



Introduction

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diabetes australian facts 2002

Australian Institute of Health and Welfare

Background

Diabetes has become one of the leading threats to the health of Australians. There is now a growing epidemic due to the recent great rise of Type 2 diabetes, which contributes 85–90% of cases of diabetes. It is estimated that almost a million Australians have diabetes, yet half of these people are unaware of it. Among some Aboriginal and Torres Strait Islander communities as many as one-third of the community have diabetes. It is a costly disease, associated with substantial morbidity and mortality, especially if undetected or poorly controlled. Complications can be life-threatening and include heart disease, stroke, kidney failure, blindness and lower limb amputation.

The rates of diabetes in the Australian community are increasing. Analysis of estimates from a number of surveys has led Dunstan et al. (2001) to conclude that the number of adults with diabetes has trebled since 1981. In an attempt to contain this growing epidemic, in 1996 the Australian Health Ministers agreed that diabetes should be a National Health Priority Area (NHPA). The NHPA initiative focuses public attention on diseases that present a significant health burden, where there is a potential for health gain through prevention and treatment programs.

Type 1 and Type 2 diabetes share many of the same complications. However, unlike Type 1 diabetes, Type 2 diabetes is potentially preventable. Although the disease occurs more commonly in people with a family history of diabetes, its onset is linked to lifestyle factors such as overweight, obesity and physical inactivity. Such risk factors are becoming increasingly common and, together with the ageing of the Australian population, are contributing to the rise of diabetes.

Purpose and structure of this report

This report was compiled by the National Centre for Monitoring Diabetes, at the Australian Institute of Health and Welfare. It aims to provide health professionals, policy makers, academics and other interested readers with a concise summary of the latest available data and trends relating to diabetes in Australia. It is not designed to be a source of personal medical advice.

This is the Centre's first report to produce data on a broad scope, from population levels of the disease through prevention and risk factors to treatment and health services. However, there is a lack of good quality national data in many areas. This limits a full understanding of the true impact of the disease on Australian society and has also influenced the structure and content of this report. For example, current quality data measuring the human and financial costs of diabetes are not available. Nor have there been any comprehensive Australian studies examining the psychosocial effect of the disease on people with diabetes and their carers.

The report is intended to complement information produced in earlier reports by the Australian Institute of Health and Welfare: *Heart, Stroke and Vascular Diseases—Australian Facts 2001* and a 1999 version of the same report (AIHW 2001; AIHW 1999). As such, the structure of these reports is similar; each topic is presented as a stand-alone information sheet and these are assembled into chapters.

This introduction describes diabetes and its main forms, summarises its overall level and impact, and outlines national action to combat the disease. Chapter 2 describes the main types of diabetes and Chapter 3 presents information on risk factors for diabetes, together with risk factors for complications of the disease. The major complications of diabetes are included in Chapter 4 and Chapter 5 presents available data on the management and care of diabetes. Chapter 6 describes the impact of diabetes, including information on disability, mortality and economic costs. Each of the chapters includes a list of publications for further reading.

An outline of methods, data sources and their limitations is included at the back of this report. Some epidemiological concepts are also described in that section and in the glossary.

What is diabetes?

Diabetes is a long-term (chronic) condition in which blood glucose levels become too high because the

body produces little or no insulin, or cannot use insulin properly. Insulin is a hormone produced by the pancreas that helps the body to use glucose. Diabetes can have both short-term and long-term effects, the latter through damage to various parts of the body, especially the heart and blood vessels, eyes, kidneys and nerves. Diabetes also contributes to many pregnancy-related complications for the mother and the baby, both before and after birth.

Because the common feature of diabetes is high blood glucose, it is often mistakenly thought to be a single disease. There are actually several types of diabetes, with different causal mechanisms. The three main types of diabetes are Type 1, Type 2 and gestational diabetes.

Type 1 diabetes is marked by a total or near-total lack of insulin. It results from the body destroying its own insulin-producing cells in the pancreas. People with this form of diabetes require daily insulin therapy to survive. It is the most common cause of childhood diabetes and accounts for 10–15% of all people with diabetes. Surveys indicate that around 0.2–0.3% of the Australian population have Type 1 diabetes.

