National Health Priority Areas Report

Diabetes mellitus

Summary

1998

Commonwealth Department of Health and Aged Care
Australian Institute of Health and Welfare

AIHW Cat. No. PHE 13

ISBN 0 642 39402 6

Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare (1999) *National Health Priority Areas Report: Diabetes Mellitus 1998 — Summary.* AIHW Cat. No. PHE 13. HEALTH and AIHW, Canberra.

A complete list of the Department of Health and Aged Care publications is available from the Publications Officer, Tel: (02) 6289 5811 or via the Department's web-site at: http://www.health.gov.au.

A complete list of the Institute's publications is available from the Publications Unit, Australian Institute of Health and Welfare, GPO Box 570, Canberra ACT 2601, or via the Institute's web-site at http://www.aihw.gov.au.

Editing, production and desktop publishing by Ampersand Editorial & Design, Canberra.

Cover design by Miller Street Studio, Canberra.

Publications Approval Number 2542.

Contents

Contributors and acknowledgements

National Health Priority Committee Members

Judith Whitworth (Chair)	Commonwealth
Penny Gregory	Australian Capital Territory
Bill Cowie/Kim Carter	New South Wales
John Condon/Edouard d'Espaignet	Northern Territory
John O'Brien	Queensland
David Filby	South Australia
Mercia Bresnehan	Tasmania
John Catford	Victoria
Mark Salmon	Western Australia
Richard Madden	Australian Institute of Health and Welfare
Jack Best	National Health and Medical Research Council
George Rubin	National Health and Medical Research Council
Liz Furler	Population Health Division, Commonwealth
Peter Fisher	Office of the National Health and Medical Research Council

National Health Priority Committee Secretariat

Angela Reddy (Secretary)	Marian Mulhall
John Foster	Leilani Pearce
Sue Lockyer	Louis Young
Liz Metelovski	

Diabetes Overseeing Group

John Carter	Chair, Ministerial Advisory Committee on Diabetes
Stephen Colagiuri	Prince of Wales Hospital, Randwick
Peter Colman	Royal Melbourne Hospital
Robyn McDermott	Queensland Health
Paul Zimmet	International Diabetes Institute

Australian Institute of Health and Welfare

Kuldeep Bhatia

Indra Gajanayake

Indrani Pieris-Caldwell

Consultant author

Ellen Hawes	Queensland Health

Technical editors

Elizabeth Hall	Ampersand Editorial & Design
Jennifer Zangger	Ampersand Editorial & Design

Thanks are also due to the following for their assistance in preparing this report: members of the Commonwealth State Diabetes Forum; Brian Conway and Mick O'Hara of the Health Services Division, Commonwealth; Jonathan Shaw; Jeff Flack; Jeanette Baldwin; Warwick Ruscoe; Robert Guthrie; Tim Churches; and Rhonda Griffiths. Also to the following organisations:

Australian Diabetes Educators' Association

Australian Diabetes in Pregnancy Society

Australian Paediatric Endocrine Group

Juvenile Diabetes Foundation of Australia

Integration SERU, University of New South Wales

National Association of Diabetes Centres

Preface

This is a summary of the National Health Priority Area (NHPA) report on diabetes mellitus. The report is one of a series of biennial reports to Health Ministers on each NHPA — cardiovascular health, cancer control, mental health, injury prevention and control, and diabetes mellitus. These reports are part of an encompassing NHPA process that involves various levels of government, the National Health and Medical Research Council and the Australian Institute of Health and Welfare, and draws on expert advice from the non-government sector.

Australian Health Ministers declared diabetes mellitus as the fifth NHPA in 1996, because it meets several of the criteria for priority national attention. These include:

- high overall burden of the disease in terms of mortality, morbidity and disability;
- potential for health gain through prevention of the disease or lessening its impact;
- existence of cost-effective interventions; and
- disproportionate impact upon certain segments of the population.

There is considerable overlap between the NHPAs, in terms of factors that contribute to greater risk and barriers to better prevention and care. The NHPA process recognises that broader population health initiatives that address these risk factors and barriers will bring benefits across priority areas. It also recognises that strategies to reduce the burden of illness should encompass the continuum of care from prevention through to treatment, management and long-term care, underpinned by appropriate research and monitoring.

Health Ministers agreed in July 1996 that reports should be developed on each of the priority areas. The *First Report on National Health Priority Areas 1996* provided an overview of the five NHPAs and discussed the work program for the initiative. Reports on injury prevention and control and on cancer control were published in July 1998 and have provided a basis for further action in those fields. Reports on cardiovascular health, mental health and diabetes mellitus are being released in July 1999.

