Case Study Report of SIMTEGR8 Workshop 2: Older Persons' Unit

Purpose of report	To document and reflect upon the process of using a computer simulation model in order to promote debate and make changes to patient pathways
Organisations involved in Case Study	Healthwatch Leicestershire and Leicestershire County Council
Structure/Format of Event	2 ½ hour workshop
Aim of Event	To review the computer simulation of the patient pathway to the Older Persons Unit; test scenario's about future improvements to the schemes; make recommendations of future actions to the Step Up Step Down Programme Board.
Date of Event	11th September 2015, 13.00 -15.30
Aim of SIMTEGR8	To assess the effectiveness of using a SimLean methodology to stimulate debate and action that will improve patient pathways

Context of Event

The SIMTEGR8 project is collaboration between Loughborough University, Healthwatch Leicestershire and Leicestershire County Council. The project uses computer modelling and simulation techniques in order to assess how the patient journey can be improved in four healthcare interventions through which Leicestershire are trying to reduce emergency admissions to hospital. A crucial part of the assessment process are a set of workshops which look in detail at the patient journey and use a computer simulation on order to stimulate discussion about the best way to ensure that patient care is efficient, of good quality and compassionate. This report is the outcome of the second of those workshops which focused on one pilot intervention:

Rapid assessment service for frail older people; Older Persons Unit – This is a geriatric specialist outpatient clinic situated in Loughborough which provides a comprehensive assessment of individuals that are referred by their GPs.

This workshop was facilitated by two consultants due to the project's research associate departure from the project. One was from SIMUL8, accompanied by the simulation developer who had taken over the development of the model. The other was a consultant facilitator frequently used by Leicestershire County Council. The workshop participants were staff of Leicestershire County Council, NHS clinical leads for the service and representatives of services linked to OPU in some way. The workshop was structured using a SimLean methodology:

First the approximate model is run to illustrate the agreed process (Model Understanding).

This is used as a the basis of a discussion of whether the model represents what happens in reality (Face Validation)

The discussion them moves on to issues that have been revealed by running the model (Problem Scoping)

Finally ways of resolving the issues are suggested (Improvements)

Description and account of workshop

Considerable effort on the part of the Health and Care Integration Team went into ensuring that the workshops were attended by the right mix of clinicians and leaders across the relevant organisations. This was key to success and contributed to an environment where productive conversations could take place. The sessions were managed within a tight timeframe of 2 ½ hours so as to impact minimally on service delivery. The active participation of all attendees and their willingness to commit to action plans was very encouraging. Attendees included nurses delivering the service as well as service leaders and senior operational managers from emergency services at UHL. Additionally, there was Commissioner (CCG) representation and programme input from the Step Up/Step Down integration programme group. This provided a rich mix of perspectives to inform the debate.

There were 9 delegates attending from the study organisations, 3 representatives of SIMUL8 1 representative of Loughborough University and the consultant facilitator. As with the Night Nursing Service, attendees represented a broad spectrum of front-line clinicians and operational managers. There was also a Healthwatch Leicestershire representative in the group.

In both of the sessions the same approach was taken to addressing the model understanding. The participants were “walked” through the “before” process maps of each intervention. It continued by demonstrating how this was built into a SIMUL8-based model and then into a results output in the form of a simplified version of the initial process map, so as to be familiar to the participants. The same process was undertaken to achieve a communal understanding of the system after the implementation of the intervention. Having confirmed the understanding of the processes within the system the simulation was run through to allow the participants to view a top-down perspective and to study the results being output from it. The data output from the simulation models were intended to match metrics used in the reporting of the intervention services.

Unfortunately, in spite of attempts to obtain this, data on service usage was not available for the simulation event, though it was provided immediately following the workshop. It was identified that full knowledge of how arrivals entered the system was not represented in the process maps. The participants questioned both the process maps used to build the simulation as well as the ‘dummy data’ that was needed in the absence of any real data. Between the two areas of concern enough trust in the simulation was lost that it wasn’t considered valid for testing scenarios or changes to the system. Instead, discussion ranged more broadly around how the service is delivered in practice. Inevitably, this led to a more generic discussion around the service model. The general conversion of these process maps into a simulation model appeared to be understood by all participants.

