

## Chapter 4.19

# Exploiting Process Thinking in Health Care

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### ABSTRACT

In Finland, a project designed to modernize processes and reduce the waiting list for joint replacement surgery has recently been completed. The new surgery arrangements for artificial joint patients were monitored for a period of 1 year. The new arrangements involved relocating the anaesthesia phase outside the operating theatre. The reorganization of the patient care process for joint replacement surgery succeeded in achieving a 50% increase in operations. While conventional operations can often be pushed up a notch with state-of-the-art technology, for example, this article supports the argument that process thinking can be exploited effectively to support new ways of work and improve productivity in health care. Paying enough attention to this at the planning stage can be vital to the success of new IT system implementation.

### INTRODUCTION

The Act on Specialized Medical Care concerning the maximum times to arrange treatment, which

came into force in Finland in March 2005, has made many health care units look at the arrangement of the services they produce in a new light. Particular attention is fixed on the legal obligation concerning the waiting times between treatment decisions and treatment measures, which is to be no more than 6 months. The need to increase the number of operations has become a matter of current debate particularly in orthopaedics, where the length of queues has become unlawfully long at several hospitals in Finland. Improvements in controlling the queues have previously been achieved by the more efficient handling of referrals (Harno, Paavola, Carlson, & Vikinkoski, 2000), but with orthopaedics this was felt to be ineffective (Harno, Arajärvi, Paavola, Carlson, & Arnala, 2001). In special operative areas, making use of all the development potential available within the traditional treatment chains should be explored as a permanent remedy, after first-aid obtained in the form of outsourced services.

The literature on both IT and process development is quite unanimous in its belief that both are necessary for achieving more efficient operation and a productivity increase. Therefore an IT system project is often a change project by nature,

which can make it challenging particularly in the field of health care (Berg, 2001; Littlejohns, Wyatt, & Garvican, 2003), where resistance to change is virtually a characteristic of the profession (Weick & Sutcliffe, 2003).

This article illustrates a case where process thinking and process development tools were exploited to support new ways of work and improve productivity in health care. In Finland, Seinäjoki Central Hospital implemented a project to revise processes in order to reduce queues in surgery, particularly artificial-joint surgery. The project was part of the ProViisikko project of the Hospital District of South Ostrobothnia and Finnish Funding Agency for Technology and Innovation. The project in question was originally classified as an IT project which also incorporated process development. Over the course of the project, however, the balance between the two components shifted, and there was no time to incorporate the new IT system before the changes were implemented. This article describes the results of the experiment for the benefit of, for example, other operation units that are taking a close look at their operations and of developers and management in health care as support for decision-making. Parts of the study have been published in Finnish language (Jokipii, Kalliovalkama, & Paavola, 2006).

## **LITERATURE REVIEW**

The term “process thinking” refers to a number of management theories that have been used by industry in its quest for better operating processes over the last few decades. In many of these, the use of IT also has a significant role. Indeed, IT has become more important in a number of areas, including health care; yet process thinking has not always been employed.

The populations of Europe and the Americas are ageing quickly. The health care system is struggling with the combination of rising demand and escalating costs in specialist medical care,

while at the same time, there is strong support for reduced public-sector health care spending but firm rejection of any cuts in service levels. If the two targets are to become reality simultaneously, the methods enabling them to be achieved should be chosen on the basis of how deep the cuts should be.

Cosmetic improvements would be fairly painless: for example, Total Quality Management (Crosby, 1979; Deming, 1991) would result in long-term improvements in operating processes as a more efficient use of resources would bring gradual savings. Some scholars have, however, likened some quality management theories to a rain dance (Schaffer & Thomson, 1992). In their view they look good, sound good and allow those involved to feel good, while at the same time they may have no influence on the rain itself. There are also other management theories in the field of process thinking.

According to the time-based management approach, all development should focus on process lead-time (Stalk & Hout, 1990). In such an approach all other positive aspects, improved quality, cost savings and customer satisfaction will follow automatically. However, development measures do not need to mean squeezing more out of the stages intended to boost the value of the treatment process. In fact, industrial companies have been able to find larger savings in the way they use the time that brings no added value, which, after all, accounts for more than 95% of the total (Stalk & Hout, 1990).

In contrast to total quality management, which emphasizes continuous development, business process reengineering (BPR) proposes a radical revision of the business process. The aim is to start from scratch without the burden of old operating approaches (Oliver, 1993; Hammer & Champy, 1993). The reengineering starts with a definition of the desired end result. This will form the basis for the planning of the new process functions and sequences. The aim is to maximize value-adding functions and to get rid of all operations not add-

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