6 Opportunities and future directions

Diabetes is a common, chronic disease that contributes significantly to mortality, morbidity, disability and health costs in Australia. Both the incidence and prevalence of diabetes are on the rise and will continue to increase unless effective prevention strategies are put into place. Control of diabetes also requires improvements in early detection of people with 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 populations must be addressed. All of these changes will require better national information to monitor the incidence and prevalence of diabetes and a continued commitment to research into diabetes prevention and care.

As discussed in previous chapters, 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 should focus on several unresolved issues.

This chapter outlines a number of areas in which action could improve diabetes prevention, early detection, management, monitoring and research in Australia. Within these areas, summary boxes highlight specific opportunities that have been identified in the report. There is also a discussion of more general opportunities for achieving change.

Important future directions may be summarised as follows:

- 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;
- addressing issues of access to services and information of higher-risk groups;
- sustainable continuing education of health professionals;
- standardising recommendations of care for pregnant women with gestational diabetes or diabetes;
- systematic development of diabetes datasets and a national diabetes monitoring system; and
- gaining a better understanding of diabetes, its causes and interventions that may reduce its impact, through research.

6.1 Prevention of Type 2 diabetes

The most effective strategy to reduce the impact of diabetes and its complications is to prevent people from developing the disease. Type 1 diabetes cannot be prevented at present, although this possibility is being researched, but there is evidence that Type 2 diabetes can at least be delayed through modification of risk factors. The consultation for this report identified an enhanced commitment to primary prevention as a high priority.

Coordinating primary prevention across National Health Priority Areas

Several risk factors for diabetes and its complications, such as obesity, inappropriate nutrition, lack of exercise, high blood pressure and smoking, are common to other NHPAs such as cardiovascular disease and some cancers. This means that a consistent set of messages can be applied across the different programs relating to diabetes prevention, cardiovascular health and cancer control. To do this requires strong coordination and secure, long-term funding. There is already preliminary work in progress on a National Primary Prevention Strategy aimed at major non-communicable diseases. The proposed strategy integrates physical activity, diet, tobacco and alcohol issues and provides a base on which to build. Future activity in diabetes-specific strategies should forge further links with this strategy.

Important points in developing a national integrated primary prevention strategy include:

- primary prevention takes many years to have full effect and must therefore be maintained long term;
- actions aimed at primary prevention of chronic disease will not achieve this full effect and reduce social inequalities in health until they begin to pay due attention to social and economic issues; and
- partnerships between the health sector and other sectors and agencies are required, implementing approaches that will increase access to healthy food choices and safe physical activity options.

The NPHP will oversee the development of the National Primary Prevention Strategy as part of its broader role in planning and coordinating national public health activities.

Health professionals

To encourage lasting behavioural change, the messages in primary prevention campaigns and CADS should be reinforced by GPs and other health workers. Strategies are required which provide suitable training for GPs and other health workers in giving appropriate advice and lifestyle counselling, and also make it easier for health professionals to provide this service.

Summary of opportunities

Encourage evidence-based practice through:

- implementation of guidelines (eg NHMRC primary prevention guidelines, RACGP guidelines on preventive activities for GPs) which involves a variety of methods including training of health professionals; and
- development, endorsement and implementation of guidelines on Type 2 diabetes which will include information on lifestyle counselling.

Improve collaboration through:

- planning and coordination of national public health activities and strategies through the NPHP;
- National Primary Prevention Strategy to coordinate national risk factor initiatives; and
- State/Territory diabetes strategies and chronic disease strategies.

Improve public awareness and encourage behaviour change through:

- National Community Awareness of Diabetes Strategy; and
- consideration of macro-environmental risk factors in government policy.

Facilitate preventive activities by health professionals through:

- mechanisms such as the Practice Incentives Program to implement incentives for GPs to provide evidence-based primary prevention advice; and
- the development of other incentive programs with relevant health professional organisations.

6.2 Early detection of diabetes

Early detection of Type 2 diabetes can prevent or delay the onset of debilitating and costly complications.

As with prevention, increased awareness of diabetes in the population and among health professionals is necessary before rates of early detection can increase. By raising awareness of diabetes, CADS is expected to increase diagnosis among people with diabetes who do not know they have the condition. This strategy requires both jurisdictional support and government commitment.