The report on diabetes mellitus was developed by a consultant author, together with a Diabetes Overseeing Group appointed by the National Health Priority Committee. The Australian Institute of Health and Welfare provided expert services in data provision and analysis, including the development of national indicators for diabetes. The process also involved consultation with over 150 professionals from the fields of prevention and diabetes management.

The report builds on other activity in the area of diabetes, particularly the *National Diabetes Strategy and Implementation Plan* report produced for the Ministerial Advisory Committee on Diabetes.

This summary aims to present the key messages of the NHPA report on diabetes mellitus, and to highlight opportunities for reducing diabetes and its impact in Australia. Readers requiring more detail about any of the points in the summary should consult the main report.

Background

Diabetes is a common condition that contributes significantly to premature mortality, morbidity, disability and loss of potential years of life. The incidence and prevalence of diabetes are on the rise worldwide. In Australia, about 4 per cent of the population had diagnosed or undiagnosed diabetes in 1995. The number has doubled since the early 1980s, and is projected to pass one million over the next 15 to 20 years unless effective preventive strategies are put into place.

Diabetes and its associated complications, which include cardiovascular, kidney and eye diseases, compromise the quality of life of a large number of Australians. They are also a sharply increasing component of health care costs, and this increase is likely to continue as Australia's population ages further. The direct costs of diabetes and its complications are estimated at $681 million for 1993–94 alone.

Early detection and effective management are the keys to diabetes control. While improved detection of the disease may add to disease costs in the short term, the total costs are likely to stabilise or fall with earlier diagnosis and prevention of complications.

The burden of diabetes overlaps with and contributes to the impact of other NHPA diseases. The closest connection is between diabetes and cardiovascular disease, because of their shared risk factors as well as the role of diabetes as an independent risk factor for cardiovascular disease. The same preventable risk factors are shared by some cancers. This suggests that prevention can occur on a broad front and bring even wider gains than those relating to diabetes.

Profile of diabetes

Diabetes is a chronic condition, characterised by high blood levels of glucose. It is caused by deficient production of insulin (the hormone that helps to metabolise glucose) or resistance to its action.

There are four main types of diabetes.

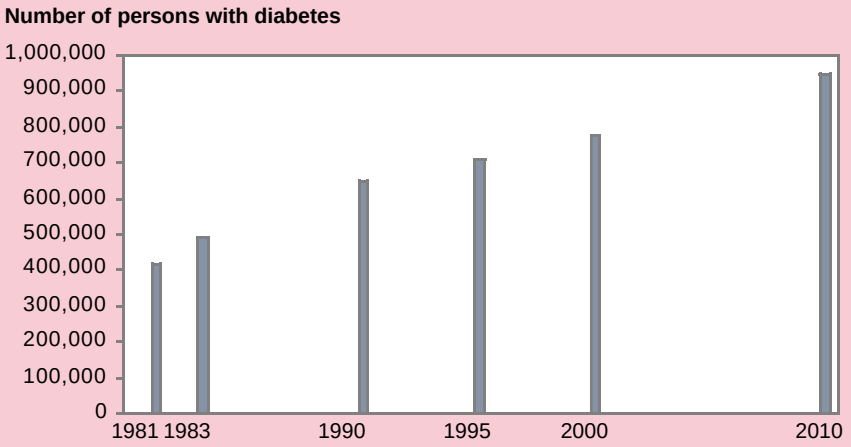
- *Type 1 diabetes*, featuring a complete deficiency of insulin, is estimated to be present in 10 to 15 per cent of people with diabetes in Australia.
- *Type 2 diabetes*, the major form of diabetes in Australia and world-wide, is a common disorder among people aged 40 years and over, and is marked by a relative insufficiency of insulin or resistance to its action.
- *Gestational diabetes*, which occurs during pregnancy in about 4 to 6per cent of women not previously known to have diabetes, is a marker of increased risk of developing diabetes later in life.
- *Other types*, that are less common, include diabetes resulting from known genetic abnormalities as well as biological and metabolic events.

In addition, impaired glucose tolerance defines levels of blood glucose that are intermediate between normal and diabetes.

