Optimizing value in the hospital:  
The Tampere University Hospital demonstration challenge
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Background
From a health economics and finance perspective, value in hospital services delivery is the stream of benefits accrued over a lifetime that is attractive to the price paid to acquire them. The optimization of such, unfortunately, is difficult in many health systems where benefits are dispersed, and prices are opaque.

The reform program in progress at the Tampere University Hospital offers a remarkable opportunity for demonstrating and optimizing value in the hospital. The objectives of this paper are two-fold: (1) to discuss a framework for value in the hospital; (2) to propose approaches to measure it and, in doing so, to optimize value.

What did we do
A mixed knowledge synthesis was applied in this research [1] with a participatory research orientation given its potential for bridging gaps between research and practice [2]. As a first step, the concept of value from health economics and finance was surveyed. Second, PubMed database was searched for randomized controlled trials, comparative observational studies, case series, cross-sectional studies, editorials and letters in English covering the period April 2014 and March 2019 using hospital, patients, and physicians search strings combined using the “AND” connector separately for “high-value” and “low-value”.

The resulting abstracts were hand screened and critically appraised using the framework method to apply the concept of value in the hospital setting. The framework method provides a systematic model for managing and mapping the medical literature from the perspectives of patients and physicians, respectively, through the process of summarization [3]. As a final step, the multi-criteria decision analysis (MCDA) is discussed as a decision-support tool to retrospectively and prospectively evaluate service improvements at various stages of implementation [4].

What did we achieve
The orderly investment in value stock applied in the hospital setting can be seen as the implementation of innovations – both products and processes, that achieve desired outcomes by patients and physicians alike.

The search string (high-value [All Fields] AND hospital [All Fields] AND patients [All Fields] AND physicians [All Fields]) returned 39 records while the search for (low-value [All Fields] AND hospital [All Fields] AND patients [All Fields] AND physicians [All Fields]) returned 29 records. Three papers were common to both “high-value” and “low-value” searches, respectively. Following the retrieval and assessment of abstracts, 4 and 18 papers, respectively, were identified for full review all of which were critically appraised using the framework method to apply the concept of value in the hospital setting. The framework method provides a systematic model for managing and mapping the medical literature from the perspectives of patients and physicians, respectively, through the process of summarization.
From a health economics and finance perspective, value in hospital services delivery is the stream of benefits accrued over a lifetime that is attractive to the price paid to acquire them. The optimization of such, unfortunately, is difficult in many health systems where benefits are dispersed, and prices are opaque. Nonetheless, a financial and health economic analysis might be helpful in the appraisal of innovations taking into account the perspective of key stakeholders while at the same time ensuring that the innovation will be sustainable.

If the discounted sum of all positive and negative welfare effects of the innovation, results to a negative economic net present value, then Pirkanmaa is better off without the innovation. If it is positive we then look into the financial net present value, or the present value of cash inflows and the present value of cash outflows over a period of time associated with the innovation. If it is non negative then Pirkanmaa is better off without the innovation.

Since the MCDA employs a transparent methodology and deliberative and concise approach, it may help in the challenge of aligning clinical, managerial and patient preferences towards the identification and of prioritization high-value care in the hospital setting. In addition to guiding decision-making prospectively, the MCDA is also valuable in recognizing successful new models of care as well as disinvestment using data based on observations.

Discussion and Conclusion
While the Tampere University Hospital’s reform program is far from complete several structural and process changes are afoot showing the many opportunities for innovation ranging from facilities that make the built-environment state-of-the-art to and from consults with patient associations to centralized treatment of children and adolescent diseases.

Analyzing and disseminating the various value strategies of the Tampere University Hospital’s reform program offers the international community of practitioners, researchers, managers and policy makers insights into the pursuit of value in the hospital and its optimization over time. The orderly investment in value stock applied in the hospital setting can be seen as the implementation of innovations – both products and processes, that achieve desired outcomes by patients and physicians alike.