



EVIDENCE SYNTHESIS
IRELAND



Cochrane
Ireland

Evidence Synthesis Ireland Fellowship Scheme Review Identification Form

Review Centre/Group Mentor

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Review title

Effectiveness of quality improvement strategies for type 1 diabetes in children and adolescents

Review type and methods

Review type: Cochrane Review. Qualitative synthesis, with or without meta-analysis component dependent on extent and homogeneity of trials

Methods and analysis: MEDLINE, EMBASE, CINAHL and Cochrane CENTRAL databases will be searched for relevant studies up to January 2021. Trial registries, ClinicalTrials.gov and ICTRP, will also be explored for any ongoing trials of relevance. We will include trials which examine quality improvement (QI) strategies as defined by a modified version of the Cochrane Effective Practice and Organisation of Care 2015 Taxonomy in children (<18 years) with a diagnosis of T1D. The primary outcome to be assessed is glycated haemoglobin (HbA1c), although a range of secondary outcomes relating to clinical management, adverse events, healthcare engagement, screening rates and psychosocial parameters will also be assessed. Our primary intention is to generate a best-evidence narrative to summarise and synthesise the resulting studies. If a group of studies are deemed to be highly similar, then a meta-analysis using a random effects model will be considered. Cochrane Risk of Bias 1.0 tool will be applied for quality assessment. All screening, data extraction and quality assessment will be performed by two independent researchers.

Review information

This review is being handled by the Cochrane Central Editorial Service Team in conjunction with the **Cochrane Endocrine and Metabolic Disease Group**. It takes its origins from the adult equivalent review entitled "*Effectiveness of Quality Improvement in Diabetes*", which has recently been submitted to **Cochrane EPOC** in its third iteration and first living systematic review submission.

Review details

Background: There is evidence to suggest that certain QI strategies support the implementation of best practices in the setting of diabetes in adults and result in improvements in intermediate outcomes, such as glycated haemoglobin (HbA1c). However, these strategies are often not directly applicable to the paediatric population, where developmental, educational, behavioural, and family factors provide additional challenges and complexities to optimal diabetes care. Similarly, the setting in which care is delivered for paediatric populations is quite different to that of adult care, often involving greater resources and significant multidisciplinary collaboration, including input from an array of allied health professionals (i.e., physiotherapists, occupational therapists, dieticians, etc.). Therefore, understanding which of these strategies are most effective in improving the delivery of guideline-concordant practices for T1D in the paediatric setting would be of significant clinical use. This review builds upon a large Cochrane Effective Practice and Organisation of Care (EPOC) Living Systematic Review assessing effectiveness of QI strategies in adults with diabetes. We now aim to conduct a complementary review for paediatric populations in an effort to establish the best available evidence for clinicians, investigators, policymakers, decision-makers and patients from birth to old age.

PICO: In children and adolescents and children with T1D (*population*), does implementation of QI strategies (*intervention*) improve glycaemic control and care engagement (*outcome*) when compared to standard/usual care in a randomised setting (*comparator*)?

PROSPERO registration number: CRD42021233974 (28/02/2021).

Published protocol: Ryan PM, Zahradnik M, Konnyu KJ et al. Effectiveness of quality improvement strategies for type 1 diabetes in children and adolescents: a systematic review protocol. HRB Open Res 2021, 4:87 (<https://doi.org/10.12688/hrbopenres.13223.1>)

Review current status

Protocol design and publication: completed

Abstract screening and conflict resolution: completed up to Jan 2021 [requires repeat search and screen]

Full text screening and conflict resolution: ongoing

Specific/desirable requirements for Fellow

None

Estimated start and completion dates

Start: Ongoing

Completion: January 2024