However, in order to convert increased awareness into greater rates of diagnosis, health professionals need appropriate skills in case finding, testing and follow-up. It is also important to investigate incentives for GPs to spend more time assessing, educating and appropriately referring patients who are at risk of or who have diabetes.

Summary of opportunities

Improve public awareness of the importance of early detection through:

- National Community Awareness of Diabetes Strategy.

Improve early detection rates by health professionals through:

- development of guidelines on screening and detection of diabetes;
- implementation of National Community Awareness of Diabetes Strategy (including education kits for GPs);
- investigating incentives for GPs to spend more time assessing and appropriately referring patients who are at risk of diabetes;
- improved access to allied health professionals; and
- engaging health service providers at the local level (eg pharmacists, community health workers, aboriginal health workers, community-based organisations) in early detection initiatives.

6.3 Management of diabetes

Effective management of diabetes is critical to improving the health-related quality of life of people with diabetes, as it reduces the chance of developing and severity of complications as well as premature mortality. 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 care centres. Effective communication between the service providers, including allied health services, is important for the delivery of optimum care.

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

The infrastructure for diabetes services in Australia is complex. This partly reflects the complexity of the Australian health system, with different levels of government, private practitioners, peak bodies and private industry all having an important role to play.

Mechanisms need to be in place to ensure that a coordinated approach to diabetes is undertaken in Australia. The establishment of a National Diabetes Advisory Committee to report to Australian Health Ministers through AHMAC would facilitate the achievement of this goal. This approach would allow a streamlining of the existing advisory mechanisms. The committee would be asked to provide Health Ministers with wide ranging advice but with particular attention to a number of areas including those outlined below.

Promoting best practice

There is a wide range of evidence-based knowledge upon which to base management of diabetes and its complications. People working in the diabetes and primary care fields need to be aware of the latest evidence-based knowledge to ensure best practice. A number of guidelines relevant to diabetes have been produced or are under development, as discussed in this report.

Once endorsed by the NHMRC, the guidelines on detection, testing and management of Type 2 diabetes currently being developed should be effectively disseminated and implemented to encourage their adoption by all health workers in the diabetes field.

Implementation of guidelines should, at a minimum, involve training of health professionals, especially Aboriginal health workers. All guidelines should be evaluated and regularly reviewed.

Improving quality of care

The role of diabetes centres in increasing quality of care has been significant, as they provide outpatient care by multidisciplinary teams of health workers. The NADC has an important role in sharing information between centres and in providing training and support in relation to the management and treatment of diabetes, as part of the implementation of guidelines and also in areas where evidence-based guidelines are yet to be developed.

Management should include the following:

- *Patient education that uses patient-centred approaches*. Information provided by health workers should be relevant, up-to-date and culturally appropriate, and facilitate self management by increasing patient awareness of the importance of properly managing diabetes. Strategies such as health professional networks and consumer workshops may result in informed consumers who demand evidence-based care.

- *Recall systems for people with diabetes, and periodic monitoring.* As diabetes is a condition that needs to be continually monitored, effective recall and reminder systems play an important part in management. The use of routinely collected data in patient recall should be further investigated in consultation with the States and Territories (and the National Divisions Diabetes Program) to guide the development of an appropriate effective method of patient recall that can be implemented in each jurisdiction.

Managing diabetes-related complications

Effective management of diabetes-related complications as they arise is critical. There should be a national program to encourage the provision of evidence-based, coordinated services to prevent the development or progression of complications. Retinopathy guidelines have already been developed and the Commonwealth is currently funding projects to further raise awareness of health professionals and people with diabetes about retinopathy and appropriate screening. There is a need for development and effective implementation of other evidenced-based national guidelines that meet NHMRC requirements, for areas such as foot care, end-stage renal disease and cardiovascular disease.

Access to health professionals

Diabetologists and other specialists are generally located in major urban areas, making diabetes management more difficult for people in rural and remote areas. Access issues will need to be considered during the development of programs for the control of diabetes-related complications.

Access to allied health professionals was identified as important during the consultation for this report, and will require an examination of alternative funding models and the most efficient use of current resources, as well as current numbers of allied health professionals and their distribution across Australia. Allied health professionals should be more closely involved in health planning for diabetes services at national, State and Territory levels, as well as in service delivery at the local level.

