Type 2 diabetes

A collaborative approach to care

GLEN MABERLY MB BS, MD, FRACP

Type 2 diabetes – and its associated conditions involving the heart, brain, kidneys, feet and eyes – is Australia's leading burden of disease. It has become crucial for GPs, specialists, hospital and community-based allied healthcare providers and community healthcare workers to collaborate so that the right treatment is provided to patients in the right place, in the right way and at the right time.

Key points

- **Type 2 diabetes is the largest burden of disease in Australia and is best managed by GPs and community-based allied healthcare professionals.**
- **Early diagnosis of type 2 diabetes is important to improve the quality of care and achieve better long-term outcomes.**
- **New integrated models of care that rely on a team-based approach and better integration with hospital-based services are emerging across Australia.**
- **Hospital-based services have a role in building the capacity of general practice and the community to better manage diabetes and to be up-to-date with the latest guidelines.**
- **Awareness and education will play a major role in diabetes prevention and management into the future.**

Type 2 diabetes is so common that it is now clear that the main providers of care must be GPs and the community. It is imperative that care is integrated among primary and acute care services to achieve quality health outcomes, find efficiencies, reduce the costs in health care and deliver greater patient and provider satisfaction.[1]

The diabetes challenge

Diabetes is one of the world's fastest growing chronic conditions and Australia's most significant burden of disease. The rate of diabetes can vary twofold within the same city depending on the distribution of the social determinants of disease.[2] This includes the genetic and cultural background of the population, economic wellbeing, patterns of unhealthy food consumption, the amount of physical activity undertaken and how well the built environment supports or inhibits a healthy lifestyle.

Weight gain is the primary driver of the diabetes epidemic. In the past 20 years, Australian adults have, on average, gained 4 kg. An average weight loss of 2 kg in adults would reduce the conversion of people at risk (prediabetes) of diabetes by 30%.[3,4]

Addressing diabetes is an important and time-critical issue that requires a change in the current models of care. This was recognised by the Productivity Commission, which concluded that primary prevention, secondary prevention and better healthcare management, integrated across community and hospitals, will both improve health and save money.[5] The challenge is how to do this well within a fragmented healthcare system that is not incentivised to connecting and sharing care.

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1. Healthcare teams in the new models of care

- GPs and specialists (endocrinologists, cardiologists, renal physicians, orthopaedic and vascular surgeons)
- Practice nurses, community nurses, diabetes educators and integrated care navigators
- Community and high-risk foot service podiatrists
- Optometrists and ophthalmologists
- Community and hospital pharmacists
- Psychologists, psychiatrists and social workers

New models of care

There is a growing need for earlier diagnosis of diabetes to improve the quality of care and achieve better outcomes in a cost-efficient way that satisfies the patient and rewards providers. This will only be achieved by removing the rigidity of the 'silos' between community and specialist care. New models of care involve teams of appropriate experts who are connected and co-ordinated (Box 1). This article reviews some of the elements being tested to improve the whole-patient journey.

Routine screening for earlier diagnosis

Early and effective management of type 2 diabetes has been shown in the United Kingdom Prospective Diabetes Study (UKPDS) to significantly reduce the risk of developing complications.[6]

In western Sydney (an area with one of the fastest-growing and ethnically diverse populations in Australia), the prevalence of diabetes is higher than the Sydney average. In June 2016, the emergency departments at Blacktown and Mount Druitt hospitals commenced routine opportunistic diabetes detection with HbA_{1c} blood testing, which revealed that 17% of people presenting to these hospitals had diabetes (HbA_{1c} >6.5%) and 29% were at high risk of diabetes (HbA_{1c} 5.7 to 6.4%).[7] Currently, 22% of patients admitted to Blacktown hospital have diabetes, and this rate is growing by 1% per year. Routine HbA_{1c} testing provides an opportunity to send a letter to patients and GPs offering early lifestyle interventions for people at risk of diabetes. For patients admitted to hospital, the testing provides an opportunity for diagnosis and to identify poorly controlled diabetes that will benefit from specific medical intervention.

Surprisingly, when using the same detection protocol as the hospital, an identical pattern of results (i.e. showing 17% of patients with diabetes) was found in 11 general practices in western Sydney. An analysis of rates of type 2 diabetes in adults attending general practice in this locality indicates that only 8.6% were documented as having diabetes.[8] This illustrates the 'rule of halves' that suggests half the people with diabetes are not being diagnosed.[9]

Since 2015, the Medicare Benefits Schedule has supported HbA_{1c} testing for the diagnosis of diabetes in asymptomatic patients at high risk. With overweight and obesity now the norm in Australia and a higher risk associated with certain socioeconomic and ethnic backgrounds, it is clear that this is an underutilised opportunity for earlier detection.

Mobilising consumers and patient self-management

Diabetes is not just a medical problem but part of the fabric of life in society today. Improving the consumption of healthy food, increasing physical activity in daily routines and addressing issues of social inclusion is the broader responsibility of all tiers and sectors of government, as well as private and social sectors. Because of this, the National Diabetes Strategy calls for action at federal, state and local levels.[10]

Western Sydney Diabetes (WSD) has formed an alliance of local partners who acknowledge this issue and are committed to working together to beat diabetes in western Sydney.[11] For example, WSD has worked with its alliance partners to identify about 100 lifestyle programs that are either free or affordable and locally available. These are distributed widely as a booklet (Healthy Living Options in Western Sydney) and via the WSD website. Other resources include a low glycaemic index shopping list.

