

This presentation is to discuss the thesis of the MSc in Epidemiology student Alexandre Baptista and a Poster that has been accepted for publication in ISPOR Amsterdam 2014. The dissertation is being developed under the supervision of Prof. Julian Perelman and co-supervision of Prof. Antonio Vaz Carneiro.

Title: The place of DPP-4 inhibitors in the treatment algorithm of diabetes type 2: a Systematic Review of Cost-effectiveness Studies

Objective: To conduct a systematic review of cost-effectiveness, cost-utility and cost-benefit studies of new inhibitors of DPP-4 for diabetes treatment versus other antidiabetics.

Methods: Three investigators searched the CRD York, NICE Health Technology Assessment, Tufts CEA Registry, MEDLINE (PubMed) databases, and grey literature through 2014. Revision of all potentially relevant titles and abstracts (1st screening), and subsequently screened full-text articles (2nd screening), according to inclusion criteria. Restricted to studies with a lifetime or near-lifetime horizon and adopting either a societal or a healthcare perspective. The studies should be available as a full-text publication and published in English, French, Spanish, or Portuguese. A critical appraisal of the methodology and reporting was performed using the 35 item version of the BMJ checklist.

Results: A total of 59 studies were identified and 13 were accepted (2nd screening). Saxagliptin was assessed in 7 studies, sitagliptin in 5 and vildagliptin in 1. Liraglutide was cost-effective versus sitagliptin as second line therapy (12,164 to 27,289 €/QALY). Saxagliptin (771 to 13,931 €/QALY), sitagliptin (5,949 to 20,350 €/QALY) and vildagliptin (9,072 €/ QALY) were also cost-effective versus sulphonylureas as second line therapy, all as add-on to meformin. Saxagliptin is dominant versus pioglitazone with metformin. Saxagliptin was also cost-effective versus insulin (6,562 €/QALY with sulphonylurea and 7,304 €/QALY with metformin).

Conclusion: According to commonly accepted thresholds in high income countries, there is consistent evidence about the cost-effectiveness of DDP-4 inhibitors as second line therapy for diabetes type 2. Though, more evidence is necessary to define which DDP-4 inhibitor is the most cost-effective.