

Meeting abstract

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Seven modes of healthcare operations - a tool for casemix analysis?

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Over the last few decades, some healthcare organizations have attempted to transform themselves from functional organizations to process-based ones. During the transition, many people have observed that certain organizational services are ill-suited to such a change in managerial approach. Process management is a way to describe and organize activities as a sequence, or flow, in order to realize benefits from focus and specialization. Some service operations are unsuited to this approach and require modifications.

We suggest seven alternative modes of operation, each distinguished by different core-management issues, particularly control points and management levers, which should be used as the basis for measuring and monitoring. The operational-modes perspective attempts to solve the demand/supply mismatch by segmenting patients according to need types, and devising corresponding supply organizations that focus on one type of medical problem. The model applies only to a demand that can be segmented. Unspecified demand must be met by other means.

Segmentation is based on the distinction of need types such as:

- Discrete/Continuous
- Urgent/Not Urgent
- Severe/Not Severe

- One Cause/Several Causes
- Actual Illness/Risk Of Illness

The modes and their respective managerial focal points are described below.

1. Visit-Based Mode: In the visit-based mode, the unit of service amounts to a single visit. This mode is typical of primary-care providers, such as community health centres, which often constitute a patient's first encounter with the healthcare system. The patient is treated during one visit. If that is not possible, the patient is referred elsewhere, or the mode changes into a process.

This kind of visit is distinctive in that it largely consists of an information exchange and a personal interaction between the service provider and the patient. When clinical interventions occur, they are of a relatively simple nature, and the patient's medical history is not highly relevant.

The core management issues in the visit-based mode are access, scheduling, and keeping the amount of visits per health problem optimal.

2. Cure Mode: The **cure mode** is related to the treatment of curable diseases, or ailments, with an assumed end. The unit of analysis is a process sequence, combined with a patient episode consisting of a string of health events. A cure is a combination of

both producer and patient activities, which is expected to result in changes in the patient's medical condition. These changes can be assessed by comparing the health of the patient before and after the cure.

A cure process/episode may consist of a multitude of events, and span the organizational borders of several service providers. Thus, from a managerial point of view, the core issues of the cure mode are throughput time and the amount of patient-in-process inventory, supported by sequencing, process flow, and handovers.

3. Care Mode: The care mode is related to the treatment of chronic or incurable diseases, where the outcome is not a permanent improvement of the medical condition, but the maintenance of a state. The outcome of the process is the care itself, and there is no meaningful before/after comparison. Thus, the focus of coordination should be on patient status per time period.

4. Elective Mode: The elective mode focuses on the production of scheduled service events in which some medical procedure is performed (e.g., surgery). The elective mode differs from the others in four respects: a) The patient's healthcare condition undergoes a *sudden step-like change* as a result of the clinical intervention. This leads to b) A *before-and-after* situation. c) The intervention requires specific preparations; i.e., it cannot be performed during a visit. Lastly, d) The type and amount of resources needed can be estimated and scheduled in advance. From these, it follows that the managerial focus is on the scheduling of resources and the preparation of the procedure to enable efficient, high-quality services.

5. Emergency Mode: The emergency mode deals with severe health problems on a critical timeline where speed, rapid decision-making, and prioritization are of the essence. The case flow is unpredictable, and cannot be scheduled on a detail level. Thus, the managerial focus of this mode is on time, or response time, relative to the urgency of the case. The objective of this mode is to prevent death and to stabilize the patient's condition for further treatment. Once this is accomplished, the patient's future care can be handled through one of the other suggested modes.

6. Project Mode: The project mode is appropriate when managing specialized service production; that is, where patients suffering from several diseases require very complex or highly variable courses of care, plus the coordination of several tests and treatments. The

project mode is especially warranted in very expensive cases.

The managerial focus of the project mode is on the mobilization of resources from different units, and the logic of each individual case. As deviations from the normal service process may be hard to anticipate, the resources and their preparation are difficult to manage in advance. The focus, therefore, shifts to quickly mobilizing any required resources when needed.

7. Preventive Mode: The preventive mode is concerned with preventing a decrease in the patient's health status by addressing health issues before they turn into health problems. Prevention can apply to risk groups⁸. (obese, smokers), and take the form of risk management. Or, it can apply to patients with an existing diagnosis to prevent worsening of the case (disease management). The preventive mode resembles a financial service where the focus is on future events and return on investment. The payoff is lower cost of care in the future. The managerial focus should be on managing risks to avoid predictable problems.

The suggested operational modes may have a significant impact on how we think about case mix. Within each mode, the case mix is thought to behave in a similar way. This approach offers a new way to analyze the relevance and suitability of various casemix tools in different healthcare settings. We illuminate this with case studies of the operational modes.

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