How to assess whether a complex intervention for chronic conditions is cost-effective?

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Integration of health services across primary and secondary care has been suggested to improve the relative worse health outcomes of children with chronic conditions in the UK. However, there is limited evidence on the cost-effectiveness of such integrated approaches.

In this issue of *The Lancet Regional Health—Europe*, Soley-Bori and colleagues[1] addressed the challenge of determining whether an integrated, community focused, model of care (i.e. Children and Young People's Health Partnership Evelina London) aimed at preventing and managing common chronic conditions in children and young people in a population of 97,970 children is cost-effective. For this endeavour, the authors used a cluster randomised controlled trial, set in two southern boroughs in London, whereby 1731 children with any one of three tracer conditions (i.e. asthma, eczema and constipation) were consented and followed-up for a year.[2] In their study, the authors have provided credible evidence that an integrated model of care likely provides good value for money under a societal perspective over a one-year time horizon. Good value for money is painstakingly assessed using all three major types of economic evaluation, and from two perspectives (Table 1).

Better, more integrated care for children and young people with chronic conditions is imperative. In those younger than 20 years of age in England, over 45,000 years are lost annually to asthma alone due to disability or mortality.[3] With the strong association between chronic disease and deprivation,[4] particularly in children,[5] chronic disease in the early years is likely to entrench life-long and intergenerational inequalities, due to diminished access to education, poorer educational attainment, and therefore reduced labour market opportunities.[6] Therefore, policy makers have deemed integrated models of care as a way to effectively reduce health inequalities.[7] By conducting the trial in Lambeth and Southwark, two ethnically diverse and deprived areas of London, Soley-Bori et al. are therefore well placed to provide additional evidence to policy makers on the effectiveness of integrated models of care at reducing health inequalities.

Although the authors show that society overall will be better off by providing the Evelina London model of care, aimed at providing timely, coordinated, biopsychosocial care in primary care and community settings, the intervention was found not to provide good value for money for the health and social care sector, when compared to enhanced usual care. The worry therefore is that, with an NHS under pressure, facing severe financial pressures and work shortages, an intervention whose costs outweigh its benefits from this care perspective, might well not be deemed a priority, irrespective of its wider benefits.

Why, therefore, was the intervention not cost-effective from a health and social care perspective?

Was it because the trial only followed-up children with three chronic tracer conditions: asthma, constipation and eczema? The 1731 included children are likely to be only a minority of the population with a chronic condition. Therefore, potential benefits and cost savings were not included.

Was it because the intervention was rolled out during the COVID-19 pandemic? With services disrupted or moved online, which systematically disadvantaged deprived communities (higher likelihood of unstable internet connections or lack of access to smart phones or computers) such as those included in the trial, sub-optimal delivery of the intervention likely resulted in dilution of treatment effect.

Or, was it because the effectiveness and costs associated with the intervention were only assessed over 1 year? As the authors point out themselves, the positive change in study findings between 6- and 12-months indicate that the intervention may have a longer-term, rather than immediate, effect on health outcomes and costs beyond 12 months. This assessment by the authors is also borne by the literature, showing that such complex interventions require time to embed and have longer-term benefits.[8,9]

Despite these limitations, this was a gold-standard economic evaluation of a complex intervention, which has the potential to address significant unmet need amongst a deprived, racially diverse population. Although this was not stressed enough in the conclusion, with the authors being unduly conservative, the intervention was shown to provide good value for money from a societal perspective.

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Economic evaluation type		
Type	Description	Outcome
Cost-effectiveness analysis	Health outcomes measured in unidimensional measures of health	Paediatric Quality of Life Inventory (PedsQL)
Cost-utility analysis	Survival is combined with health-related quality of life	Quality Adjusted Life Years (QALYs)
Cost-benefit analysis	Health outcomes are valued in monetary terms	£ (including both child and parental wellbeing)
Economic perspective		
Perspective	Costs included	
National Health Service (NHS) and social care	Health care (NHS) and personal social services.	
Societal	NHS, social care, productivity losses (carers taking time off work and days off education by children and young people)	

Table 1: **Types of economic evaluation types used in Soley-Bori et al.**[1]

Declaration of interests
None.

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