Size of the problem

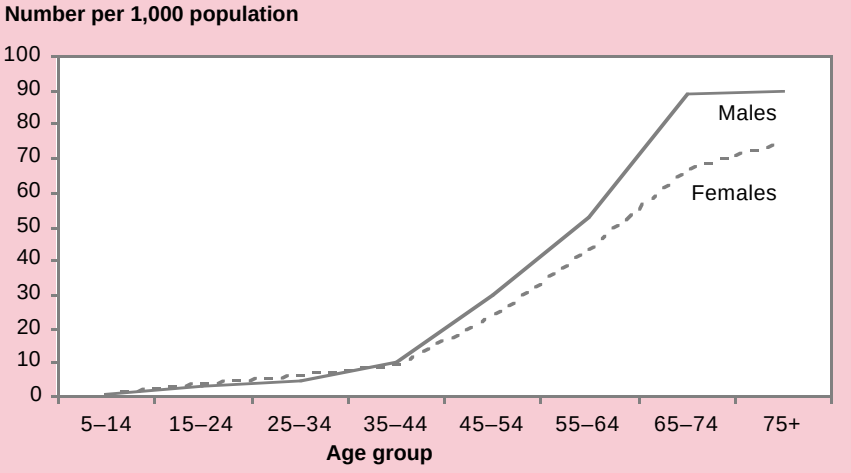
While there are no national data on diabetes prevalence, it is estimated that 700,000 Australians had diabetes in 1995, about half of whom were not aware that they had the condition. This figure is projected to rise to 770,000 by the year 2000 and to 950,000 by 2010 (Figure 1).

Figure 1: Estimates and projections of diabetes prevalence in Australia, 1981–2010



The prevalence of diabetes is similar in both sexes up to the age of 40 years, increasing gradually up to that age. From then on, the increase in prevalence is faster in both sexes, but more so among males. In the 65–74 years age group, it is almost one-third higher among males than females (Figure 2).

Figure 2: Age-specific prevalence of diabetes by sex, Australia, 1995

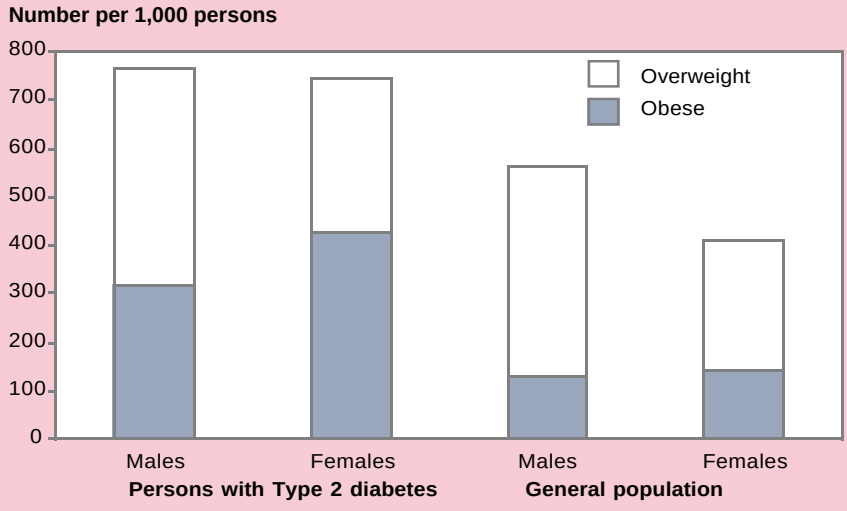


Risk factors

In addition to genetic factors, lifestyle-related risk factors such as obesity and physical inactivity play a significant role in the development and progression of diabetes.

About three-quarters of people with Type 2 diabetes aged 30 and over are overweight or obese (Figure 3). The risk of developing Type 2 diabetes rises continuously with increasing obesity, and is approximately five to ten times greater in those classified as obese than in those with an acceptable weight.

Figure 3: Prevalence of overweight and obesity among persons with Type 2 diabetes, Australia, 1995



Lack of physical activity is also associated with diabetes. People who exercise regularly have a 30 to 60 per cent lower risk of developing diabetes than those who do not. The effect appears to be somewhat weaker in females, and in those who are not overweight.

Age is another contributory factor to the development of diabetes. Studies linking low birth weight with later disease also suggest an increased lifetime risk for Type 2 diabetes.

Diabetes-related complications

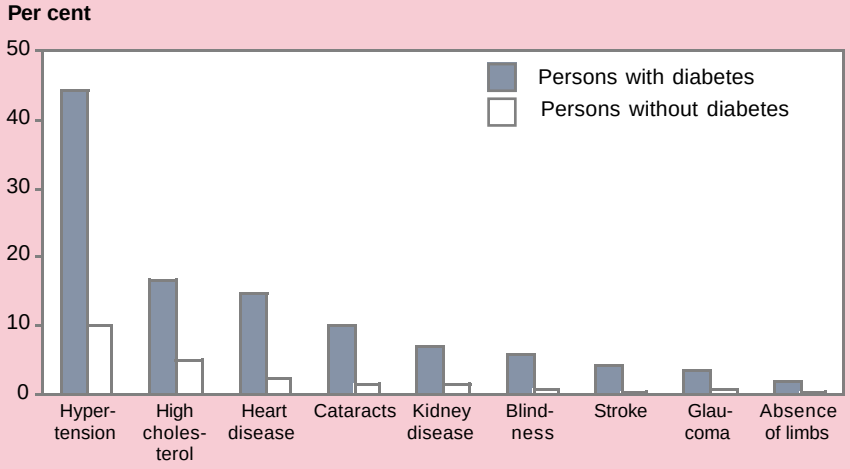
People with diabetes develop a variety of complications over the course of the disease. These include macrovascular problems such as heart, stroke and vascular disease, and microvascular complications such as blindness and kidney disease. Diabetes also leads to pregnancy-related complications, both for the mother and for the foetus or newborn baby.