The situation did lead to a more in depth conversation of the service and this then entered the Problem Scoping and Improvement sections of the workshop.

As was seen with the Night Nursing Service, the opportunity presented by having the key players in the room was itself valuable in deepening understanding of how the service is run on a day-to-day basis. There was considerable discussion initially about how the service is accessed and by whom. The Advanced Nurse Practitioner and Consultant Nurse both working within the OPU offered in-depth information on the services offered and how they are used in practice. A discussion around capacity (both physical and diagnostic) and potential lack of understanding of this proved very useful in generating potential actions to improve uptake.

A key observation from one participant was that these emergency admission avoidance schemes do not operate in isolation from each other. Although the cohorts of eligible patients for Night Nursing and OPU are defined, a change in one variable in one service such as OPU can impact upon another such as the Night Nursing Service.

The significance of diagnostics as a major part of the care offered in OPU was thought not to be well understood, particularly by GPs. From the discussion it appeared that there is a sense of a general lack of understanding of the services on offer which is perhaps contributing to underuse of the service. These discussions led to a very productive action planning session as is shown in the section on improvement.

Because of the lack of data and inaccurate representation of the model throughout the session certain individuals quietly talked to the simulation developer in order to improve the model. The simulation was run once more with new data. One of the delegates appeared to be disappointed that it was not an accurate representation of the process. However, another delegate who had been quiet until that point commented that “we have never seen it like that”. One of the delegates became interested in the modelling process and wanted to know how the figures were derived. Two other delegates became actively involved in changing the process map to reflect the reality of the patient pathway.

Improvement

In both workshops, the final session focused on action planning, a summary of next steps and a discussion around access to the simulation product for future use, including any modifications needed to the model. Although the Night Nursing workshop benefited from real data, whereas the OPU used dummy data, participants in both workshops were readily able to identify practical actions to take away. Both workshops were interactive and attendees expressed satisfaction in the final round-up and participant feedback discussion. The action plan resulting from the workshop (Appendix 1) was produced immediately following the event and incorporated into the admission avoidance programme reporting mechanisms for the Better Care Fund. These in turn are being fed into monitoring processes such as KPI’s.

Potential “what if” scenarios were explored and debated during the Night Nurses workshop but due to the lack of data for OUP the same level of variables and their effect could not be discussed. However, “what if” scenarios can now be generated for that service, alongside the practical actions around increasing uptake. Now that the key staff involved in both services have been exposed to the model, and have had the opportunity to input into its development this could be considered as a model to assist in future service planning.

Reflection

The Older Person’s Unit workshop had a different synergy to the Night Nurses workshop, with the participants being generally quieter, although quite a number of people attended both sessions. The areas of concern that participants hoped to resolve through the workshop were:

To find ways to make the unit “busier”
To prevent hospital admission

There was considerable quiet discussion about the service and the patient pathway, possibly because, as previously mentioned, there had been no data for the model. The model itself was not so prominent in the discussion. Related services were mentioned more frequently than in the Night Nurses workshop, for example General Practitioners were discussed because they automatically refer patients to the Emergency Department (ED) due to lack of

other information. As in the Night Nurses workshop the participants thought that the session had been interesting and useful. One participant described the workshop as “an Eye-opener”.

Because of the lack of previous data and the incorrect assumptions that had been made in the process map the Nurse Practitioner of the Older Persons Unit explained the service in detail. The information that he gave to the workshop was not previously known by the representatives of other services, for example, the Unit is situated in Loughborough which is some distance from many possible patients. The representative from ED was not aware that transport to the OPU was provided, by the ambulance service or St John’s Ambulance. The method of referrals to the service was also discussed, which could be from any health professional including:

General Practitioners
SAFA acute visiting service
Paramedic Army Service

Therefore others gained an increased awareness of routes to the service. The ED representative stated that she would in future “challenge ambulance crews to take [suitable patients] to OPU instead of us”. This means that there is now the potential that the service will become “busier”.

On a negative note, the one delegate who thought that she would see a completed and accurate computer simulation of the service on which she could base her action plan demonstrated that communication about the purpose of the workshops and the nature of the model had not been sufficiently clear.