Continuing education of allied health professionals

The education of allied health professionals involved in the management of diabetes is occurring at a local level but is dependent on short-term funding. Sustainable continuing education programs on diabetes management for allied health professionals are required. Continuing funding for Aboriginal health worker training is particularly important, with a key issue being the extension of Aboriginal health worker training in diabetes to primary prevention strategies. The provision of cross-cultural training to health professionals dealing with people who have diabetes and who come from culturally and linguistically diverse backgrounds is also important.

Summary of opportunities

Promote better practice through:

- rapid dissemination of research results about effective treatments to prevent the progression of complications;
- effective implementation of current management guidelines (eg NHMRC guidelines on diabetic retinopathy, New South Wales clinical management guidelines); and
- development and effective implementation of national guidelines on diabetes, and specific guidelines on diabetes-related complications.

Promote collaborative models of care through:

- examination of models such as the Integrated Care Trials and Coordinated Care Trials;
- State/Territory reviews of service delivery;
- the development of prioritisation criteria for allied health services and minimum service standards; and
- development of hospital clinical pathways for people with diabetes admitted for another condition.

Promote consumer participation in their care through:

- health information for consumers in appropriate formats;
- consumer guidelines and networks; and
- exploring models of patient-centred approaches to management.

Improve health professionals' understanding of diabetes and participation in diabetes programs through:

- mechanisms for sharing information (eg NADC);
- implementation of National Divisions Diabetes Program recommendations;
- outcomes-based funding for Divisions of General Practice to increase sustainability of programs;
- review of recommendations of the General Practice Strategy Review;
- investigation of decision-support systems across organisations;
- sustainable and effective continuing education (access to training in clinical management guidelines, incentives for undertaking continuing training);
- continuation and further development of the role of pharmacists in providing consumers with advice and supplies; and
- exploration of video-conferencing and tele-health for continuing education and decision support systems for rural and remote GPs and other health professionals, along with consideration of appropriate payment mechanisms.

6.4 Special populations

As discussed in Chapter 5, a wide range of issues is faced by populations either at higher risk of developing diabetes or with specific management needs.

Gestational diabetes and management of pregnancy among women with diabetes

A major issue in the management of gestational diabetes is follow up after the pregnancy. Effective follow-up requires women with gestational diabetes to be aware of their increased risk of developing Type 2 diabetes, GPs to be trained in management and follow up of women who have had a gestational diabetes pregnancy, and adequate patient recall systems to be in place.

Pre-pregnancy counselling for women with diabetes, to encourage improved glucose control during pregnancy, is likely to reduce the risk of adverse outcomes for both mother and baby. An advantage is that women are in contact with health services and likely to be highly motivated to self care during pregnancy.

Review of the services provided to pregnant women who have diabetes and follow up services for women who have gestational diabetes is being considered in the State-wide diabetes planning exercises in progress in all jurisdictions.

Summary of opportunities

- Existence and dissemination of Australasian Diabetes in Pregnancy Society Guidelines for the detection and management of gestational diabetes. The development of nationally coordinated guidelines on the testing for and detection of gestational diabetes is a high priority.
- Pilot programs for collaboration with GPs for the follow-up of women who have had a gestational diabetes pregnancy.
- Investigation of recall mechanisms for screening women with gestational diabetes, in consultation with the States and Territories (and the National Divisions Diabetes Program).
- Databases on gestational diabetes incidence and prevalence in some States/ Territories and development of linkages with perinatal data collections.
- Raising awareness of the risk associated with pregnancy for women with diabetes and specific promotion of pre-pregnancy counselling services and appropriate referral for testing.

Type 1 diabetes in young people

There are a number of areas in which the specific needs of young people with diabetes should be addressed:

- 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.

Summary of opportunities

- Innovative service delivery in South Australia through the Royal District Nursing Society.
- The Childhood Disability Allowance does not include diabetes as a manifest disabling condition. The scheme is currently under review.
- National needs assessment for children and adolescents with Type 1 diabetes by the Juvenile Diabetes Foundation Australia.
- Adequate funding and infrastructure for outreach/shared care services, including complications screening programs.
- Development of improved transition mechanisms between paediatric and adult services.
- Development of improved psychological services and support for young people and their families to enable them to cope with diabetes and the effect that it has on all their lives.
- Support of camps for young people with diabetes, and the development of television advertising along the lines of advertisements by Canteen and Camp Quality to facilitate diabetes becoming a ‘socially acceptable’ disease.