Type 2 diabetes is marked by reduced levels of insulin, or the inability of the body to use insulin properly (insulin resistance). The disease is most common among people aged 40 years and over, and accounts for 85–90% of all people with diabetes. A 1999–2000 survey estimated that more than 7% of Australians aged 25 years or over have Type 2 diabetes. Many people with this form of diabetes eventually need insulin therapy to control their blood glucose levels.

Gestational diabetes occurs during pregnancy in about 3–8% of females not previously diagnosed with diabetes. Screening tests for gestational diabetes are usually performed around the 24th–28th weeks of pregnancy. It is a temporary form of diabetes and usually disappears after the baby is born. However, it is a marker of increased risk of developing Type 2 diabetes later in life.

There are other, less common, causes of diabetes that are not covered in this report. They include those in which a disease, drug or genetic defect causes the onset of diabetes. These types of diabetes have been estimated to account for 1–2% of all diagnosed cases (CDC 1998).

Scale and impact of diabetes

Diabetes may result in disability for many people, particularly those who suffer complications. The disease also significantly shortens life expectancy. Due to the early onset of Type 1 diabetes (50% of cases before age 18) complications are evident at an earlier age than Type 2 diabetes, creating a greater burden on individuals and their families. The management of diabetes requires dramatic modifications to lifestyle. These may be through adherence to a strict diet, timing of meals, blood glucose monitoring and medication use. The disease also affects quality of life and psychological health, although there are limited data to assess its impact.

A survey conducted in 1999–2000 revealed approximately 940,000 Australians aged 25 or over with either Type 1 or Type 2 diabetes. This survey, the Australian Diabetes, Obesity and Lifestyle Study (AusDiab), collected information on the prevalence of diabetes in Australia measured objectively. It corroborated earlier evidence that for every case of diabetes there exists an undiagnosed Type 2 case (Guest et al. 1992).

Figure 1.1 provides estimates of the number of adults with diabetes in Australia over the last two decades. This information is an adaptation of similar information presented in studies by McCarty et al. (1996) and Dunstan et al. (2001).

These data have been compiled from a number of surveys with different methodologies. For instance, the estimate of population prevalence from the 1981 Busselton Study is based on a sample selected from Busselton in Western Australia and does not include

Indigenous Australians. The 1983 Risk Factor Prevalence Study took place in seven capital cities and Newcastle; it did not sample any rural or remote areas. The method of diabetes detection also varied between the studies. Estimates from the surveys that were based on self-reports of diabetes have been adjusted for undiagnosed cases, based on evidence from Guest et al. (1992) and Dunstan et al. (2001). Although not strictly comparable, these data do suggest a rise in the number of people with diabetes in Australia, leading to the estimate by Dunstan et al. of a trebling in the number of adults with diabetes in the two decades to 2000.

National action to combat the disease

In recent years the growing effects of diabetes have been well recognised. Commonwealth, State and Territory governments have been working together to identify ways to prevent and manage the disease.

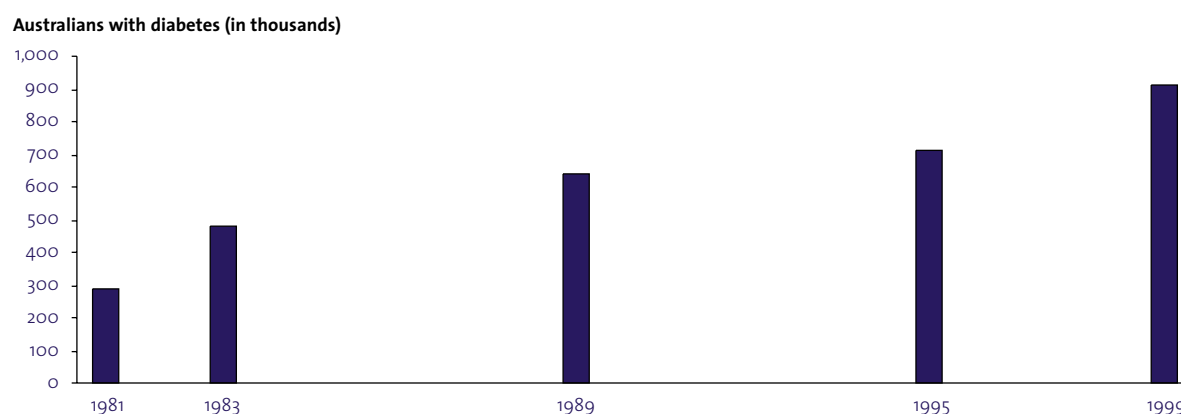
In 1996 diabetes became the fifth NHPA. The NHPA initiative focuses national attention and effort on health conditions which cause the greatest burden and where the greatest health gains can be achieved. Subsequently, a set of priority indicators covering

