

Appendix 1 – Economics, Planned Modeling

1 Guideline

Transitions from children’s to adult services

2 Introduction

NICE guidelines make recommendations about health and social care practice based on a range of evidence. Recommendations for this topic, “Transition from children’s to adult services” is made in relation to specific review questions as set out in the scope. The economics work specifically makes recommendations about the cost-effectiveness of one intervention over an alternative intervention. The review questions where this type of evidence is likely to appear are as follows:

Review question 4: What is the effectiveness of support models and frameworks to improve transition from children’s to adult services?

Review question 5: What is the effectiveness of interventions designed to improve transition from children’s to adult services?

Review question 7: How can the transition process (including preparing the young person, making the transfer and supporting them after the move) be managed effectively for those receiving a combination of different services?

Review question 9: How can adult services support effective transitions for young people?

The other review questions, while relevant and important, did not provide evidence that allows a comparison of interventions that is essential for cost-effectiveness analysis.

3 Aims

This appendix sets out the economics work undertaken for this guideline.

The economics work is comprised of two main deliverables. The first is the critical appraisal and review of existing cost-effectiveness literature and interpreting the results to make recommendations for the UK context. These can be found in Appendix C1 and C2 and these are not the focus of this appendix.

This appendix addresses the second deliverable, which is to undertake ‘de novo’ economic modeling. The decision to undertake economic modeling depends on

where there is sufficient data and the analysis would generate new information about the intervention's cost-effectiveness.

Specifically, this appendix discusses the two proposed economic analyses, how the decision was made, the results, and why it could not be used to support recommendations in this guideline.

The following section discuss the first proposed economic analysis, focusing on:

1. Care leavers with established familial relationships with their foster carers. Excludes individuals with placement instability, those placed with parents, secure units, children's homes and hostels. The interventions and comparators considered for inclusion is the "Staying Put 18+" program (Munro et al 2012) that allows care leavers the option to stay with their foster carers up until age 21. This intervention is compared to "standard" care leaver services.

The subsequent section discusses the thinking behind the second proposed economic analysis, which is not a cost-effectiveness analysis.

2. The reason no cost-effectiveness analysis was undertaken was due to the lack of evidence. In the absence of cost-effectiveness work, discussions with the Guideline Committee determined that a 'costing the consequences' analysis of a particular population group would be useful to support research recommendations.

In particular, it is a costing and quality of life analysis of the consequences of poorly managed diabetes. It is meant to provide a proxy estimate of the impact that poor transitions may have on individuals with diabetes. It was intended to support research recommendations by illustrating the magnitude of the consequences associated with poorly managed diabetes care that may occur during transition.

4 First proposed economic analysis

The first proposed economic analysis was agreed at the 5th guideline committee meeting. The proposed analysis aimed to estimate the cost-benefit and cost-utility of the 'Staying Put 18+' program compared to 'standard' transition services for care leavers (Munro et al 2012). The perspective of the analysis would be that of the NHS and personal social services. The study only measured individuals' outcomes in relation to education, employment, and training however we planned on linking these outcomes to physical and mental health outcomes, QALYs, and monetary benefits.

While the study's internal validity was poor due to the lack of a robust comparator group, it was thought that data from other sources could be used to create a hypothetical comparator group.

After exploring the available literature, the data was found to be inappropriate for use in the model. Therefore, no analysis could be undertaken as the results would be unreliable for making recommendations. The following section discusses the alternative data sources searched and their limitations to explain the rationale for not undertaking further analysis.

To address the lack of a comparator group, national English statistics on care leaver outcomes were explored. However, there were severe limitations in using this data because populations were different: the Staying Put program excluded vulnerable young people (individuals were not considered eligible if they had placement instability as they approached adulthood or who were placed with parents, in secure units, or in children's homes or hostels) (Munro et al 2012, p.25). The available national statistics include the whole population of care leavers and do not distinguish outcomes for the specific group that was eligible for the Staying Put 18+ program. Therefore, using the national average, inclusive of the entire population, would be biased if used in the analysis. While it may have been possible to conduct a threshold analysis, ultimately, it does not change the fact that it is unclear whether the intervention is more effective than standard care leaver services. For this reason, it was not useful to continue the proposed economic analysis.

5 Second proposed economic analysis

The second proposed economic analysis is not a cost-effectiveness analysis. After investigating the suitability of the available evidence base (effectiveness and cost-effectiveness papers), there were several reasons why cost-effectiveness analysis could not be conducted:

1. The poor quality of the evidence with respect to internal validity and a lack of clarity around the intervention's effectiveness.
 - Hagner (2012) (-, ++)
 - Prestidge (2012) (-, ++)
 - Nakhla (2009) (-, ++)
 - Cadario (2009) (-, ++)
 - MacDonald (2009) (+, +)
 - Certo (2003) (-, ++)
 - Pole (2013)
2. From an economics point of view, there were other limitations that would not make it feasible for economic modeling.
 - Huang (2014, US study, (++,+))
 - Outcomes improved included "Disease management", "Health-related self-efficacy", and "Patient-initiated communication and it was unlikely that data would be available to link those outcomes to final health outcomes for modeling.

3. The quality of the evidence was good, but the intervention demonstrated no benefit (and therefore, no new information would be generated in conducting economic analysis).
 - Betz (2010, US study, (+,+))
4. The quality of the evidence was good, the intervention demonstrated benefit, but the evidence on cost-effectiveness was available and there was no need for additional economic analysis and there was not a significant amount of uncertainty associated with results.
 - Bent (2002, UK study, (+, ++))
5. The GDG was not interested in the specific intervention itself.
 - Lee (2011, US study (+, +))
 - The GDG wanted to emphasize that the intervention needs to be delivered in a way that is understandable to the individual rather than emphasize and recommend the intervention specifically.

As there were no suitable evidence for a cost-effectiveness analysis, the Guideline Committee proposed an analysis that 'cost the consequences' of a poor transition. This was decided at the 7th Guideline Committee. The Guideline Committee believed that by drawing attention to the potential economic consequences it would convince commissioners to pilot innovations in service models.

While it is not possible to directly draw conclusions about poor transitions without a comparator group, it might be possible to approximate consequences by estimating the consequences of 'poor management' more generally. This would provide a baseline to assess the potential for interventions to reduce poor management and understand the drivers of poor outcomes and high costs associated with it.

Several service user groups were prioritized based on data availability. These included individuals with Type 1 Diabetes, individuals using mental health services, and individuals with learning disabilities and challenging behaviour. Given the time constraints, the most readily available data was identified for individuals with Type 1 Diabetes. The corresponding work can be found in Appendix 2, "Costing the consequences of poorly managed Type 1 diabetes among adolescents at transition age (15-19 years old).