The participants appreciated the chance to meet each other and discuss aspects of their contributions to the service as a whole and to find out more about the Older Persons Unit.

It was found that:
The selection of the participants led to meaningful discussion about the patient pathways
Ways to improve the services were identified

The delegated interacted to improve the process map and model, thereby informing their colleagues of the reality of the patient pathway

The concept of using a computer simulation of a patient pathway in order to stimulate discussion on ways for developing the service was therefore effective despite having no data for the OPU model. It could be argued that the lack of data contributed to the detailed description and resulting discussion about the patient pathway. The discussion led to the delegates who represented different services not only understanding the OPU unit but also to their promises to send patients that way.

The participants generally found the experience useful, informative and a rare chance to meet each other. As in the Night Nurses workshop links were forged between delegates that could lead to further collaboration and the development of the patient pathway. Actions that were prompted by the discussion have already been used to inform future key performance indicators. Therefore it can be concluded that in this case, using a computer model of a patient pathway as a vehicle of change and development has been successful.

Next steps

Use the data that has now been provided to improve the process model and simulation

Ensure that the nature of the model and purpose of the workshops is clearly communicated for the remaining sessions

Follow up the delegates to discover:

- Their general opinion of the workshops
- Whether they have completed their actions

Appendix 1

Questions identified by participants at the commencement of the workshop

Is the OPU reducing emergency admissions?

Does it have the potential to work to capacity?

What would that mean for emergency admissions?

Actions agreed by participants as the simulation took place

Note that as no data had been received ahead of the workshop, the simulation focused more upon a general discussion around how the unit is used and could be optimised in the future. Data has now been received following the workshop. The model demonstrated at the workshop was built on the process map and a set of assumptions using dummy data. This now needs to be updated with real data. The notes below therefore include general discussion.

	ACTION / OBSERVATIONS
	Some patients referred are not necessarily an alternative to ED at the moment. The OPU is taking lower acuity referrals because capacity allows them to do so. Equally, Some GP practices that could refer are not doing so. (Some have diagnostics on site anyway so wouldn't refer) The location of the OPU is considered to be a limiting factor in some parts of Leicestershire Services include diagnostics and a comprehensive geriatric assessment
1.	Estimates of potential demand requested. Some information on this contained in the business case for the OPU. (Attached)  Leicestershire Frail Older Persons_Outline  Current pathway flow for OPU - Dec 2014.d Also noted that X captures data weekly on how many patients potentially could have attended the OPU are you-queried how this is being acted upon
2.	Need a direct contact with social services for OPU
3.	Breakthrough moment : community nursing teams who had been unaware of the service. They felt that they would definitely be able to refer patients as an alternative to ED.
4.	Questions to be explored to help understand impact: Catchment population

	ACTION / OBSERVATIONS
	Over 65s Not fracture or head injury or seizure Deterioration not sufficiently acute that could not wait 48 hours for a service Can this group be identified, how many people would it be and how many of those would have gone to ED?
5.	Need to explore data to understand potential demand for this service and that information is disseminated to the services that need to know about it.
6.	Queries about time of referrals – many of these are between 5-7pm, (ie later than a same day referral could be accepted) but the OPU offers a next day service so this should not be an issue-this needs to be more widely publicised
7.	Possibility to be explored for forward-booking of patients into OPU by GPs; would require development of a protocol but offers possibilities of avoiding unplanned attendances at ED
8.	OPU has diagnostic facilities but? not widely known-potentially patients attending ED for diagnostics; original planning for the unit based on comprehensive geriatric assessment-needs wider promotion
9.	Greater understanding of barriers to attendance needed to inform discussion regarding why uptake of services is so low. ? Misinformation regarding who may refer
10.	Potential to also target out of hours GP referrals service-currently no referrals received from this source
11.	The availability of transport on site was not widely known and should be publicised
12.	How patients are expected to be referred, how many, when and likely outcomes in terms of hospital attendances reduced needs to be clarified and explained.
13.	Upon receipt of data, this is to be processed
14.	Assessment to be made of how the older peoples and night nursing models fit together, in terms of possible double counting of admissions avoided
15.	Agreed changes to the model would be summarised and forwarded
16.	Possibility of asking EMAS to direct suitable patients to the OPU in place of ED