
POSTER ABSTRACT

Care coordination for children with medical complexity results in savings for the healthcare system and for families

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Introduction: Over a third of Australian children have long-term health conditions, often involving multiple organ systems and resulting in complex health care needs. Our healthcare system struggles to meet their needs because of sectoral fragmentation and episodic models of care. Children with medical complexity (CMC) currently rely on tertiary paediatric hospitals for most of their healthcare, but this is not sustainable. We evaluated the impacts of Care Coordination on tertiary hospital service use and family outcomes.

Theory/Methods: A pre- and post-implementation cohort evaluation of the Care Coordination service at a large tertiary paediatric hospitals network in Sydney Australia, was undertaken. From July 2015 CMC enrolled in the service had access to a Care Coordinator, shared-care plans, linkage with local general practitioners (GPs), and access to a 24-hour Hotline. We targeted CMC if they had ≥ 4 emergency department (ED) presentations, hospital stays of ≥ 14 days, or ≥ 10 outpatient appointments in the previous year, or who had difficult family psychosocial circumstances. Hospital encounters according to administrative data 6 months pre- and post-enrolment were analysed. Family outcomes were measured in terms of travel distances saved and estimated out-of-pocket and productivity costs saved according to published estimates of AU\$589 per day of hospital admission. (1)

Results: An estimated 557 hospital encounters were prevented in the 6 months after enrolment, for 534 children aged >6 months. ED presentations decreased by 40% ($\text{Chi}^2=37.95$; $P<0.0001$) and day-only admissions by 42% ($\text{Chi}^2=7.54$; $P<0.01$). Overnight admissions decreased by 9% but this was not significant. An estimated AU\$4.9 million was saved for the paediatric hospital network over 2 years. Of 84 children who did not have a regular GP, 58 (69%) were linked with one. Engagement with the primary care sector, was challenging. Fifty-five families were linked to the 24-hour Hotline. The direct out-of-pocket and productivity cost savings to families were estimated at AU\$146,661 and related to the 249 overnight or day-only admissions prevented over six months or an estimated AU\$586,644 over 2 years. Over 50,000 kilometres of family travel (estimated cost AU\$98,317 over 2 years) and 370 school absences were prevented.

Conclusions and Lessons Learned: The Care Coordination service has clear benefits for the tertiary paediatric hospital network and for families. Ongoing evaluation is essential for continuous improvement and to support adjustments to the model according to the local context. Innovative approaches are needed for better engagement with the primary care sector.

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Limitations: Project resource limitations precluded detailed economic analysis. Only estimates of cost savings were possible based on average per-encounter cost estimates.

Suggestions for future research: A robust economic evaluation should be implemented to enable estimation of actual costs saved, including adjustments for cost shifting to primary care. GPs should be engaged via a more systematic and supportive approach to maximise the understanding of the contribution of GPs to the care of CMC.

References:

1- Mumford V, et al. Measuring the financial and productivity burden of paediatric hospitalisation on the wider family network. *J Paediatr Child Health*, 2018; doi:10.1111/jpc.13923

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