Indigenous Australians

While there is a high level of awareness of diabetes among Indigenous communities, and the existence of systematic reviews and guidelines that provide a good basis for action, a major barrier to improving diabetes care for Indigenous populations remains limited availability to culturally appropriate health care. Access to information about diabetes and its evidence-based management is also important.

A key issue, particularly in rural and remote areas, is the role of Aboriginal health workers, their training and payment.

Summary of opportunities

- Aboriginal self determination in health care (eg through Aboriginal community controlled health services).
- Policy developments in providing and facilitating environments for healthy eating and physical activity and coordination of activity (eg NPHP, national strategies and plans on overweight, physical activity, tobacco smoking, environment).
- Existence of clinical management guidelines for the prevention and management of diabetes among Indigenous Australians and involvement of primary care service providers, including Aboriginal health workers, in their development.
- Evidence-based reviews on related matters (breastfeeding, nutrition and healthy food supply).
- National Indigenous Nutrition Strategy being developed as a component of the National Public Health Nutrition Strategy.
- Subsidised access to blood and urine testing strips, insulin syringes and injection pen needles.
- Existence of suitable information systems for community-based programs.
- Policy developments in the provision of dialysis (eg incentives for home dialysis).
- Optional module in the National Divisions Diabetes Program for working with Indigenous populations.

Rural and remote populations

People in rural and remote areas face disadvantages in terms of access to health care, caused by a range of factors including distance and a shortage of health professionals. Innovative service delivery models in some States should be investigated for wider application. Future planning of diabetes services should be coordinated with the development of the National Rural Health Strategy and the implementation of other national initiatives.

Summary of opportunities

- Linking local service provision to National Rural Health programs such as the Rural Education, Support and Training program, the Rural Health Strategy and the Rural Incentives Program.
- Disseminating and implementing innovative rural service delivery models (eg South Australia).
- Improving access to tele-health and video-conferencing facilities for information sharing and continuing education.

People from culturally and linguistically diverse backgrounds

Language barriers, lack of access to culturally appropriate education and information for effective self management, and lack of continuing community support all contribute to the higher rate of diabetes-related complications among people from culturally and linguistically diverse backgrounds.

The collaborative planning approaches in all jurisdictions recognise the need to specifically address populations of culturally and linguistically diverse backgrounds and have multicultural policy representatives on advisory committees or taskforces. There is a growing recognition across jurisdictions that immigrant groups should be considered separately in the identification of health needs and in subsequent service planning.

Summary of opportunities

- Bilingual GPs, allied health workers and health workers.
- Existing experts training in cross-cultural issues.
- Successful pilot programs which could be generalised.
- Strong community networks and organisations.
- Clearly identified target groups.
- Interpreter services.

Older Australians

Issues specific to older people, such as multiple diseases, multiple medications, social isolation and depressed cognitive function complicate the provision of effective diabetes preventive and management services.

Summary of opportunities

- Education of staff in nursing homes about the management of older patients with Type 2 diabetes.
- Investigation of incentives for health professionals to provide longer consultations to older people.

6.5 Information systems

Currently, there are few national data on the incidence and prevalence of diabetes and its complications in Australia. The information on diabetes risk factors is also not up to date. This information is required at local, State and national levels, as well as on various population groups, for health planning and resource allocation.

Data development

The development of appropriate data for diabetes monitoring, surveillance and evaluation needs to occur within a defined framework. This will not only involve the identification of data gaps and deficiencies but also include standardisation of data elements in order to achieve comparability between various data sources. An integrated approach to data development should include a diabetes information development plan that is organised around a minimum dataset.

Data collection

The data environment within which diabetes-related information is currently collected has been described in Chapter 4. Some of the current activities to collect this information are also listed in Appendix 2. However, two critical pieces of information that the current data collection activities will not be able to provide are baseline national incidence and prevalence of Type 2 diabetes and its complications. The National Biomedical Risk Factor Survey, currently under consideration by the National Public Health Information Working Group, should help fill some of this data gap. The National Diabetes and Lifestyle Study, to be conducted by the International Diabetes Institute in 1999, will also provide quasi-national information on various aspects of diabetes.

