

# The various benefits of process mapping nursing essay

[Health & Medicine](#), [Nursing](#)



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\n[/toc]\n \nHealthcare in a hospital is a team effort where different stakeholders are involved. Incidents where inter-departmental teamwork is compromised are frequently noticed. This leads to a difficult situation for all the staff members involved in the healthcare delivery. Failure to retain efficient organisational associations between hospital departments levies a threat to patient safety. In order to leave no uncertainty regarding issues of patient safety, clear procedures to manage certain situations should be in order. A lot of effort, innovation and caution is required by administrators to ensure an effective interdepartmental coordination. (Aggarwal et al. 2010)An emphasis on the relationship between the work environment and delivery of clinical care is laid in patient safety. The work of the operating department is determined by inter-dependant, " tightly coupled" organisational relationships between hospital departments based upon the timely exchange of information, services and resources required for the delivery of care. Failures within these processes, manifest as " breakdowns" within inter-departmental relationships lead to situations of constraint, rapid change and

uncertainty in the work of the operating department that require staff to break with established routines and work with increased time and emotional pressures. This means that staff focus on working quickly, as opposed to working safely. For departmental managers the scope for service planning to control for safety may be limited as the structured "real world" situation of service delivery is shaped by inter-department and organisational factors that are perhaps beyond the scope of departmental management. (Warring et al. 2006) Process mapping in healthcare is an important and a new form of audit that inspects the patient journey from patient's perspective. This enables us to identify bottlenecks and problems and help us to design improvements. (Bevan et al. 2006) (Mould et al. 2010)

## **Various Benefits of Process Mapping**

It provides a starting point for the improvement project specific for the place of work to be acted upon. It creates a culture of ownership, responsibility and accountability for the team involved in the improvement process. It helps to understand patient pathway and process from the perspective of the patient by providing an illustration of the same. It aids to plan improvement changes more effectively. It involves the staff who might not be able to contribute to improvement process thus help in collecting ideas from staff who better understand the system. Process mapping can be utilized as an interesting event which helps in engaging employees to a greater extent. The process map is the end product of process mapping exercise which is easy to understand and comprehend by employees and other stakeholders involved in process. (NHS Modernisation Agency 2005) Process mapping exercise can be used to determine Value adding and Non-Value adding steps in a patient

pathway. Lean thinking transformation can be utilized to redesign the patient pathway thus enhancing the contribution of value adding steps while minimizing non value adding steps in a process. It has been observed that Non value adding steps account for nine time more effort than value adding steps. (George et al. 2005) (Fillingham 2007)It also allows us to realize the patient's experience by visualizing the actual process, by separating a process into a series of steps which can be viewed as a patient pathway or process of care. (Layton et al. 1998) (Kim et al 2006)Improving the patient pathway involves the coordination of multidisciplinary practice, aiming to maximise clinical efficacy and efficiency by eliminating ineffective steps. (Peterson and Kane 1996)The data provided by process mapping can be used to redesign the patient pathway to improve the quality or efficiency of clinical management and to alter the focus of care towards value adding services for the patient. (Layton et al. 1998) (NHS Modernisation Agency 2005)Process mapping and pathway redesign is supported by many management systems which are available at our end. (Rath 2008) (Mould et al. 2010)A common technique known as lean thinking transformation originally derived from Japanese car maker Toyota is being used in healthcare to improve the patient pathway. (Womack and Jones 2003) (Kin et al. 2006)This technique considers the relative contribution of each step in the patient journey towards the patient's outcome. The main strength of the technique is visualizing the entire journey from the patient's perspective, thus it helps to improve the patient's experience in a healthcare facility. (Womack and Jones 2003) (Westwood et al. 2007)Eight Types of waste can be identified in healthcare. These include Defects arising due to Drug

prescription errors and incomplete surgical equipment, Overproduction due to inappropriate scheduling, Transportation due to distance between related departments, Waiting by patients and staff, Inventory waste arising due to excess inventory in stores and expired drugs and other materials, motion due to poor ergonomics, over processing arising due to excess allocation of resources and time for trivial jobs and Human potential due to underutilization of the staff skills.(Graban 2009)It is always beneficial to review the patient journey. A process mapping exercise can therefore be undertaken at any point of time. The common indicators which call for such exercise includes a need to improve patients' satisfaction or quality of care provided or financial aspects of a particular service. (Trebble et al. 2010)A planned approach is required for process mapping. An apparently straightforward patient journey can have many interdependent steps and thus be complex. (Layton et al. 1998)A process mapping exercise should be enjoyable and a creative experience for stakeholders and staff involved. It must avoid confrontation, being judgemental or use of " name, shame and blame" like other audit techniques. (Ben-Tovim 2008) (Benjamin 2008)

