



Extending eligibility under Medicare 'Allied Health Group Services for patients with Type 2 Diabetes Mellitus' items to pre-diabetes

January 2016

Contact Person: Katie Lyndon
Position: Senior Industry Development Officer
Organisation: Exercise & Sports Science Australia
Address: Locked Bag 102, Albion DC, QLD 4010
Telephone: 07 3862 4122
Email: Katie.lyndon@essa.org.au

Recommendation:

- ❖ We propose extending eligibility for Medicare ‘Allied Health Group Services for patients with T2DM’ to both diabetes and pre-diabetes for assessment item numbers (81100, 81110, 81120) and group service item numbers (81105, 81115, 81125).

Treat pre-diabetes to prevent diabetes

Current eligibility for Medicare Allied Health assessment item numbers (81100, 81110, 81120) and group service item numbers (81105, 81115, 81125) requires a diagnosis of Type 2 Diabetes Mellitus (T2DM). We propose extending eligibility for these items to include pre-diabetes to slow the increasing prevalence of T2DM with its associated co-morbidities and healthcare spending.

This submission is supported by the following key points:

- 1) There are established criteria published by authoritative bodies in Australia and internationally^[1] for determining pre-diabetes, a recognised risk factor for diabetes and cancer.
- 2) Peer reviewed evidence supports the efficacy of lifestyle intervention on delaying disease progression from pre-diabetes to diabetes, with benefits persisting long-term.
- 3) Improvements in quality of life and significant direct and indirect cost savings could be realised by slowing disease progression.
- 4) This proposal aligns with current Australian government policy to prevent diabetes. Specifically, the Australian National Diabetes Strategy 2016-2020 explicitly advocates in ‘Goal 1’ to prevent people developing T2DM^[19].

The burden of diabetes

“The Australian Government is aware of the significant burden that diabetes has on individuals and their families and is committed to working towards the broad prevention of the disease, and its associated complications, in the Australian community.” Australian Government Department of Health, 2014^[1]

According to the 2011-2012 National Health Survey^[2], 5.1% of Australian adults have diabetes. This result comprised of 4.2% with known diabetes (of which 85.3% had T2DM) and 0.9% with test results indicating diabetes, but who were unaware that they had the condition.

The prevalence of T2DM continues to rise^[3-5] despite state and federal governments supporting a variety of programs to improve diabetes prevention, detection and management. Between 1989–90 and 2011–12, the age-standardised rate of diabetes more than doubled, from 1.5% to 4.2% of Australians^[6]. By 2023, T2DM is projected to become the leading specific cause of disease burden for men and the second leading cause for women, with the number of Australians diagnosed with diabetes expected to grow to 3.5 million by 2033^[3].

Diabetes is associated with a number of co-morbidities which impact on the quality of life of individuals, and have social and financial impacts on households and the Australian community. This includes obstructive sleep apnoea, fatty liver leading to cirrhosis, erectile dysfunction, and moderate to severe depressive and anxiety symptoms^[7].

The total annual cost of T2DM to the community in Australia is estimated at \$14.6 billion including healthcare costs, the cost of carers and Commonwealth government subsidies, and is forecasted to increase to \$30 billion by 2025^[8]. The average annual healthcare cost per person with diabetes is \$4025 if there are no associated complications, increasing to \$9645 in people with complications^[8].

Risk factors for diabetes

Risk factors for diabetes include pre-diabetes, the term used by the American Diabetes Association and other authoritative bodies for groups of individuals whose blood glucose levels do not meet the criteria for diabetes, but which are too high to be considered normal. Pre-diabetes is diagnosed as impaired fasting glucose (IFG) in a person presenting with random blood glucose levels of 5.5-11 mmol/L or fasting 5.5-6.9 mmol/L, or impaired glucose tolerance (IGT) in a person presenting with an oral glucose tolerance test 7.8–11 mmol/L^[17].

At least 2 million Australians have pre-diabetes and are at high risk of developing T2DM^[9]. The annual incidence of developing diabetes is 5–10% in people with pre-diabetes when compared to approximately 1% in the general adult population^[9]. There is also evidence that pre-diabetes increase the risk of cancer by 15%^[10].

