

# 1 Introduction

## Background

Diabetes is increasingly being recognised as a significant and growing public health problem both in Australia and worldwide. Diabetes is the seventh leading underlying cause of death in Australia, and contributes to significant illness, disability, poor quality of life and premature mortality. Diabetes causes almost as much disability burden as mortality burden; however, it also accounts for a high proportion of premature mortality, almost 5.3% of all years of life lost in 1996 (Mathers et al. 1999). The prevalence of diabetes in Australia is also on the rise. The number of Australians with diabetes is projected to pass the one million mark over the next 15–20 years if effective prevention strategies are not put into place (DHAC & AIHW 1999). This situation is likely to be aggravated by increasing levels of physical inactivity and overweight and obesity in Australia (Armstrong et al. 2000; AIHW 2000). Early results from the Australian Diabetes, Obesity and Lifestyle Study (AusDiab) suggest that almost one in four Australians aged 25 and over have either diabetes or a condition of impaired glucose metabolism (DeCourten et al. 2000). Diabetes and its complications account for a considerable proportion of health care expenditure, 2.2% of total direct health system costs.

Due to the substantial economic and health impact of diabetes and its potential for prevention, Australian Health Ministers made diabetes one of six National Health Priority Areas (NHPAs). The first NHPA report on diabetes was published in 1999. The Commonwealth Department of Health and Aged Care funds the Australian Institute of Health and Welfare to monitor and report on the disease, its risk factors, treatment and care.

## Purpose

The purpose of this report is to inform the community, health professionals and policy makers of the extent to which diabetes may cause death in Australia, either directly or indirectly. The report examines diabetes as the underlying cause of death as well as an associated cause using Australian death certificate data. The report takes the first step in filling the important gap in our knowledge of the contribution diabetes may make to all-cause mortality, both as the underlying cause and as an associated cause of death.

## Types of diabetes

Diabetes is not one disease but a collection of closely related diseases. There are three main types of diabetes affecting Australians: Type 1, Type 2 and gestational diabetes. Type 1 diabetes typically develops during childhood and is marked by a complete lack of insulin. Type 2 diabetes is the most common type of diabetes and is characterised by insulin resistance and insulin deficiency. Gestational diabetes occurs during pregnancy and is a marker of greater risk of developing Type 2 diabetes later in life.

Type 2 diabetes can be prevented or at least delayed through modification of risk factors. The risk of developing Type 2 diabetes increases with body fat, and regular physical activity plays a protective role against its development (AIHW 2000).

## **National mortality data**

National mortality data, which are based on death certificates, can be seen to provide a measure of the distribution and importance of more severe diseases such as diabetes. Death certificates list the underlying cause, which is the disease or injury initiating the sequence of events leading to death (i.e. the main cause of death). They also list the associated causes, which refer to all morbid conditions, diseases and injuries leading directly to death or contributing to death (other than the underlying cause). It is believed that until recently these data resulted in an underestimation of diabetes-related deaths in Australia, as until 1997 only the underlying cause was coded from the death certificates. Diabetes can lead to a variety of conditions and complications including coronary heart disease, stroke, blindness, kidney failure, neurological problems and amputation. Several of these complications are life-threatening and may be coded as the underlying cause of death on the death certificates, when diabetes contributes to but does not lead directly to death. The recent move to coding all causes of death provides an opportunity to obtain a fuller picture of diabetes-related mortality in Australia.

## **Structure of this report**

Chapter 2 details the methodology used in this report. Chapter 3 provides a national profile of diabetes mortality, for all diabetes-related deaths and more specifically where diabetes is the underlying cause of death and where it is an associated cause of death. Chapter 4 focuses on diabetes as the underlying or an associated cause of death among Aboriginal and Torres Strait Islander peoples. Chapter 5 discusses diabetes as the underlying or an associated cause of death for particular population groups—States and Territories, urban, rural and remote areas of Australia and people who are at a socioeconomic disadvantage. The appendix contains supplementary tables.