prevention, screening and early intervention, treatment and management of the condition was developed (DHAC & AIHW 1999). These indicators, which guide ongoing monitoring of the disease, are reported in the appendix.

Following the inclusion of diabetes in the NHPA initiative, the Commonwealth, State and Territory governments agreed to the National Diabetes Strategy 2000–2004 (DoHA 2001). The strategy covers diabetes prevention and management, helping governments and service providers to identify key areas for action to improve the health of Australians with, or at risk of, diabetes. It aims to:

- ensure appropriate attention is given to primary prevention, including risk reduction, effective high-quality management of diabetes and research;
- establish an effective partnership between governments, health care professionals, non-government organisations, consumers and carers; and
- build on experience and successes to date.

Figure 1.1: Diabetes in Australians aged 25 years and over, 1981–1999



Note: Estimates based on self-reports (1983, 1989, 1995) have been adjusted for undiagnosed cases of diabetes based on the assumption that for every diagnosed case there exists an undiagnosed case (Guest et al. 1992; Dunstan et al. 2001).

Sources: Adapted from Dunstan et al. 2001, using data from 1981 Busselton Study, Western Australia; 1983 National Heart Foundation Risk Factor Prevalence Study; 1989 & 1995 National Health Survey (ABS); and 1999–2000 AusDiab.

Prevention and management

Many of the Commonwealth, State and Territory programs described above are intended to help prevent the growing prevalence of Type 2 diabetes, in addition to building awareness of Type 1 and Type 2 complications. Some of the specific prevention initiatives in Australia addressing lifestyle risk factors include the Active Australia campaign, Eat Well Australia and Acting on Australia's Weight.

The SNAP (smoking, nutrition, alcohol, physical activity) framework is an initiative of the Joint Advisory Group on General Practice and Population Health. The framework encourages general practitioners to adopt an integrated approach to modify behavioural risk factors, focusing on smoking, nutrition, alcohol, and physical activity, and supports them in managing these risk factors with their patients.

There are also various programs aimed at reducing the burden of Type 1 diabetes. One example is the proposed establishment of a centre to develop and test a vaccine to prevent the development of Type 1 diabetes, a project jointly managed by the National Health and Medical Research Council (NHMRC) and the Juvenile Diabetes Research Foundation. Other examples include education campaigns and diet counselling.

A consortium led by Diabetes Australia is well-advanced in the preparation of national evidence based guidelines for Type 2 diabetes. The NHMRC have endorsed two of these (primary prevention and case detection and diagnosis). Others have been released as consultation drafts (diagnosis and management of hypertension, prevention and detection of macrovascular disease, identification and management of diabetic foot disease, and guidelines for the management of lipid abnormalities).

National Integrated Diabetes Program

As part of the 2001–02 Federal Budget, the Government announced funding of \$43.4 million over 4 years to ensure a national approach to improving the prevention, earlier diagnosis and management of

people with diabetes. The National Integrated Diabetes Program consists of four components that will:

- provide incentives for general practice for earlier diagnosis and best practice management of people with diabetes;
- provide infrastructure and support for Divisions of General Practice to work with general practitioners and other health professionals to remove barriers to better care for people with diabetes;
- engage consumers with diabetes to enable appropriate self-care and support partnerships with health professionals; and
- support changes in the practices of health professionals.

More information on the National Integrated Diabetes Program can be found at <http://www.health.gov.au/pq/diabetes>.

References and further reading

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