case studies shows two main types of HIA being used:

- full or comprehensive HIAs;
- rapid appraisals of health impacts.

Full HIAs are based on traditional impact assessment methods including screening, scoping, impact appraisal, decision-making, monitoring, and evaluation. Rapid appraisal uses an audit or checklist method of determining impacts such as an equity audit, or an inequalities impact assessment. Generally, but not exclusively, rapid appraisals are based on expert consultation and are commonly used in situations where evidence is available but has not been applied to a specific context or proposal for action.

WHAT IS HEALTH INEQUALITIES IMPACT ASSESSMENT (HIIA)?

For HIA to help tackle health inequalities, it is essential that the different impacts borne by different groups are made explicit. Recommendations can then be made that seek to reduce any health inequalities. Acheson, in the *Independent inquiry into inequalities in health* (1998), recommended the application of specialist Health Inequality Impact Assessment (HIIA).⁹ He argued that specific attention is required within HIA to inequalities, citing immunisation and cervical screening as two policies that have widened inequalities.¹⁰ A well-intended policy that improves average health in a population may have no effect on inequalities; therefore, HIIA is a specific

application of HIA. It seeks to make explicit not only the ways that a proposal will affect health but also the ways in which groups in the population will bear these health impacts.

Scott-Samuel defines HIIA as a decision-making tool that can be used for 'the estimation of the effects of a specified action on the health of a defined population'.¹¹ However, many practitioners argue on the relative merits of two different approaches: should HIA always include an assessment of the impact on inequalities, or should two discrete types of impact assessment be retained—HIA and HIIA? Additionally, regardless of the answer to this question, should an assessment of the impact on inequalities focus on the most disadvantaged groups or should it look at all groups? Essentially this second question focuses on whether the policy has an effect only on the most disadvantaged group(s) or on inequalities in the whole population.

At the *Equity and HIA Conference* in 2000,¹² participants concluded that all HIAs (and the methods and procedures adopted within each such as screening, community profiling, and consultation processes) should focus on health inequalities, explicitly considering both impacts on disadvantaged groups and the distribution of impacts across the population. The advantages were seen to be: that there would be an increased awareness of inequalities in health and of their causes; that an improvement in decision-making that sought to prevent inequalities would occur; and that decision-making would be more transparent and accountable. However, there is still no widespread agreement on which is the best option.

IMPORTANT LESSONS

There is potential within HIA that the process itself might inadvertently compound health problems. As the appraisal process involves identification and characterisation of impacts on specific population groups, it is possible that trade-offs will occur when impacts are mapped and weighted. This may compound existing health problems—there may be trade offs between improving average health, improving the health of the most disadvantaged people, and reducing inequalities in health.¹³

Barnes, who has worked extensively on the application of HIA to regeneration programs in the UK, states that issues about equity and inequalities are similar, whatever the level of HIA.¹⁴ She identifies three important considerations arising from her work. First, disadvantage does not equal inequality and there are inequalities and inequities within other social groups rather than just in the most disadvantaged. In defining the scope of the HIA it is important to consider the question: inequalities between whom?¹⁴ Second, despite the focus of the HIA in a disadvantaged area being on inequalities, and despite

equity being a core value of HIA, the HIA undertaken may not explicitly focus on equity. Third, in an HIA focused on a disadvantaged area, it is important to understand whether the focus is on the impacts of a proposal on the current population of the area or on the area itself and its future residents. Unless this is clear, the HIA can potentially compound inequalities by making recommendations to introduce schemes that result in residents moving away. This compounds the disadvantage in the area or drives residents away because of the increasing cost of living that is a direct consequence of the development. The result is that the disadvantage is simply moved elsewhere.

HIA itself can assist in addressing inequalities through community participation. If HIA is truly participatory—allowing people who have little opportunity to express their views—then self-esteem can be raised. Social exclusion infers exclusion from power structures; HIA and HIIA can reduce this. Finally, transparency of the process is essential if the community is to believe that they have an active and long-term role in the development of policies that affect their health and wellbeing.

CONCLUSION

With the increased understanding of the influence of ‘upstream factors’, such as social or fiscal policies, on population health and inequalities in health outcomes, Australia needs to be actively engaged in processes that will change these factors. HIA is one of the many important mechanisms available to policy-makers and will enable Australia to be part of an international development about the factors that impact on population health. There is indeed considerable scope for this to occur; it is heartening to see incorporation of HIA in the NSW Health and Equity Statement.

USEFUL WEB SITES

- European Centre for Health Policy at www.who.dk/eprise/main/WHO/Progs/HPA/Home;
- International Health Impact Assessment Consortium (IMPACT) at www.ihia.org.uk/links.html;
- London’s Health at www.londonhealth.gov.uk; Netherlands School of Public Health, Health Impact Assessment Database at www.hiadatabase.net;
- Deakin University HIA at www.hbs.deakin.edu.au/HealthSci/Research/HIA.