The duration of poorly controlled diabetes is a major determinant of diabetes-related complications. Good glucose control can delay the onset and slow progression of complications in both types of diabetes.

Several different types of risk factor exacerbate the development of complications. These include age, sex, genetic factors, obesity, high blood pressure, high cholesterol, tobacco smoking, lack of self-management skills and poor access to care.

A South Australian study has estimated that among persons with Type 2 diabetes, over 66 per cent had at least one microvascular complication and 53 per cent had at least one macrovascular complication. Self-reported data on diabetes-associated conditions and complications are shown in Figure 4. Often, complications can progress to an advanced stage before detection of the disease, and only regular medical screening can detect the complications at the earlier treatable stages.

Figure 4: Self-reported prevalence of diabetes-associated conditions and complications, Australia, 1995

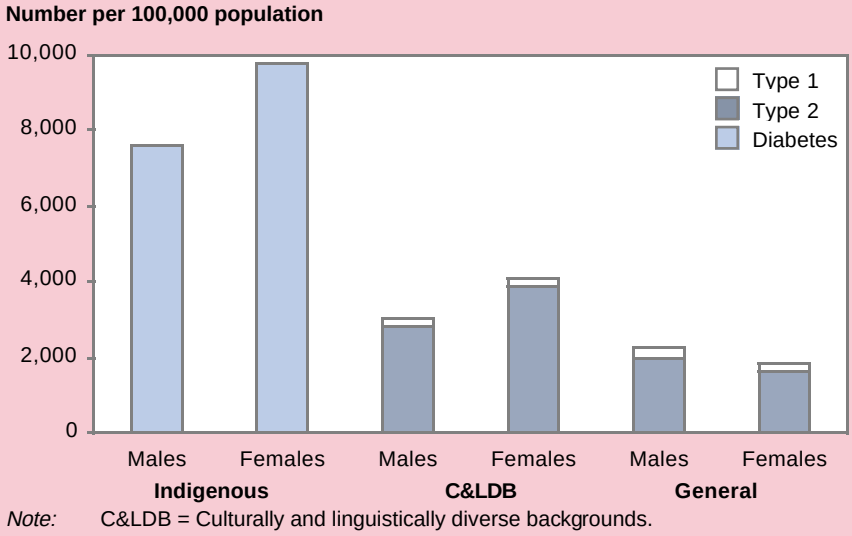


Special population groups

Several population groups experience higher morbidity and premature mortality from diabetes than the general population.

The overall prevalence of diabetes among *Indigenous Australians* is estimated to be at least two to four times that of non-Indigenous Australians (Figure 5). The prevalence rate is also higher among Australians from certain *culturally and linguistically diverse backgrounds*, particularly South Pacific Islanders, Asian Indians and Chinese (Figure 5).

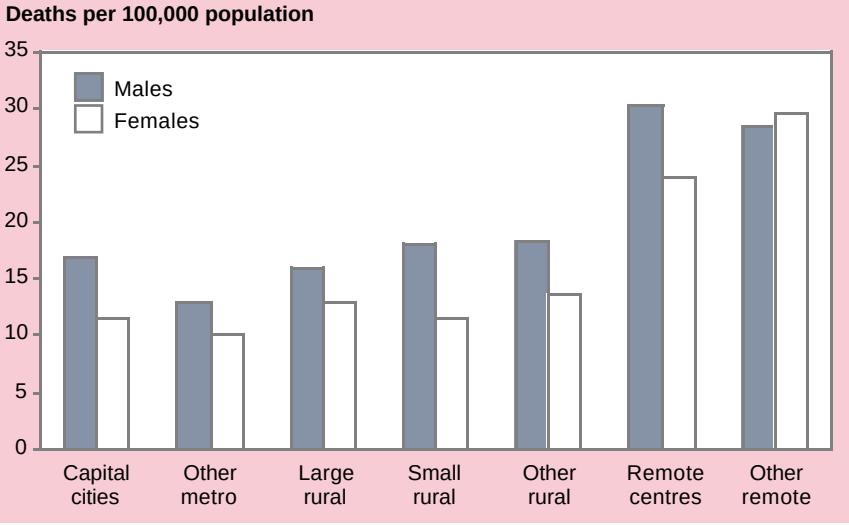
Figure 5: Prevalence of diabetes in various population groups, Australia, 1995



Note: C&LDB = Culturally and linguistically diverse backgrounds.

