Use Of The Ims Core Diabetes Model (CDM) In A Long-Term Projected Health Economic Comparison Of CSII And MDI Treatments Of Type 1 Diabetes (T1D) In A Newly-Diagnosed Population Of Paediatric Patients

Ridyard, Colin; Blair, Jo; Hughes, Dyfrig

Value in Health

DOI: 10.1016/j.jval.2017.08.1029

Published: 20/10/2017

Peer reviewed version

Cyswllt i'r cyhoeddiad / Link to publication

Dyfyniad o'r fersiwn a gyhoeddwyd / Citation for published version (APA):

Hawliau Cyffredinol / General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.
USE OF THE IMS CORE DIABETES MODEL (CDM) IN A LONG-TERM PROJECTED HEALTH ECONOMIC COMPARISON OF CSII AND MDI TREATMENTS OF TYPE 1 DIABETES (T1D) IN A NEWLY-DIAGNOSED POPULATION OF PAEDIATRIC PATIENTS.

Ridyard CH1, Blair J2, Hughes DA1, on behalf of the SCIPI Trial Investigators. 3
1Bangor University, Bangor, United Kingdom, 2Alder Hey Children's NHS Foundation Trust, Liverpool, United Kingdom, 3Clinical Trials Research Centre, Liverpool, United Kingdom

OBJECTIVES: Continuous subcutaneous insulin infusions (CSII) are an alternative to multiple daily injections (MDI) of insulin for glycaemic control and reducing the risks of developing long term microvascular and macrovascular complications in type 1 diabetes (T1D). As part of a randomised clinical trial (SCIPI, ISRCTN29255275) we aimed to estimate and compare the long term (60 year) cost-effectiveness of CSII treatment with MDI in paediatrics newly diagnosed with T1D. METHODS: Patients were randomised equally to CSII or MDI and followed-up for 1 year. Glycated haemoglobin levels (HbA1c), measured at randomisation, 3, 6, 9 and 12 month were used to project future differences between CSII and MDI. Mean total costs for MDI and CSII were estimated at £2,666 and £4,533 for year 1, and £1,665 and £3,303 in subsequent years. Quality adjusted life years (QALYs) were estimated using CORE default settings. Simulations were run for 1000 patients over a thousand iterations and a 60-year timeframe. All costs and outcomes were discounted at 3.5%. RESULTS: Data on HbA1c were available for 97% of participants (CSII=143 MDI=142). Simulations were run with: (i) projected 0.3% HbA1c improvement in CSII patients over 60 years, giving a cost/QALY gain of £207,153 (95% CI: £14,944; £399,362); and (ii) projected 0.2% HbA1c improvement in MDI patients over 60 years, resulting in CSII being dominated. CONCLUSIONS: Based on these exploratory analyses, CSII does not appear to be cost-effective in patients representative of the study population for a projected 60-year lifetime and is dominated by MDI. However, the CDM has not been validated in paediatric populations, and no reliable data on comparative costs and outcomes are available beyond 12 months.