

How to improve the patient flow process in outpatient services of a hospital: A problem structuring and lean management approach

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Abstract

Background – Outpatient services in oncology wards have become a central point in cancer patients' treatment, who may experience long waiting times from the moment they enter the hospital until the end of the day treatment.

Objective – The aim of this research paper is to assess the treatment process (activities and actors) of an outpatient service in order to improve the patient flow.

Method – The study was conducted in the outpatient service of an oncology hospital to identify all elements relative to the patient flow process. Data was extracted and structured following problem structuring methods through interviews and observations. First, the decision context was assessed through the development of a cross-functional diagram. Then, a value stream mapping was developed, based on lean technics, to identify wastes and bottlenecks in the different treatment activities.

Results – The first part of the analysis presents and links the five steps of the treatment process (check-in, doctor's appointment, treatment prescription, pre-treatment and treatment) with the four medical actors (receptionists, doctors, pharmacists and nurses). Different care pathways were identified. Then, value stream mapping shows how each activity influences the treatment process and thus impacts patient waiting time.

Conclusion – The application of problem structuring methods in conjunction with lean management can improve the patient flow in outpatient services. Results of this study will be used for future work on decision making analysis.

Keywords

Patient flow; outpatient service; problem structuring; lean management.

Biographies

Annabelle Glaize is currently a PhD student in IESEG School of Management. She works on Multi Criteria Decision Analysis (MCDA) methods, the structure of MCDA application processes and how these methods can be used in different health care decision making contexts.

Alejandra Duenas is a full professor. She holds a PhD from the University of Sheffield, UK (2003) and a “habilitation” for the supervision of doctoral students HDR from the University Lille 1 (2013). Before joining ICN business school she was head of the management department at IESEG School of Management campus Paris, worked at the School of Health and Related Research at the University of Sheffield and at Coventry University in the School of Mathematical and Information Sciences. Her current research interests are multiple criteria decision making, production scheduling, nurses rostering, problem structuring methods, metaheuristics, health care management and health economics. Her research has been published by several international peer reviewed journals. She has also been involved in consultancy projects for pharmaceutical companies and has been awarded research grants. She works as a reviewer for applied research of the department of health program in the United Kingdom.

Christine Di Martinelly is an assistant professor at IESEG School of Management. She holds a PhD in management from the Catholic University of Louvain in Mons (Belgium) and in applied sciences from the National Institute of Applied Sciences in Lyon – INSA Lyon (France). Her current research interest are multiple objective optimization, pharmaceutical supply chain, and health care management. She has been involved in consultancy projects for hospitals.

Isabelle Fagnot is an Associate Professor of Management of Information Systems and the Director of Quality, Accreditations, Rankings at Audencia Business School. She received her Ph.D. (2011) in Information Science and Technology from Syracuse University School of Information Studies. Her research interests lie in behavioral issues in Information Systems, particularly related to organizational security and to the culture of the information profession. Her research has been published in journals such as *Systèmes d’Information et Management* and *International Journal of Human-Computer Studies*, and in proceedings of leading scholarly conferences such as AMCIS, HICSS and the Security Conference.