Death rates for diabetes in the *remote areas* of Australia are two to three times higher than in metropolitan areas (Figure 6).

Figure 6: Rural and remote area variation in death rates for diabetes, Australia, 1992–1996



Health service use

The management of diabetes requires an array of health services, due to the complexity of the disease and its potential to affect all systems of the body. People with diabetes are about twice as likely as those without it to consult health professionals or use hospital services. The higher rate of use is related to treatment and control of blood glucose as well as to complications associated with the disease.

Medical help is sought much more often by people with Type 1 diabetes than by those with Type2 diabetes. The average annual number of medical services used by the former is almost six times higher than that used by the latter, and the ratio for average number of hospital separations is more than eight times.

Diabetes services in Australia

Australia has a strong network of diabetes treatment services that provide routine care for people with diabetes, either through primary care physicians or through interdisciplinary, ambulatory (outpatient) care centres. Providers of long-term care for people with diabetes include:

- general practitioners;
- specialists in the fields of diabetology, obstetrics, cardiology, renal medicine and vascular surgery;
- diabetes nurses;
- diabetes educators;
- other allied health professionals (dietitians, podiatrists, optometrists, psychologists, social workers, Aboriginal health workers);
- pharmacists; and
- non-government organisations (eg Diabetes Australia).

Current activity and progress

The current status of diabetes in Australia can be looked at through both the range of activity at national and regional levels, and the assessment of progress towards its reduction as a health problem.

Current activity

Initiatives related to diabetes are many and diverse. Some of these are policies and programs originating with the Commonwealth Government and/or State and Territory Governments. Non-government and community organisations, such as Diabetes Australia, play an important role in prevention, early detection and management, along with general practitioners, allied health and specialist medical providers, Indigenous and ethnic organisations, the pharmaceutical industry, and private enterprise.[1]

Current activity related to diabetes prevention and care needs to be maintained, and its results widely disseminated and built upon. Of particular importance is the move towards promoting integrated long-term care of people with diabetes, through increased collaboration between services and changes to funding arrangements (eg the Integrated Care Pilots and Coordinated Care Trials).

In the area of prevention, the Commonwealth Government and State and Territory Governments are collaborating on a range of national initiatives to increase public awareness of lifestyle-related risk factors. The National Public Health Partnership aims to plan and coordinate national public health activities and provide a more systematic and strategic approach to addressing public health priorities. A framework for a National Primary Prevention Strategy is also being developed, to integrate programs on physical activity, diet, tobacco and alcohol, and to target the major chronic non-communicable diseases including diabetes.

The Commonwealth-funded Community Awareness of Diabetes Strategy, to be launched in July 1999, aims to increase knowledge about diabetes and the benefits of early detection among the public and health professionals.

1 Chapters 4 and 5 of the NHPA report on diabetes mellitus describe examples of key initiatives being undertaken around Australia.

Measuring progress

Under the NHPA initiative, progress is measured by time trends in disease incidence and prevalence, risk factor prevalence, screening, management, morbidity and mortality.

Summary statistics indicate that the prevalence of diabetes varies considerably among population groups in Australia, and that rates of death from diabetes among males are rising. Obesity and physical inactivity, two of the major risk factors for diabetes and its complications, are common in the general population and even more prevalent in people with diabetes.

A set of 20 priority indicators has been developed, each with a standard definition, for monitoring and reporting (listed in Table1). Subsequent NHPA reports on diabetes will report on time trends for these indicators, as data become available.

Table 1: NHPA indicators for diabetes

Indicator		Reported in 1998
1 Disease incidence and prevalence		
1.1	Prevalence rates for Type 1 and Type 2 diabetes in the general population and special groups	✓
1.2	Incidence rates for Type 1 and Type 2 diabetes in the general population and special groups	✗
1.3	Gestational diabetes among women aged 20–44 years, by parity	✗
2 Risk factors for diabetes and associated complications		
2.1	Prevalence rates for obesity and being overweight (as measured by BMI) in the general population and among persons with Type 2 diabetes	✓
2.2	Rates for non-participation in regular, sustained, moderate aerobic exercise in the general population and among persons with Type 2 diabetes	✓
2.3	Prevalence rates for high blood pressure among persons with Type 2 diabetes	✓
2.4	Prevalence rates for high levels of lipoproteins among persons with Type 1 and Type 2 diabetes	✓
2.5	Prevalence rates for fasting hypertriglyceridaemia among persons with Type 1 and Type 2 diabetes	✓
3 Diabetes complications		
3.1	Proportion of persons with end-stage renal disease with diabetic nephropathy as a causal factor	✓
3.2	Incidence rate for eye disease among clinically diagnosed persons with diabetes	✓
3.3	Prevalence rate for foot problems among persons with clinically diagnosed diabetes	✓
3.4	Incidence rates for coronary heart disease and stroke in the general population and among clinically diagnosed persons with diabetes	✓

continued

Table 1: NHPA indicators for diabetes (continued)

