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Value in Health

DOI:

[10.1016/j.jval.2017.08.1029](https://doi.org/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):

Ridyard, C., Blair, J., & Hughes, D. (2017). 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. *Value in Health*, 20(9), A580. <https://doi.org/10.1016/j.jval.2017.08.1029>

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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.

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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.