## **Preparation and Planning**

Formation of a team of four to five key stakeholders. Including member with previous experience of lean thinking transformation will provide and added advantage. The team so formed should plan for improvement project to be undertaken and its scope. This can be established by visualizing it using a flow diagram. A rough initial draft of the patient journey can be useful for overviewing the exercise to be undertaken. To identify value adding steps

involved in the patient care from the patient's perspective, the medical literature or questionnaire studies and outcomes should be reviewed. (Kim et al. 2006) (Kollberg et al. 2007) Data collection for a mapping exercise to be undertaken should include information for each step under routine situations in the usual setting. Information on waiting episodes and bottlenecks is also needed. Bottle necks and waiting episodes has been defined as any step within the patient pathway that slows the overall rate of a patient's progress, normally through reduced capacity or availability. (Vissers 2005) Using estimates for minimum and maximum time for each step reduces the influence of day to day variations that may skew the data. Limiting the number of steps (to below 60) aids in subsequent analysis. There are few techniques which can be utilized for data collection. These techniques include the following. Multidisciplinary Meetings: Single or short series of meetings of representative staff, in a non-clinical environment Walking the journey: Following the normal route of the patient journey; one-to-one patient and staff interviews in the clinical environment. Direct observation of the patient journey: Following a patient's journey in real time with direct observation and informal interviews. Patient's self-reported experience: Patients record their experience of the journey in real time. (Womack and Jones 2003) (NHS Modernisation Agency 2005) The techniques used for data collection each have advantages and disadvantages. The various advantages and disadvantages for each data collection technique can be summarized as follows:

## **Multidisciplinary Meetings**

The advantages of this approach is that it obtains results in a defined time and also allows interaction between staff involved in the process. This leads to a better outcome of the process maps by addressing those issues which might remain hidden in other techniques. The disadvantages of this approach include that the data provided depend on the knowledge of the stakeholder involved in the process of patient journey and there is an absence of the direct observation which may lead to bias of the data.

## **Walking the Patient Journey**

The advantages of the said approach of data collection includes that it allows for a realistic assessment of the patient journey and also includes direct observation by the investigator. The disadvantage is that the effectiveness of the data is influenced by the availability of the staff's time and willingness of the staff and patients to provide responses.

## **Direct Observation of Patient Journey**

The major advantage of the approach is that it provides information about the process and patient journey from the patient's perspective. While the disadvantage are that it is Time consuming and influenced by day to day variations in environment and patient selection.

## **Patient's Self-Reported Experience**

The advantage is that it represents the understanding of the process and patient journey from the patient's perspective. But the said approach is highly dependent on patient selection and expectations of the patient

involved in the study. Also few type of patients need to be excluded for achieving a valid data. The exclusion includes that of elderly, sick, frail, or illiterate patients. A combination of above said approaches can be used. These contribute different qualitative and quantitative information. The most commonly used technique is walking the patient journey. This comprises of interviews with patients, staff and other involved stake holders involved in the process. It helps in direct observation of the patient journey and environment. It lets the investigator to " visualize" the patient journey. Involving junior doctors or nurses as interviewers increases the openness of opinions from staff thus reducing the time needed for data collection. Members of the team to can be designated to investigate different stages in the patient's journey thus reducing the overall time of the data collection required. The process map should systematically represent the patient journey. A common practice is to draw the process map by hand onto paper, either directly or on repositionable notes. Information related to the steps involved or movement of information can be added. This approach is helpful in obtaining any missing information either from the stakeholders involved in the process or by revisiting the studied environment. (Trebbe et al. 2010)The map can be analysed by using a series of simple questions. The questions which can be used to explore are: How many steps are involved? How many staff-staff interactions (handoffs)? What is the time for each step and between each step? What is the total time between start and finish (lead time)? When does a patient join a queue, and is it a regular occurrence? How many non-value steps are there? What do patients complain about? What are the problems for staff?(NHS Modernisation Agency 2005)The additional



information required can be further added to the developed process map for graphic representation. This can be achieved by developing a workflow diagram which contains a map of the environment, including information on patient, staff, and information movement. (Fillingham 2007) Lean thinking transformation involves redesigning the patient journey. This eliminates, combines and simplifies non-value adding steps, limits the impact of rate limiting steps (such as bottlenecks), and emphasise on the value adding steps making the process more patient-centric. It is often useful to the trial of new designed pathway and review its effect on patient management and satisfaction before attempting it for more sustained implementation. (Eaton 2008) (Graban 2009) (Baker et al. 2009) Process Modelling is a specific kind of conceptual modelling. While conceptual models have been one of the key research topics in the IS field since the early 1970s (Wand 2002), interest in the area has increased recently as Service Oriented Architectures (SOA) and Model Driven Architectures (MDA) (Klepp, Warmer et al. 2003; Thomas 2004) have risen to prominence. Conceptual models, as representations of a specific domain (Batani, Ceri et al. 1992), play an important role in the IS design process. The method of conceptual modelling can serve a large variety of different purposes (Wand 2002) and involves the application of the principle of abstraction (Frank 1999).