

**NIHR Collaboration for Leadership in Applied  
Health Research and Care South West Peninsula (PenCLAHRC)**

**Case Study Example of the Value of NIHR CLAHRC Funding**

**1<sup>st</sup> April 2015 – 31<sup>st</sup> March 2016**

**REDUCING AVOIDABLE ACUTE PAEDIATRIC ADMISSIONS**

The rate of admission amongst children rose 28% between 1999 and 2010 despite declining risk of serious illness and death in the same period. Much of the increase has been seen in admissions lasting less than 24 hours and there is a strong belief that many of these admissions could be avoided. Unnecessary admissions carry risks of psychological and physical harm for children and waste resources. PenCLAHRC has worked in collaboration with clinicians and NHS organisations to develop a programme of research and implementation to help address this problem.

In 2011/2012, in the first phase of the project, we systematically reviewed the evidence for a range of interventions intended to reduce paediatric admissions (subsequently published). The review included trials of the effectiveness of the most commonly suggested initiatives, including paediatric assessment units, consultant-led phone advice to referring clinicians, fast track outpatient clinics and algorithms to guide management of common presentations. The evidence identified was relatively weak with equivocal results. However, evidence from the review formed the basis for developing local initiatives, aiming simultaneously to improve services and increase the evidence base on which others can draw.

The second phase of the project began in 2013 at the Royal Devon and Exeter Hospital Trust. We worked with local clinicians and managers to (a) investigate specific patterns of service use in the hospital and (b) then implement what we collectively regarded as the most promising knowledge-based intervention. We established a novel Paediatric Admissions Unit (PAU), open from 10.00 – 22.00 during weekdays and, crucially, staffed by senior paediatric nurses and a consultant paediatrician. Close working with clinical staff was essential for tailoring the intervention to local work patterns and ensuring that organisation of location, equipment, nursing staff and doctors promoted efficient and rapid clinical decision making. This change in practice was associated with a rapid 19.2% fall in the admission rate compared to the previous 4 years.

Since 2015, we have been working with the South West Maternity and Children's Strategic Clinical Network's Urgent Care working group to extend the project to include all 14 paediatric units across the region. This work has also been supported by NIHR CLAHRC West. This phase of the project has the following aims:

1. To help paediatric units improve the care of acutely ill children by sharing evidence;
2. To help paediatric units examine the effect of changes in service organisation on acute care in their units;

3. To use the data from these natural experiments to better estimate the effectiveness of different approaches to improving acute care.

The essential approach of the project is to use existing evidence to inform and guide the development of services in trusts, ensuring that the impact of changes is recorded, understood and sustained and to produce widely applicable evidence on the effect of potential interventions. A large number of interventions have been proposed, often without clear explanation of what is being targeted or how the intervention is postulated to change behaviour. The first step therefore was the development of a taxonomy of interventions linked to the decision points across the complex journey from home to admission. This can help clinicians to consider, in light of local data, which interventions are likely to be effective and to define data needs for estimating effects. The SW AHSN is a key partner in the project, helping to develop effective and sustainable data definition that will ensure consistent data collection across Trusts. This phase of the project is proceeding well and will complete in 2016/7.

#### **CONTRIBUTION OF NIHR CLAHRC**

- PenCLAHRC staff have been involved in all aspects of this project:
- Conducting the systematic review;
- Designing and analysing data from the RD&E pilot;
- Enabling partnership with the AHSN;
- Leading on the design, collection, and analysis of data for the service improvement project.

#### **WHAT HAPPENED NEXT?**

This project will finish in December 2017 but preliminary results will be published during the next few months and are shared with local providers and commissioners as they become available. The results of the study will provide evidence to inform services delivery across the UK.