Indicator	Reported in 1998
4 Hospital separations for diabetes complications	
4.1 Hospital separation rate for end-stage renal disease with diabetes as an additional diagnosis	✓
4.2 Hospital separation rates for coronary heart disease or stroke with diabetes as an additional diagnosis	✓
4.3 Hospital separation rates for conditions other than end-stage renal disease and coronary heart disease/stroke where diabetes is one of the diagnoses	✓
5 Mortality	
5.1 Death rates for diabetes in the general population and special groups	✓
5.2 Death rates for coronary heart disease and stroke among persons with diabetes in the general population and special groups	✗
6 Health status	
6.1 Self-assessed health status of persons with and without diabetes	✓
7 Screening and management	
7.1 Proportion of persons with diabetes tested for glycosylated haemoglobin level at least every six months	✗
7.2 Proportion of pregnant women being tested for gestational diabetes	✗

Key issues

As diabetes contributes significantly to mortality, morbidity, disability and health costs in Australia, its impact will continue to increase unless effective prevention strategies are applied. Control of diabetes also requires improvements in early detection of diabetes, further improvements in the quality of diabetes care (especially prevention programs for diabetes-related complications) and progress in patient management and recall systems. In addition, the greater burden of diabetes on Indigenous Australians and other special population groups needs to be addressed.

All of these changes require better national information to monitor diabetes, and a continued commitment to research into diabetes prevention and care.

Prevention

Type 1 diabetes cannot be prevented at present, although studies are in progress to investigate the causes of the disease. However, there is evidence that Type 2 diabetes can at least be delayed among high-risk groups through modification of risk factors. High-risk groups for primary prevention include people with impaired glucose tolerance or gestational diabetes, and those with other risk factors for diabetes such as obesity and physical inactivity.

A combination of legislative, educational and economic approaches is required to promote physical activity, good nutrition, the reduction of overweight and obesity, and successful management of risk factors across the population.

There is great scope for coordination of primary prevention activities, through collaboration between governments and the involvement of non-government organisations, general practitioners and other health professionals. This coordination should also include long-term partnerships and alliances with agencies outside the health sector.

As discussed under *Current activity*, work is in progress at the Commonwealth and State/Territory levels to establish such partnerships, improve the infrastructure for primary prevention and coordinate health promotion activity across major health issues.

Early detection

Early detection is important because diabetes, in particular Type 2 diabetes, can remain asymptomatic and significant diabetes-related complications may set in before the diagnosis is made.

The earlier a person with diabetes is diagnosed, the sooner treatment can be started to control blood glucose levels and delay the onset and progression of many diabetes-related complications. There is a need to improve community awareness of the importance of early detection of diabetes and its complications.

Currently, there is no nationally organised approach to early detection of diabetes, and most cases are diagnosed through opportunistic screening by general practitioners and other health professionals. This is likely to remain the most feasible method of detecting diabetes early.

Raising awareness about undiagnosed diabetes among health professionals and improving screening and detection skills are important in increasing rates of early detection.

The Community Awareness of Diabetes Strategy will aim to improve the capacity of health professionals to identify people with diabetes and encourage those at risk to seek testing.

Management

Following diagnosis, effective management of the disease is critical to improving health-related quality of life, as it reduces the risks and severity of complications and premature mortality. Treatment of diabetes aims for strict control of blood glucose levels. Most people with diabetes can achieve this level of control, through a collaborative effort involving the person with diabetes, carers and health service providers.

Evidence suggests that existing treatments are both effective and cost efficient. Treatment levels could be increased through a national approach to diabetes control. However, the true cost of such a program is hard to estimate, because the number of people with diabetes and the quality of blood glucose control are not currently known.

Prevention of diabetes-related complications is also important. Since interventions generally achieve the best results if started in the early stages, and complications can progress to an advanced stage quickly, regular medical screening for diabetes-related complications is essential.

Due to the complexity of the disease and the range of health care services required, a major challenge in diabetes management is in providing integrated long-term care. Systematic recall of patients for screening, patient-centred education about self care, and coordination between different service providers are all important in this process.

Population groups with special needs

Groups in the population with specific diabetes management needs include:

- *women who develop gestational diabetes,* who require close obstetric monitoring and regular follow-up after pregnancy;
- *pregnant women with pre-existing diabetes,* among whom pre-pregnancy counselling, excellent glucose control, regular obstetric monitoring and timely intervention will minimise complications for both mother and child; and
- *children and adolescents with diabetes*, who have the longest course of the disease and the greatest risk of complications, and among whom optimising glucose control may be more difficult than for adults.