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**Resource for
long term
change in
health and
equity**

THE NSW HEALTH RESOURCE DISTRIBUTION FORMULA AND HEALTH INEQUALITIES

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This paper briefly describes the RDF and discusses the role the formula might play in reducing health inequalities and responding to the inequitable distribution of health needs across the NSW population.

BACKGROUND

A key feature of the NSW health system is its 17 geographically-based area health services (AHSs). Funding to the AHSs by the NSW Department of Health has been guided by the objective of providing the AHSs with a share of resources that allows the achievement of comparable access to health services, assuming the achievement of reasonable levels of efficiency.¹ The mechanism for achieving this objective is the Resource Distribution Formula (RDF). Since the late 1980s, the formula has been used to guide the allocation of funding to the AHSs and to monitor progress towards the achievement of geographical equity in health funding across NSW.

The RDF reflects a strong commitment to the idea that population-based funding should be directed to communities in accordance with their health needs, thus addressing one potential contributor to health inequalities: inequitable access to health services. It has been suggested that a population needs-based funding approach would also address equity at a national level, through better integration and targeting of various funding streams based on need.²

DESCRIPTION OF THE RESOURCE DISTRIBUTION FORMULA

The RDF is constructed using two sets of measures: measures that attempt to measure the relative need of populations within the AHSs, and measures that attempt to address legitimate differences in service delivery costs between the AHSs. These measures are considered in relation to each of the major programs of the NSW health system.

The starting point for need-measures is typically the population of each area, both current estimates and future projections. Consideration is then given to the influence of the age and sex composition on the need for services. Finally, attention is paid to other factors that are demonstrated to influence the need for services. In this context, the NSW Department of Health has developed, in collaboration with the Health Services Research Group at the University of Newcastle, a 'health needs index' for non-tertiary and non-obstetrics services. The development of this index parallels research sponsored by the English National Health Service for the development of indices of need for use in their funding arrangements.^{3,4,5}

TABLE 1
NSW HEALTH NEEDS INDEX BY AREA HEALTH SERVICE⁶

Health Area	SMR (90-92)	EDOCC (1991)	Rurality Index	Need Index
Northern Sydney	75.1	112.9	16.6	82.5
South Eastern Sydney	97.0	105.8	16.7	93.9
Wentworth	98.3	101.5	15.1	97.7
Western Sydney	103.3	100.0	16.1	99.4
Illawarra	98.8	96.5	14.6	100.2
South West Sydney	101.2	95.3	15.3	101.1
Central Coast	102.1	95.8	13.6	102.9
Central Sydney	115.4	102.1	17.0	102.9
Hunter	104.2	95.6	14.3	103.2
Northern Rivers	92.6	93.6	10.1	103.7
Mid North Coast	98.7	92.7	10.6	105.5
Southern	104.1	97.4	8.9	107.5
Greater Murray	106.1	96.4	8.8	108.6
Mid Western	111.1	95.9	8.6	110.8
New England	115.0	95.7	7.6	113.5
Macquarie	119.1	94.4	8.2	115.3
Far West*	147.1	89.8	1.6	167.7

* An additional loading was applied to Far West Area Health Service to recognise its unique circumstances

The version of the NSW health needs index currently in use was developed in 1994, and it takes into account the influence of three factors: premature mortality (Standardised Mortality Ratio less than 65 years), socioeconomic status or EDOCC (Australian Bureau of Statistics SEIFA Index of Education–Occupation), and a rurality index (Table 1).⁶ The health needs index is currently under review, using data from later periods. Analysis for this review demonstrates that an additional factor should be introduced to the index: the percentage of the population that identifies as indigenous.

In 1996, additional factors were introduced to the overall RDF for the funding programs covering non-inpatient services to reflect the additional needs of the indigenous people and homeless people. The rationale for introducing these factors was to provide some capacity for strategies that targeted the poor health status of these groups.

Major cost factors that are taken into account include: the extent to which private sector services meet the local population's needs; the additional costs of delivering services to dispersed rural or remote populations; the cost of interpreter services for non-English speakers; the impact of the role that principal referral hospitals play in terms of managing more severely-ill patients; teaching and research; and the effect of certain statewide services. The RDF also adjusts for the flows of patients between AHSs.

The output of the formula is a target share of resources for each AHS. Based on population projections, target shares can be developed for future years, and these targets have been used to guide the allocation of new funds across AHSs.