Data linkage

No central mechanism to promote data linkage across various service settings for diabetes currently exists, although the issue is being considered by all jurisdictions in their strategic planning for diabetes. At a national level, AIHW is responsible for undertaking a project to test the feasibility of national record linkage. This project could form the basis for undertaking efficient and cost-effective record linkages by various jurisdictions. The AIHW could also play an important role in undertaking cross-jurisdictional linkages of data. The National Health Information Management Advisory Council, the creation of which was agreed to by Health Ministers in July 1998, should also have a role in considering diabetes record linkage issues. Any solutions need to be achieved in the context of appropriate privacy and security.

Summary of opportunities

Improvement of information base through regular population-based surveys:

- National Health Survey 2001;
- National Biomedical Risk Factor Survey (proposal under consideration);
- State-based Computer-Assisted Telephone Interview (CATI) surveys; and
- conversion of one-off collections, such as the National Nutrition Survey and the National Aboriginal and Torres Strait Islander Survey, to regular time series.

Maximizing the value of the information collected through:

- systematic collection, linkage and analysis of data; and
- ethical and timely dissemination of information

Initiatives to improve quality of diabetes data:

- National Diabetes Outcomes Quality Review Initiative (NDOQRIN);
- new diagnostic criteria and classification of diabetes by American Diabetes Association and World Health Organization;
- minimum data sets for diabetes monitoring (ANDIAB);
- NHPA diabetes indicators with standardised definitions of data elements (AIHW); and
- determining gaps and deficiencies in data content (AIHW).

Use of high-quality, provisional or quasi-national surveillance data:

- National Association of Diabetes Centres survey;
- quasi-national data, eg population-based study of diabetes-related complications and risk factors in South Australia;
- Integration SERU survey of general practitioners;
- National Diabetes Register; and
- various record linkage projects.

Enhancement of diabetes monitoring and information systems:

- national diabetes monitoring (AIHW); and
- State-based diabetes monitoring systems.

Progress in national health information policy environment:

- National Health Information Management Group;
- National Public Health Information Working group;
- National Health Priority Committee; and
- National Health Information Agreement.

Improvement of information development and management:

- National Public Health Information Development Plan (in preparation); and
- National Health Information Development Plan (under revision).

6.6 Research and development

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.

Areas for future research include the following:

- *Reviewing allocation of research funding for diabetes*. The *National Diabetes Strategy and Implementation Plan* report has highlighted the need for a review of research funding for diabetes (Colagiuri et al 1998).
- *Establishing research priorities within diabetes*. These include strategic research in epidemiology, behavioural sciences and health policy, with the aim of reliably monitoring the true prevalence and trends of diabetes (and other non-communicable diseases) in populations, and understanding their determinants.
- *Cost modelling the effects of diabetes and the effect of different interventions*. Research on health outcomes achieved for people who receive different types of care is needed to indicate if current resource investment is achieving the most effective results possible. Similarly, information on the costs incurred in achieving patient outcomes through the various types of care will indicate if the current resource investment is achieving the most efficient results possible.
- *Adequately funded dissemination of research*. Research results need to be disseminated widely to facilitate incorporation into policy decisions and the provision of evidence-based practice. If service providers, in particular, who are not involved in projects implementing clinical management guidelines, become aware of better health outcomes associated with the use of clinical management guidelines, those service providers are likely to adopt the better practice.

Summary of opportunities

Enhance research into diabetes through:

- establishing research priorities;
- encouraging increased levels of funding for diabetes research; and
- cost modelling the effects of diabetes and the effect of different interventions.

6.7 Future directions

Future directions in diabetes will be shaped by the development and implementation of a National Diabetes Strategy, which will be considered by Health Ministers in July 1999. It is proposed that the Strategy will be implemented and further activities developed under the direction of a National Diabetes Advisory Committee.

The National Diabetes Strategy will be based on the results of consultation taken in the development of the *National Diabetes Strategy and Implementation Plan* report, and this report 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. Integral to this process will be consideration of the needs of populations who face significant issues in diabetes prevention and care, including Indigenous Australians, people from culturally and linguistically diverse backgrounds, people living in rural and remote areas, children and adolescents, and older Australians.

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. It is also important that future action recognises past experience and successes and builds on current activity.