Several other population groups require special consideration in diabetes prevention and care services, because of a greater prevalence of the disease, difficulties in access to services, or both. These groups are:

- *Indigenous Australians*, who have limited availability and access to necessary and culturally appropriate health care, and among whom there are a number of additional, inter-related factors which contribute to persistent poor health;
- *people from culturally and linguistically diverse backgrounds*, who may experience disadvantage in terms of access to the range of diabetes services available (because of language barriers), appropriate education, information for effective self management and continuing community support;
- *people living in rural and remote areas*, who face disadvantages in accessing adequate and appropriate health care; and
- *older Australians*, for whom issues such as multiple pathology, polypharmacy, social isolation and depressed cognitive function complicate the provision of effective preventive and management services.

Monitoring and data issues

There is a range of data gathering activities related to diabetes in Australia, mostly on diabetes-related mortality, hospitalisation and self-reported disease prevalence. However, there are wide gaps in knowledge, as described below.

- There is a lack of national trend information about diabetes incidence and prevalence, its complications and diabetes-related costs.
- Existing risk factor information does not cover several important risk factors for diabetes and its complications.
- Information on national disease incidence and prevalence is based on self reports alone. In the absence of good quality laboratory-supported incidence and prevalence data, it is not possible to reliably assess the size of the problem.
- There is presently no standardisation of diabetes data collected from different sources in Australia.

Several data development activities are now in progress, or are being planned, to address some of these issues.

The way forward

The diabetes field is changing rapidly, and there is already a wide range of activity in many aspects of diabetes prevention and care. Future directions in diabetes should build on this activity and recognise existing opportunities for achieving change, encourage coordination of effort where appropriate, and focus on unresolved issues.

Governments have a range of broad levers at their disposal to foster better programs and practice, and to discourage inappropriate practice. A number of these levers could be employed within the following priority areas for diabetes.

Increased commitment to prevention

The primary prevention messages relating to health and lifestyle across the major health issues are virtually the same. National action in these areas will be most effective if there is coordination across different program areas to ensure consistent health messages and adequate funding.

The National Public Health Partnership and the National Primary Prevention Strategy should contribute much to this area. Currently, there is no funding infrastructure in place to address coordination issues. However, several innovative proposals could be further explored which could draw together processes and principles established under existing arrangements.

Increasing rates of early detection

As with prevention, increased awareness of diabetes in the population and among health professionals is necessary before rates of early detection can increase. This should occur through a range of measures, including:

- jurisdictional support and government commitment for the Community Awareness of Diabetes Strategy;
- development, dissemination and implementation of national guidelines for health professionals to increase skills in testing, diagnosis and follow-up, to translate the increased awareness of diabetes into greater rates of diagnosis;

- development of funding mechanisms to encourage coordination between general practitioners and other health professionals, and to ensure that more time is spent assessing and referring patients who are at risk of diabetes; and
- examination of the overall cost and cost-effectiveness of increasing rates of early detection.

Improving the capacity of the health system to deliver, manage and monitor services

The infrastructure for diabetes services in Australia is complex. Mechanisms need to be in place to ensure that a coordinated approach to diabetes is undertaken in Australia. This would be facilitated by the establishment of a National Diabetes Advisory Committee to report to Australian Health Ministers through the Australian Health Ministers' Advisory Council.

This approach would allow a streamlining of existing advisory mechanisms, and a focus on several key areas. In particular, the promotion of better practice, quality of care and management of complications could be achieved through the following measures:

- effective implementation of existing clinical practice guidelines, and development and implementation of guidelines in other areas;
- a national program to encourage the provision of evidence-based, coordinated services to prevent the development or progression of complications;
- establishing efficient recall mechanisms to allow regular monitoring;
- provision of relevant, up-to-date and culturally appropriate information to facilitate self management among people with diabetes;
- ensuring adequate access to diabetes specialists and allied health professionals, especially for those in rural and remote areas; and
- increasing health professionals' participation in diabetes care through sustainable continuing education.

Addressing the needs of special population groups

Improved care of *women with gestational diabetes* and *diabetes in pregnancy* should be addressed through the following strategies:

- review of the services provided to pregnant women who have diabetes and follow-up services for women who have gestational diabetes, currently being considered in State-wide diabetes planning exercises in all jurisdictions;
- development of nationally coordinated guidelines on testing for detection and management of gestational diabetes;
- methods to improve follow-up after pregnancy, including collaboration with general practitioners, raising awareness among women of their increased risk of developing Type 2 diabetes, and effective patient recall systems; and
- education about the risks associated with pregnancy for women with diabetes and specific promotion of pre-pregnancy counselling services, to encourage improved glucose control during pregnancy, and to reduce the risk of adverse outcomes for both mother and baby.