Lifestyle interventions prevent diabetes

Lifestyle interventions such as diet and physical activity have been shown to be effective as single treatments for pre-diabetes when delivered by appropriately qualified and credentialed health professionals such as Accredited Practising Dietitians, Accredited Exercise Physiologists, and Credentialed Diabetes Educators. A recent randomised controlled clinical trial in the United States demonstrated that individualised medical nutrition therapy delivered by dietitians was effective in decreasing blood glucose levels in patients diagnosed with pre-diabetes^[16]. The Diabetes Prevention Project involving 3,234 participants with pre-diabetes showed a 58% reduction of IGT in the group undertaking 30 minutes daily moderate physical activity for 5 weeks compared with 31% in the pharmaceutical treated group. Physical activity also resulted in 5-10% reduction in body weight^[15].

Lifestyle interventions have been most powerful when delivered in combination^[17]. The Diabetes Prevention Project, the Finnish Diabetes Prevention Study, and the Da Qing Impaired Glucose tolerance and Diabetes Study are evidence that lifestyle changes can prevent or delay the onset of

T2DM^[10-14, 18]. In the Diabetes Prevention Project people with pre-diabetes responded more favourably to lifestyle modification programs compared to people with T2DM^[10]. A systematic review and meta-analysis identified that diabetes prevention programmes can significantly reduce the progression to T2DM and lead to reductions in weight and glucose compared with usual care^[20].

The benefits of lifestyle intervention programs apply over significant periods. In one meta-analysis, people with pre-diabetes who made lifestyle changes were 40% less likely to progress to diabetes after one year, and 37% less likely to progress after three years, compared to those who did not make lifestyle changes. In another study the benefits persisted for up to 10 years^[11]. Further, exercise interventions delivered by AEPs are estimated to reduce the incidence of T2DM in high risk populations by ~31%, these benefits sustained for a number of years after the intervention has finished^[22].

The American Association of Diabetes Educators promote diabetes educators as the group of healthcare professionals trained to work with people who have diabetes regarding appropriate goal-setting around self-care behaviours including healthy eating and physical activity to better enable them to accomplish the changes needed for better health outcomes. Applying this same skill set to people with pre-diabetes provides a ready means for addressing the needs of this population to help diminish their risk of developing diabetes^[12].

Exercise and dietary lifestyle interventions targeting people with pre-diabetes will also render health benefits for reducing the incidence for adult overweight and obesity and associated chronic health diseases, co-morbidities and risk factors in this population. Importantly, optimal benefits are achieved with supervised exercise prescription, incorporating follow up, and a behavioural and individualised approach – as provided by an Accredited Exercise Physiologist.

Economic and community impact of lifestyle intervention

“Reducing T2DM prevalence will not only result in financial savings for the healthcare system, but increased participation and productivity in the workforce stimulating the economy and, most importantly, better Australian health outcomes and quality of life.” Diabetes Australia^[13]

Studies by Diabetes Australia and other agencies demonstrate that effective funding of lifestyle interventions has the potential to mitigate rapidly increasing government expenditure attributed to T2DM, such as:

- An intensive lifestyle intervention conducted on people with pre-diabetes, involving 30 minutes of physical activity daily and a 5-7% loss of initial body weight resulted in an estimated reduction in lifetime healthcare costs by \$1087 per person within the Australian healthcare setting^[4].

- The delivery of diabetes education programs to all Australians with diabetes was calculated to achieve Australian healthcare cost savings of \$3.9 billion in 2014. Specifically, for every dollar spent on diabetes education, more than \$16 in healthcare costs could be saved^[21].
- A 2014 meta-analysis of 12 studies, consisting of 7,400 women and 5,500 men identified that successful diabetes prevention has a positive economic impact. Cost-effectiveness analyses indicated that lifestyle interventions are the most cost-effective approach compared to pharmaceutical interventions^[15].
- For people with pre-diabetes receiving an exercise intervention, as delivered by an Accredited Exercise Physiologist, the expected annual saving in health system expenditure is \$1,977 per person annually^[22]. The benefit-cost ratio (BCR) with reference to direct health care expenditure and the average cost of exercise interventions, as delivered by Accredited Exercise Physiologists, per person with pre-diabetes is 6.0 to 1^[22]. When the burden of disease is accounted for, the indicated BCR becomes 10.5 to 1^[22].
- A systematic review identified a median incremental cost effectiveness return for diet and physical activity promotion programs of \$13,761 per Quality Adjusted Life Year (QALY) saved^[16]. Group-based diabetes programs were more cost-effective (median \$1,819 per QALY) than those that used individual sessions (median, \$15,846 per QALY)^[16].

