

https://dspace.org/

Demand management in health care: the case for failure demand

Hartmann, Dieter

2022
https://hdl.handle.net/10539/34399

Downloaded from a DSpace repository. https://dspace.org/

Abstract

Failure demand has been shown to have a material impact in many service industries – leading to increased waiting times and reduced system capability. The nature and impact of failure demand in health systems has however not been studied in great depth.

This study proposes managing demand, and more finely, failure demand as an alternative focus for closing the gap between capacity and demand. This is contrasted against the traditional focuses on system capacity, which is raised through investment or efficiency improvements.

To manage demand, the context must be understood, so a definition of the demand population for the health system is proposed, out of which a proposal is made for a mental model that describes the demand-modalities that exist in health systems. This model contains four key demand classes, namely, value- and failure - demand (using Seddon's terminology) and expanded by adding escalation demand and false demand. Failure demand is selected for development and an algorithm is proposed that defines failure demand in a complex hierarchical organisation such as health care. A table is presented of common events that drive failure demand in health care. Leading out of this model, a health care setting is selected, in this case, a national pharmaceutical supply-chain in a developing country.

The analysis was conducted by data mining order- and dispatch-documents and virtually recreating the operating history. For this, custom code was developed in Visual Basic for Applications, using a Sequential Pattern Mining approach. The Wholesale- and Distribution-networks were analysed

and failure demand levels of 56 % and 29 % respectively were found in these networks. Significant service delivery improvements are foreseen if the root causes of failure demand are addressed, which in this case are mainly procurement-policy related.

The study shows that failure demand in health systems represents an opportunity to narrow the capacity-demand gap by managing demand through targeted interventions.