The specific needs of *young people with diabetes* should be addressed through:

- continuing education and support for young people and their families;
- training for health professionals in detection and management of diabetes in young people;
- investigating models of service delivery that reduce hospital admissions and improve management; and
- providing clear transition paths between paediatric and adult care.

While there is a high level of awareness of diabetes among *Indigenous communities* and there are systematic reviews and guidelines that provide a good basis for action, diabetes care for Indigenous populations should be improved through:

- increasing the availability of culturally appropriate health care;
- ensuring continued funding to increase the number of Aboriginal health workers — this is a high priority, particularly in rural and remote areas; and
- improving access to information about diabetes and its evidence-based management.

People in *rural and remote areas* face disadvantages in terms of access to health care, caused by a range of factors including distance and shortage of health professionals. To address this:

- innovative service delivery models in some States/Territories should be investigated for wider application; and
- future planning of diabetes services should be coordinated with the development and implementation of the National Rural Health Strategy and other national initiatives.

The collaborative planning approaches in all jurisdictions recognise the need to specifically address populations of *culturally and linguistically diverse backgrounds*, through:

- multicultural policy representatives on advisory committees or taskforces; and
- separate consideration of immigrant groups in the identification of health needs and in subsequent service planning.

Ways to address issues specific to *older people* should be explored, such as:

- educating staff in nursing homes about the management of older patients with diabetes; and
- investigating incentives for health professionals to provide longer consultations to older people.

Improving data development and information systems

Currently, the lack of national data hinders the development of health planning and resource allocation. The main information requirements include the following.

- Development of standard definitions for each aspect of monitoring would enable consistent information to be collected by the various diabetes health service providers, and outcomes to be evaluated in relation to health service utilisation.
- Inclusion of agreed diabetes fields into existing national minimum datasets is essential to obtain timely and accurate data.
- Surveys and other data collection instruments are required to determine and monitor the incidence and prevalence of diabetes in the general population and in special population groups.

- A mechanism that promotes data linkage across service settings has the potential to increase efficiency and improve diabetes health outcomes and should be investigated in the short term. National coordination of record linkages is desirable as currently there is some duplication of effort across jurisdictions.

Enhancing research into diabetes

Research has increased our understanding of diabetes, its risk factors and effective treatments to control the disease and delay the onset of complications. Research needs to be continued to ensure progress is made towards a cure, as well as further improving prevention and management interventions.

Major research issues include:

- reviewing allocation of research funding for diabetes; and
- establishing research priorities within diabetes.

Important future directions in diabetes

- Coordinating primary prevention strategies across major health issues.
- Establishing processes and mechanisms for the early detection of diabetes.
- Coordinated management of diabetes, including diabetes-related complications.
- Disease management strategies that involve the patient and are culturally appropriate.
- Sustainable continuing education of health professionals, including Aboriginal health workers.
- Standardising recommendations of care for pregnant women with gestational diabetes or diabetes.
- Addressing issues of access to services and information for higher-risk groups.
- Systematic development of diabetes datasets and a national diabetes monitoring system.
- Gaining a better understanding of diabetes, its causes and interventions that may reduce its impact, through research.

Keeping track

This report aims to inform governments and the community about areas of intervention that will provide most impact in terms of sustainable improvements and outcomes in diabetes.

Future directions in diabetes will be shaped by the development and implementation of a National Diabetes Strategy, to be considered by Health Ministers in July 1999. The Strategy will be implemented and further activities developed after consultation between the Commonwealth and State and Territories and the diabetes community.

The National Diabetes Strategy will be based on the results of consultation undertaken in the development of the *National Diabetes Strategy and Implementation Plan* report, and the *NHPA Report on Diabetes Mellitus* to Health Ministers. It will use the two reports as a platform from which the Commonwealth Government and State and Territory Governments can identify priorities and agree on an approach to diabetes prevention, management and research, in partnership with peak organisations and service providers.

As well as ensuring that appropriate attention is given to primary prevention, effective high quality management of diabetes, monitoring and research, the National Diabetes Strategy should establish an effective partnership between governments, health care professionals, non-government organisations and consumers and carers.

It is important that the implementation of the National Diabetes Strategy involves long-term strategic planning and sustained funding, as most gains in health outcomes will only come with continuous work over a long time.

In addition, monitoring of progress and reporting of developments are imperative to inform future directions. The NHPA reporting process provides the opportunity to monitor the impact of national and State-based strategies and identify opportunities for improvement. The next NHPA report on diabetes will assess the impact of strategic, collaborative action arising from this report and point to future opportunities. The continuing involvement and commitment of all players will be central to ensuring the progress of the initiative.