References

1. Royal Australian College of General Practitioners 2012, Diabetes Management in General Practice: Guidelines for Type 2 Diabetes 2011/2012.
2. Australian Bureau of Statistics, Australian health survey: First results, 2011-12. 2012 29/10/2012 [cited 2014 20 January]; Available from: <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/D4F2A67B76B06C12CA257AA30014BC65?opendocument>.
3. Goss J 2008, Projection of Australian health care expenditure by disease: 2003 to 2033, AIHW: Canberra.
4. Sha J and Tanamas S 2012, Diabetes: the silent pandemic and its impact on Australia, Accessed Dec 2014. Available from: <http://www.diabetesaustralia.com.au/Documents/DA/What%27s%20New/12.03.14%20Diabetes%20management%20booklet%20FINAL.pdf>.
5. Shaw J, Sicree R, Zimmet P 2010, Global estimates of the prevalence of diabetes for 2010 and 2030, *Diabetes Research and Clinical Practice*, 87(1): pp.4-14.
6. Speight J, Holmes-Truscott E, Hendrickx C, Pouwer F 2011, Diabetes MILES – Australia 2011 Survey Report, Diabetes Australia, Canberra.
7. Lee CM, Magliano DJ, Cameron AJ, Shaw J, Zimmet P, Colagiuri S 2013, The cost of diabetes in adults in Australia, *Diabetes Res Clin Pract*, 99(3): pp.385-90.
8. Dunstan D, Welborn T, Sicree R, Armstrong T, Atkins R, Cameron A, Shaw J, Chadban S 2001, The Australian Diabetes, Obesity and Lifestyle Study: Diabetes and associated disorders in Australia – 2000: the accelerating epidemic, International Diabetes Institute, Melbourne.
9. Gerstein H, Raina P et al. 2007, Annual incidence and relative risk of diabetes in people with various categories of dysglycemia: a systematic overview and meta-analysis of prospective studies, *Diabetes Res Clin Pract*, 78(3): pp.305–312.
10. Huang Y, Miaozen Q, Peisong C, Hongfeng T, Yunzhao H 2014, Prediabetes and the risk of cancer: a meta-analysis, *Diabetologia*, Sept, DOI: 10.1007/s00125-014-3361-2.
11. Parker AR, Byham-Gray L, Denmark R, Winkle PJ 2014, The effect of medical nutrition Therapy by a registered dietitian nutritionist in patients with pre-diabetes participating in a randomized controlled clinical research trial, *J Acad Nutr Diet*, 114: pp.1739-1748.
12. Diabetes Prevention Program Research Group: Herman WH, Brandle M, Hicks K, Sorensen S, Zhang P, Hamman R, Ackermann R, Engelgau M, Ratner R 2002, Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin, *New England Journal of Medicine*, 346(6): pp.393-403.
13. Tuomilehto J., et al. 2001, Prevention of type 2 diabetes mellitus by changes in lifestyle among subjects with impaired glucose tolerance, *New England Journal of Medicine*, 344(18): pp.1343-1350.
14. Sherr D, Lipman RD 2013, Diabetes Educators: Skilled professionals for improving prediabetes outcomes, *Am J Prev Med* 44(4): pp.390-3.
15. Glechner A, Harreiter J, Gartlehner G, Rohleder S, Kautzky A, Tuomilehto J, Kaminski-Hartenthaler A, Kautzky-Willer A 2014, Sex-specific differences in diabetes prevention: a systematic review and meta-analysis, *Diabetologia* DOI: 10.1007/s00125-014-3439-x.
16. Li R, Qu S, Zhang P, Chattopadhyay S, Gregg EW, Albright A, Hopkins D, Pronk NP 2015, Economic Evaluation of Combined Diet and Physical Activity Promotion Programs to Prevent Type 2 Diabetes Among Persons at Increased Risk: A Systematic Review for the Community Preventive Services Task Force, *Ann Intern Med*, 163(6): pp.452-60 (ISSN: 1539-3704).
17. American Diabetes Association 2014, Standard of medical care in Diabetes. *Diabetes Care* 2014; 37(1): pp.S14-S80.
18. Pan X, Li G, Hu Y, Wang J, Yang W, An Z, et al. 1997, Effects of Diet and Exercise in Preventing NIDDM in People With Impaired Glucose Tolerance: The Da Qing IGT and Diabetes Study, *Diabetes Care*, 20: pp.537-544.
19. National Diabetes Strategy Advisory Group, Australian National Diabetes Strategy 2016-2020, Accessed 04 Jan 2016. Available from: <http://www.health.gov.au/internet/main/publishing.nsf/Content/nds-2016-2020>

