Editorials

Diabetes prevention and care: we know what to do, so why aren't we doing it?

Reducing the national diabetes burden

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The diabetes epidemic continues unabated. Globally, 382 million people have diabetes and this is projected to increase to 592 million by 2035.[1] In Australia, there are an estimated 1 million people with diabetes and another 2 million at high risk of developing diabetes.[2] While the contribution of many chronic diseases to the national burden of disability is decreasing, the diabetes burden continues to increase and is predicted to become the largest contributor by 2017.[3] Diabetes affects individual patients, their families and society in general, and is estimated to cost in excess of $15 billion annually.[4] This burden is not shared equally, and no group is more severely affected than Australia's Indigenous population, who have higher rates of diabetes, significant premature mortality and high rates of complications, especially cardiovascular and renal disease.

There is strong evidence that the diabetes burden can be reduced, but there is an appreciable evidence–practice gap in implementing proven clinical care programs and translating prevention studies into community-based programs. Multifactorial intervention including control of blood glucose, blood pressure and lipids can reduce the broad range of diabetes-related microvascular and macrovascular complications and premature mortality.[5] Some of these effects can be achieved in the short term, whereas others take several years. The United Kingdom Prospective Diabetes Study in type 2 diabetes and the Diabetes Control and Complications Trial in type 1 diabetes showed that it took many years for the effects of improved glycaemic control to accrue in relation to reducing macrovascular complications.[6,7] In addition, a number of randomised controlled studies have demonstrated that the development of type 2 diabetes can be prevented by up to 60% through lifestyle modification in high-risk individuals.[8,9] These prevention benefits persist for many years; and even in people who develop diabetes, the delay in progressing to diabetes also provides benefit.[10] In some individuals, medications or bariatric surgery are appropriate interventions to prevent the development of diabetes.

Australia has the fundamental infrastructure to narrow the evidence–practice gap with its national health system, the National Diabetes Services Scheme, National Health and Medical Research Council-endorsed guidelines, and an established diabetes workforce. But there are significant barriers. Australia has not had a national diabetes strategy since 2005. The general community does not appreciate the impact of diabetes and consequently fails to take it seriously. Clinical inertia in treating diabetes among health professionals and consumers is common. Reimbursed access to the full armamentarium of proven therapies is restricted and the associated prescribing rules are confusing for clinicians and consumers. At-risk individuals prepared to engage in health-promoting activity face an unfriendly and challenging environment, and the lessons of other successful public health interventions are not being applied to diabetes.

In an upcoming issue, the Journal will begin a series of articles providing an update on the diabetes scene in Australia and tackling important issues related to diabetes prevention and care. With the advent of new classes of blood glucose-lowering medications, the Australian Diabetes Society has developed an updated treatment algorithm for people with type 2 diabetes that incorporates these new therapies, provides prescribing precautions in the presence of coexisting renal and liver disease, and highlights the difference between approved and reimbursed therapies. The epidemiology and management of diabetes-related complications will also be addressed. The Australian experience with community-based diabetes prevention programs will be reviewed, as will the potential critical role of legislation and regulation. Although much of the series will highlight type 2 diabetes, one article will focus on recent advances in type 1 diabetes. As the important topic of gestational diabetes has recently received attention in the Journal,[11,12] it will not be covered in the series.

Despite the many challenges, there is cause for cautious optimism. There is now a strong international commitment to act on non-communicable diseases, including diabetes. In Australia, the federal government has commissioned a new national diabetes strategy, scheduled for completion and release in mid 2015, which will provide fresh impetus to reducing the diabetes burden. Success will require a coordinated effort underpinned by an integrated model of care and regular data collection to monitor quality of care and outcomes.

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1 Guariguata L, Whiting DR, Hambleton I, et al. Global estimates of diabetes prevalence for 2013 and projections for 2035. *Diabetes Res Clin Pract* 2014; 103: 137-149.

2 Diabetes Australia. Diabetes National Election Agenda 2013-2015. http://www.diabetesaustralia.com.au/News--Events1/Archived-News/20121/

April/Diabetes-National-Election-Agenda-2013-2015 (accessed Oct 2014).
3 Australian Institute of Health and Welfare. Australia's health 2010. Canberra: AIHW, 2010. (AIHW Cat. No. AUS 122; Australia's Health Series No. 12.)
4 Lee CM, Colagiuri R, Magliano DJ, et al. The cost of diabetes in adults in Australia. *Diabetes Res Clin Pract* 2013; 99: 385-390.
5 Gaede P, Lund-Andersen H, Parving HH, Pedersen O. Effect of a multifactorial intervention on mortality in type 2 diabetes. *N Engl J Med* 2008; 358: 580-591.
6 Holman RR, Paul SK, Bethel MA, et al. 10-year follow-up of intensive glucose control in type 2 diabetes. *N Engl J Med* 2008; 359: 1577-1589.
7 Nathan DM, Cleary PA, Backlund JY, et al. Intensive diabetes treatment and cardiovascular disease in patients with type 1 diabetes. *N Engl J Med* 2005; 353: 2643-2653.
8 Tuomilehto J, Lindstrom J, Eriksson JG, et al. Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance. *N Engl J Med* 2001; 344: 1343-1350.
9 Knowler WC, Barrett-Connor E, Fowler SE, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med* 2002; 346: 393-403.
10 Lindstrom J, Peltonen M, Eriksson JG, et al. Improved lifestyle and decreased diabetes risk over 13 years: long-term follow-up of the randomised Finnish Diabetes Prevention Study (DPS). *Diabetologia* 2013; 56: 284-293.
11 Kevat DAS, Sinha AK, McLean AG. Lower treatment targets for gestational diabetes: is lower really better? *Med J Aust* 2014; 201: 204-207.
12 d'Emden MC. Reassessment of the new diagnostic thresholds for gestational diabetes mellitus: an opportunity for improvement. *Med J Aust* 2014; 201: 209-211. ❑