PROGRESS IN ACHIEVING EQUITY IN RESOURCE DISTRIBUTION

Various reports in NSW from the late 1980s noted the '...unacceptable disparities in the allocation of health resources in New South Wales',⁷ largely arising from the unresponsiveness of historical funding to changing population trends and health needs.^{8,9} Similar findings had been found earlier in the United Kingdom, when in 1974 a deliberate strategy was adopted to reduce disparities '...in terms of the opportunity for access to health care of people at equal risk'. This strategy influenced thinking in NSW to consider similar issues.¹⁰

Since the adoption of the RDF approach in the late 1980s, considerable progress has been made in reducing the disparities in funding across NSW. In 1989–90, approximately 16.4 per cent of the health budget needed to be reallocated to achieve equity in funding.⁸ By 1994–95, this figure was reduced to 9.6 per cent, and by 1998–99 it was 4.4 per cent.¹ With three-year growth funding announced by the NSW Minister for Health in 2000, further progress is being made towards fairer funding for

the AHSs that will further reduce these disparities. While all AHSs have received growth in funding, a greater share is being directed towards historically under-funded population growth AHSs such as those in greater western Sydney, the Central Coast, and the North Coast of NSW. The aim is to bring relatively under-funded AHSs to within two per cent of their RDF target share of resources.

THE RDF'S ROLE IN REDUCING HEALTH INEQUALITIES

It should be acknowledged that achieving equity in access to health services will not necessarily address the underlying causes of health inequalities. There may be some indirect effects. For example an equitable distribution of government-funded services tends to ameliorate broader inequalities in the distribution of income and wealth.¹¹ Further, the health sector can play an important role in addressing geographical inequities in the distribution of employment opportunities, which is also an important influence on income and wealth distribution.

Achieving equity of access shapes the response of the health system to health inequalities as evidenced by variations in need across the population. In this respect, the RDF plays several important roles. First, equitable access may be required to ensure that once the illnesses associated with health inequalities emerge, disadvantaged populations have comparable access to effective services.

A second mechanism is through minimising the number of patients travelling long distances for routine hospital services which should be provided locally. The RDF helps achieve this by guiding a greater share of resources to develop new services in the AHSs that have historically been relatively under-served or have experienced rapid population growth.

In parallel with the RDF, the NSW Department of Health is implementing a system of budget holding, which will provide incentives and capacity for the AHSs to identify historical patient flows to hospitals that could be reversed through the build up of local services. While many patients travel out of an AHS for treatment for legitimate reasons—such as proximity of services to AHS boundaries, or for specialist services that are only available in a few locations—a proportion of patient flows reflects historical referral patterns to established services that are a significant distance from the patient's home.

An important question is whether the RDF's objectives ought to be expanded beyond equity of access. This issue was at the centre of debates in 1996 over whether additional weightings should be introduced for indigenous and homeless people. These changes were justified on the basis of the need to target resources at groups with significantly poorer health status. In effect, this is a subtle shift from the objective of achieving *equity*

in access towards the objective of achieving more *equitable health outcomes* for these groups. A serious argument, currently under consideration, is whether the formula should be enhanced to ensure resources for health programs targeted at intervening in the processes that lead to health inequalities are appropriately distributed across AHSs, in order to reflect the underlying target groups for these programs. This development may only make marginal change to the target share for each AHS, but it may embrace a more important message.

LIMITATIONS

It is important to be clear that the RDF is only one policy lever for addressing the equity issue, and by itself is an insufficient mechanism. While the RDF aims to create the broad resource capacity for equity to be achieved within the health system, an essential ingredient in delivering on equity objectives is action at the local level within AHSs. These actions may be shaped by state-level policies, but ultimately local-level strategies for addressing unmet need, and targeting of populations with relative health disadvantages, are what matter. In this context, tools for local-level decision making and resource allocation are very important.

The RDF is deliberately neutral on the issue of efficiency, and achievement of equity objectives might be frustrated by inefficient services. Other policy mechanisms are used in NSW to deal with the efficiency objective, including episode funding and hospital-cost benchmarking.

Finally, the NSW public sector health system is only part of the broader health system. While some attempts are made to take account of other sectors (such as in adjustments for private hospital use) the distribution of resources under federal programs and private finance is also important to the achievement of equity.

CONCLUSION

When combined with other strategies, the RDF is a powerful tool for addressing equity objectives in NSW. The formula will continue to be refined so that AHSs with unique factors that adversely affect the health status of their populations receive funding to improve access and

meet the health needs of the population. It is also important to improve our understanding of relative differences in health need at a more micro-level, and to assist area-level decision making by refining the model to identify needs at the smaller geographic level within AHSs. A question for the immediate future is whether to broaden the objectives for the formula to include achievement of equitable health outcomes.

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