

Continuous Subcutaneous Infusion Versus Multiple Dose Injection of Insulin For Newly-Diagnosed T1D Paediatric Patients: A Cost-Utility Analysis

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CONTINUOUS SUBCUTANEOUS INFUSION VERSUS MULTIPLE DOSE INJECTION OF INSULIN FOR NEWLY-DIAGNOSED T1D PAEDIATRIC PATIENTS: A COST-UTILITY ANALYSIS

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OBJECTIVES: Continuous subcutaneous insulin infusions (CSII) and multiple daily injections (MDI) with insulin are alternative methods of glycaemic control in type 1 diabetes (T1D) aimed to reduce the risk of developing long term microvascular and macrovascular complications. The SCIPi trial (ISRCTN29255275) compared the clinical and cost-effectiveness of CSII treatment with MDI in paediatric patients from the perspective of the NHS. **METHODS:** Children (aged 7months-15years) with newly-diagnosed T1D were randomised equally to CSII or MDI for treatment and stratified by age and treatment centre. Resource use (prescribed insulin, concomitant medications, devices, consumables, inpatient, outpatient, emergency, adverse events, general practitioner and school visits) was collected at randomisation, 3, 6, 9 and 12 month intervals. Quality adjusted life years (QALYs) were assessed by the Health Utilities Index (Mark II) completed at all study visits. **RESULTS:** 293 children were randomised to the trial (median age 9.8 years; median HbA1c 11.8%). Over 12 months, mean total costs were higher by £1,863 (95% CI, £1,620, £2,137) for CSII than for MDI (£4,404 vs £2,541); with the majority of this difference (£1,177) due to the additional cost of consumables and devices (annualised cost of £600 CSII versus £80 MDI). There were no significant differences in QALYs between CSII (0.910) and MDI (0.916) [difference in means of -0.006 QALYs (95% CI, -0.031, 0.018)] and none of the sensitivity analyses affected the base case result of CSII being dominated by MDI. **CONCLUSIONS:** CSII is not cost effective in patients representative of the study population and is dominated by MDI. However, the generalisability of our data beyond 12 months is uncertain.