

2 July 2013

PBS Post-Market  
Department of Health and Ageing  
MDP 900  
GPO Box 9848  
CANBERRA ACT 2601

Dear Sir / Madam

**Re: Stage 3 of the Review for Medicines Used in the Treatment of Type 2 Diabetes**

In relation to the above review, we would like to bring the following salient points to the attention of the Pharmaceutical Benefits Advisory Committee.

Type 2 diabetes is the fastest growing chronic disease in Australia, expected to become the largest health priority and number one burden of disease in the next five years (1). Beyond diet and lifestyle modification, there already exists a plethora of treatment options for type 2 diabetes, and this choice is expected to widen as the pharmaceutical industry works to develop more effective and cost-effective treatments for the management of this serious and complex metabolic condition. While the impending epidemic of type 2 diabetes encourages a focus on glycaemic control (HbA1c) and cost savings, it is important that the review is not curtailed in its focus, and that it takes into full account the quality use of medicines and the importance of improving a range of outcomes, including patient-reported outcomes. A focus on HbA1c or spending cuts in isolation may restrict access to newer classes of medication, which have wider benefits (reduced risk of hypoglycaemia and promotion of weight loss) and the potential to engage people with type 2 diabetes in self-management.

A decade ago, the World Health Organisation indicated that improving self-management “may have a far greater impact on the health of the population than any improvement in specific medical treatments” (2). Self-management is influenced, in particular, by the individual’s willingness to take medications as recommended. Factors that influence treatment acceptability, therefore, play an important role in medication choice, timely uptake, and successful long-term use of medications and achieving long-term clinical outcomes.

Among the considerations that affect the ability and willingness of people with type 2 diabetes to start and continue a particular management plan are the complexity and acceptability of treatment. When onerous, these can act as barriers to optimal self-care (3). Many people with type 2 diabetes find insulin injections (or the idea of them) burdensome and would either like to avoid insulin initiation or to reduce the number of daily insulin injections. Psychological well-being and quality of life are also key factors in willingness to continue treatment. In this regard, the frequency and severity of treatment-related adverse events such as hypoglycaemia (associated with sulphonylureas and insulin), and weight gain (associated with thiazolidinediones, sulphonylureas, glinides and insulin) are likely to be particularly significant. Both hypoglycaemia and weight gain can reduce satisfaction with treatment, willingness to continue treatment and deter people with type 2 diabetes from intensifying treatment (3, 4, 5)

.../cont.

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In particular, we would draw the PBAC's attention to two literature reviews of relevance:

- **Barendse SM, Singh H, Frier BM, Speight J (2012). The impact of hypoglycaemia on quality of life in type 2 diabetes: a narrative review. *Diabetic Medicine*, 29(3), 293-302** – As a common side effect of insulin and sulphonylureas, hypoglycaemia is a constant threat and can have far-reaching and potentially devastating consequences, including immediate physical injury as well as more pervasive cognitive, behavioural and emotional effects. Moreover, exposure to hypoglycaemia can negatively influence diabetes self-management. Although hypoglycaemia is known to occur in type 2 diabetes, its morbidity and impact on the individual are not well recognized. The aim of this review was to examine published evidence to achieve a synthesis of the scope and significance of the potential detriment caused by hypoglycaemia to individuals with type 2 diabetes. It was identified that hypoglycaemia impacts on the lives of people with type 2 diabetes in many ways, from an association with depressive symptoms and heightened anxiety, to impairment of the ability to drive, work and function in ways that are important for quality of life. Thus, treatment options are needed that reduce the risk of hypoglycaemia.
- **Davies MJ, Speight J (2012). Patient-reported outcomes in trials of incretin-based therapies in type 2 diabetes. *Diabetes Obesity and Metabolism*, 14(10): 882-92** – Incretin-based therapies have a glucose-dependent mode of action that results in excellent glucose-lowering efficacy with very low risk of hypoglycaemia, and weight neutrality (dipeptidyl peptidase-4 (DPP-4) inhibitors) or weight loss (glucagon-like peptide-1 (GLP-1) receptor agonists), in people with type 2 diabetes. This review summarized patient-reported outcome (PRO) data from eight clinical trials, the majority of which used the Diabetes Treatment Satisfaction Questionnaire (DTSQ) and/or Impact of Weight on Quality of Life-Lite (IWQOL-Lite) to evaluate the experience of incretin-based therapies. People with type 2 diabetes were highly satisfied with modern incretin-based therapies compared with traditional therapies. Treatment satisfaction (including perceptions of convenience and flexibility) was high and generally higher with GLP-1 agonists in association with their greater glucose-lowering efficacy and tendency to facilitate weight loss. Weight-related quality of life also improved in people using incretin-based therapies. The glycaemic improvements achieved with GLP-1 receptor agonists, coupled with the low incidence of hypoglycaemia and ability to cause weight loss, seemed to offset potential concerns about injections. It is plausible that superior patient-reported benefits found in these clinical trials may translate into improved, clinically meaningful, long-term outcomes through increased treatment acceptability – though long-term studies are needed to confirm this.

Our purpose in bringing these reviews to the attention of the PBAC is simple. We encourage the committee to consider the importance of individualised treatment, access to appropriate and innovative medicines, and the importance of both clinical judgment and patient choice in the management of type 2 diabetes. A focus on HbA1c or spending cuts in isolation may restrict access to the newer class of medications, which have the potential to engage people with type 2 diabetes in self-management by reducing risk of hypoglycaemia and/or reducing weight gain / promoting weight loss. The PBAC needs to value the clinical benefit of medications that have no weight gain or hypoglycaemia side effects, as they have the potential to minimise the impact of diabetes on quality of life and improve health outcomes.

Yours faithfully



**Professor Jane Speight** MSc PhD CPsychol AFBPsS

**Foundation Director –**

**The Australian Centre for Behavioural Research in Diabetes**

Chair of Behavioural and Social Research in Diabetes, Deakin University

## References

- (1) Australian Institute of Health and Welfare (2010). *Australia's Health 2010*. Australia's Health series no. 12. Cat. No. AUS 122. Canberra: AIHW.
- (2) World Health Organization (2003). *Adherence to long-term therapies: evidence for action*. Geneva: WHO.
- (3) Odegard PS, Capoccia K (2007). Medication taking and diabetes: a systematic review of the literature. *Diabetes Educator*, **33**: 1014–1029.
- (4) Pi-Sunyer FX (2009). The impact of weight gain on motivation, compliance, and metabolic control in patients with type 2 diabetes mellitus. *Postgraduate Medicine*, **121**: 94–107.
- (5) Pollack MF, Purayidathil FW, Bolge SC, Williams SA (2010). Patient-reported tolerability issues with oral antidiabetic agents: associations with adherence; treatment satisfaction and health-related quality of life. *Diabetes Research and Clinical Practice*, **87**: 204–210.