Public mobilisation including using media, communication and education is central to any successful diabetes model of care. Diabetes Australia and its state chapters are a good source of information and resources for patients, including information on food and exercise, and living with diabetes. Greater awareness of diabetes, its associated complications and preventive measures can inspire a more proactive approach to health among the public. Put simply, it is much less effective to place an ambulance service at the bottom of a cliff than it is to take the time to build the fence at the top!

Mobile apps are increasingly available for patients to record their results and guide them to better manage diabetes. Although these apps currently vary in ease of use and the quality of health coaching, they will continue to improve and become increasingly important in bringing diabetes education for self-management to the masses.

Online resources for patients with type 2 diabetes are listed in Box 2.

Building capacity in the community to better manage diabetes

More than 10 years ago, Dr Sheila Cook (an endocrinologist based in Toowoomba, Queensland) pioneered Joint Specialist General Practice Case Conferencing for type 2 diabetes. This approach has since been adopted and incorporated into the core business of several Local Health Districts (LHDs) and Primary Health Networks. Leading examples include Western Sydney, Hunter New England and South West Sydney.

WSD has reported the largest ongoing program, which currently involves five endocrinologists, two advanced trainees or resident medical officers, and four credentialled diabetes educators from the LHD running five half-day sessions in general practice each week. General practices request a session with the Primary Care Network and arrange up to eight cases for each conference session. Medicare Benefits Schedule items can be used by the GPs and specialists but the full costs of these sessions cannot be covered this way. The major goal for each session is to build GP knowledge and skills to better

manage type 2 diabetes – and this goal is regularly achieved. A 30-minute joint consultation can reduce the average HbA_{1c} level by 0.9% and this is sustained for up to three years.[12]

The case conferencing program also builds the capacity of the GP to apply the learning across the whole practice.[12] For example, during case conferencing sessions the credentialled diabetes educator will spend time with the practice nurse and provide education, including on-the-spot training for starting injectable medications and how to perform a 60-second foot check.[12]

Case conferencing is also enhanced by encouraging practice nurses to enrol in specific online training opportunities (e.g. National Association of Diabetes Centres courses) and by providing local master classes for GPs, practice nurses and community allied health-care providers. Typically, after ten cases the specialist team can move on to support other GPs who need upskilling.

The 'BEACON' model of care has been established as a partnership between the University of Queensland, the Brisbane South Primary Care Network, Metro South Hospital and healthcare services to provide improved access to specialist care for people with complex type 2 diabetes. The program moves the diabetes clinic from the hospital outpatients' clinic to a general practice and community healthcare setting. The clinic is run by GPs seconded from the community for a period of time to work with an endocrinologist and diabetes educator. The aim is to treat more complex cases and return patients to the usual care of GPs, thus building the capacity of GPs to be experts in the management of diabetes. BEACON was evaluated through a randomised controlled trial and found to be as clinically effective as a regular hospital-based diabetes clinic, with greater patient satisfaction and cost-efficiency.[13] It also demonstrated a 50% reduction in diabetes-related preventable hospitalisations.[14]

In addition, HealthPathways is being widely adopted across Australia as a source of succinct information and resources to help manage a wide range of diseases in general practice. It is up to each LHD to ensure information is kept current on the best use of medications, up-to-date management guidelines and referral processes.

Integrated care

Enhanced integrated care models are currently being tested in different locations across Australia. Some notable examples include:

- Western Sydney Integrated Care Program for chronic disease: includes primary care teams formally contracted; care facilitators employed by the LHD to support patients; specialist rapid access and stabilisation service; direct specialist support including a GP support line; and information sharing. Preliminary analysis indicates a 34% reduction in the number of hospital admissions and a 37% reduction in potential preventable hospitalisations for participating patients[15]
- Western Australian Diabetes and Endocrine Health Network: a framework to improve accessibility and quality of diabetes prevention and care. The Diabetes Education and Self-Management for Ongoing and Newly Diagnosed (DESMOND) Program was developed in the UK and has been adapted by Diabetes WA (initially for use in Western Australia and now across Australia)[16]
- South Australian Aboriginal Diabetes Strategy 2017-2021: designed specifically to meet the needs of Aboriginal people in South Australia[17]
- Baker Heart and Diabetes Institute in Melbourne: a collaboration of several programs that use telehealth and outreach services to support diabetes management in rural and remote areas.[18]

Once it is better accepted and more widely used, My Health Record should be a substantial contributor to enabling shared care through using e-health.

2. Online resources for patients with type 2 diabetes

- **Western Sydney Diabetes**
  – www.westernsydneydiabetes.com.au/resources
- **Diabetes Australia**
  – www.diabetesaustralia.com.au
- **Diabetes Australia app**
  – www.diabetesaustralia.com.au/diabetes-australia-app
- **National Diabetes Services Scheme**
  – www.ndss.com.au/support-services

Conclusion

Type 2 diabetes is the leading burden of disease in Australia. It is an epidemic driven largely by overweight and obesity, and it is growing. This complex chronic disease requires many providers to contribute along its life journey; however, management and co-ordination of diabetes is best placed in general practice and the community. To ensure this is done well, specialists and hospital services must co-operate and help build the capacity of the community to be up-to-date with the rapidly changing guidelines, especially in relation to the newest medications.

Outcomes for patients with type 2 diabetes are best if the diagnosis is made at the earliest stage of the disease with appropriate lifestyle interventions being offered along with mobile health options for better self-management and education of the patient. The current fractured healthcare system (based primarily on fee-for-service) does not effectively support an integrated model of care. Despite this significant hurdle, localities across Australia are finding ways to make this approach work, and there is a very good reason why. The management of diabetes is too big a task to leave to any one provider; it requires a team with a whole-of-system approach. **ET**

References

A list of references is included in the online version of this article (www.endocrinologytoday.com.au).

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