

# Cost and Cost-Effectiveness of mHealth interventions for the prevention and control of Type 2 Diabetes Mellitus: A Systematic Review

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## Abstract

**Statement of the Problem:** Type 2 Diabetes Mellitus (T2DM) is a chronic disease associated with insulin resistance and hyperglycaemia. Due to an ageing population and the increasing incidence of obesity, the prevalence of T2DM continues to rise. Simultaneously, technology has contributed to the rise of MHealth interventions for the prevention, monitoring and management of T2DM. The aim of this systematic review is to summarize and evaluate the quality of the published evidence on cost and cost-effectiveness of mHealth interventions for T2DM.

**Methodology:** A systematic literature search of PubMed, EMBASE, and Web of Science was conducted for papers up to end of April 2019. We included all partial or full economic evaluations providing cost or cost-effectiveness results for mHealth interventions targeting individuals diagnosed with, or at risk of, T2DM.

**Findings:** Overall 23 studies that met the inclusion criteria were identified. Eight of these were full economic evaluations and fifteen were partial economic evaluations. All the included interventions were reported as being low cost and all the cost-effectiveness ratios costed less than the GDP per capita of the country. Eighteen of the included studies were from high income country, five were from middle income countries and none were from low income countries. The quality of partial economic evaluations was on average lower than that of full economic evaluations.

**Conclusion & Significance:** Overall, mHealth interventions for T2DM are shown to be low cost or cost-effective. Higher quality partial economic evaluations and more full economic evaluations are warranted to further explore costs amongst different population demographics.

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## Speaker Publications:

1. Roxadustat (FG-4592) treatment for anemia in dialysis-dependent (DD) and not dialysis-dependent (NDD) chronic kidney disease patients: A systematic review and meta-analysis. Publication date March 17, 2020 publication description Pharmacological Research.
2. Effect of propolis supplementation on C-reactive protein levels and other inflammatory factors: A systematic review and meta-analysis of randomized controlled trials. Publication date January 10, 2020 publication description Journal of King Saud University – Science.



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## Biography:

Giulia Rinaldi is an academic foundation doctor at St. Thomas' Hospital in London. She has an interest in cost-effectiveness