

Measuring the success of a learning health system: development of an evaluation framework for the Sydney Kid's Learning Health Initiative

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Background

- Improved accessibility of patient data from electronic medical record systems should enable more hospitals to become 'learning health systems' (LHS).
- Despite increasing interest, there are few successful examples of LHS programs achieving institution-level change.
- An evaluation model may help stakeholders to understand program scope, how success will be measured, and help plan activities and resource allocation.
- We developed a 'logic model' evaluation framework for measuring the success of the Sydney Kid's Learning Health Initiative (LHI).
- The LHI is a strategic program at the Sydney Children's Hospitals Network (SCHN), Australia, which aims to implement a LHS for better use of clinical data and therefore improved patient care.

Methods

- We conducted a series of electronic surveys and a final workshop with a working group of key stakeholders at SCHN. We used a working backwards approach by eliciting desired outcomes and impacts before other model components.
- Stakeholders comprised representatives from the program's operations team, clinicians, executive board, clinical governance, research ethics and governance, consumer involvement and academics in implementation science, and clinical research.
- Two surveys were sent to participants two weeks prior to a hybrid in-person and virtual workshop where the model content and structure were finalised.
- The first qualitative survey used open questions to elicit outcome measures in the categories as seen in the final model (Figure 1).
- The second survey focused on prioritisation of outcomes and impacts elicited from the first survey.

Results

- In this ePoster, we summarise the key considerations for implementing a LHS within an Australian context.
- The logic model describes the key inputs, activities, outputs and impacts of the early phase of the Learning Health Initiative (1-2 years).
- Activities are divided into two levels, including high level strategic program initiatives and the project/s that sit within the program.
- Key impacts included:
 - 1) children's health, the number of children reached,
 - 2) social, including clinician participation and training,
 - 3) economic, the societal costs for improving models of care, and
 - 4) knowledge, changes to local or wider models of care.
- We will develop several proof-of-concept projects which aim to test our logic model and demonstrate the potential value of implementing a LHS at SCHN.

Discussion

- Learning health systems aim to interact with and impact upon many components of the health system.
- The large scale of an LHS, especially at an institutional level, may pose one barrier to success.
- Defining activities required at both the program and project level may help direct the implementation strategy.
- Engaging key stakeholders in the build of an evaluation model prior to program initiation may assist buy-in to help champion the approach.
- We have identified several key categories for measuring success of the Initiative that may assist other institutions to develop similar evaluation frameworks.

Figure 1. The Sydney Kid's Learning Health Initiative Logic Model