20. Ashra NB, Spong R, Carter P, Davies MJ, Dunkley A, Gillies C, et al 2015, A systematic review of the effectiveness of lifestyle interventions for the prevention of type 2 diabetes mellitus in routine practice, Public Health England, London; pp. 173, accessed online 04 Jan 2016. Available from: <https://www.gov.uk/government/publications/diabetes-prevention-programmes-evidence-review>
21. Deloitte Access Economics 2014 (commissioned by Australian Diabetes Educators Association), Benefits of Credentialed Diabetes Educators to people with diabetes and Australia, accessed online 04 Jan 2016. Available from: <http://www.adea.com.au/wp-content/uploads/2014/07/Benefits-of-Credentialed-Diabetes-Educators-to-people-with-diabetes-and-Australia.pdf>
22. Deloitte Access Economics 2015 (commissioned by Exercise & Sports Science Australia), Value of Accredited Exercise Physiologists in Australia, accessed online 04 Jan 2016. Available from: https://www.essa.org.au/wp-content/uploads/2015/10/Deloitte-Report-2015_Value-of-AEPs-in-Australia.pdf



Exercise & Sports Science Australia www.essa.org.au

Exercise & Sports Science Australia (ESSA) is a professional organisation which is committed to establishing, promoting and defending the career paths of university trained exercise and sports science practitioners. ESSA's vision is to achieve member excellence in exercise and sports science that will enrich the health and performance of every Australian. As the peak professional body for exercise and sports science in Australia, ESSA's mission is to empower our members by providing strategic leadership in exercise and sports science through advocacy, support of professional networks and the promotion of excellence in education, research and professional practice.

Accredited Exercise Physiologist (AEP)

AEPs are federally recognised allied health professionals that specialise in clinical exercise interventions for patients with existing chronic and complex medical conditions or injuries, or those at high-risk of developing these. These interventions are provided by exercise delivery including health and physical activity education, advice and support, and lifestyle modification with a strong focus on achieving behaviour change with the aim of optimising physical function, health and wellness. As part of a multidisciplinary team, AEPs work with clients with a range of medical conditions including cancer, diabetes, cardiovascular disease, mental illness, pulmonary disease, osteoarthritis and obesity.



Dietitians Association of Australia (DAA) www.daa.asn.au

DAA is the national association of the dietetic profession with over 5800 members. The interests of dietitians are broad and derive from training in three dominant areas of practice i.e. individual case management (clinical care), community and public health nutrition, and food service management. Dietitians work in diverse settings including hospitals, private practice, public health, community health, food service, food industry, research and teaching.

Accredited Practising Dietitian (APD)

The APD program is the foundation of DAA as a self-regulated profession. The APD credential is recognised by Medicare, the Department of Veterans Affairs, private health funds and for access to the Healthcare Identifiers Service.



Australian Diabetes Educators Association (ADEA) www.adea.com.au

ADEA has become the leading organisation for healthcare professionals with a special interest in diabetes education. ADEA's mission is to lead and advocate for best practice diabetes education

and care. The ADEA is committed to support its members' efforts to provide evidenced – based best practice diabetes education and care to people with or at risk of diabetes, their carers and families.

ADEA has a strong focus on:

- Actively promoting evidence-based diabetes education to ensure optimal health and wellbeing for those affected by, or at risk of diabetes
- Setting standards and developing guidelines for the practice of diabetes education
- Offering professional development programs and accrediting those developed by other organisations.

Credentialed Diabetes Educators (CDE)

Credentialed Diabetes Educators (CDEs) are qualified to provide a client-centred approach to diabetes education and care, empower patients and assist them in dealing with daily self-management. A CDE supports people with diabetes and their carers, communities and populations at risk of, or affected by diabetes to achieve their maximum health potential. They integrate diabetes self-management education with clinical care as part of a therapeutic intervention to promote physical, social and psychological wellbeing.

CDEs come from a range of primary health disciplines including nursing, midwifery, dietetics, podiatry, pharmacy, medicine, physiotherapy, and exercise physiology. An ADEA CDE is a full member of the ADEA, has completed an ADEA accredited post-graduate diabetes education course and a period of supervised clinical practice and activities that fulfil the continuing education and professional development requirements of the ADEA Credentialling Program.