Case Study Report of SIMTEGR8 User Workshop 1: Older Persons' Unit

Marianne Bamkin, Gemma Barrow and Ed Ostler

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 hour workshop
Aim of Event	To review a computer simulation model of Older Persons' Unit; to engage patients with the process of avoiding emergency admissions; to explore ways of measuring patient satisfaction and therefore make recommendations of ways to measure user satisfaction to the Step Up Step Down Programme Board
Date of Event	10th November 2015 10.00am – 12.00
Aim of SIMTEGR8	To assess the effectiveness of using a SimLean methodology to stimulate debate and recommend actions in order to 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 developed by SIMUL8 Corporation in order to analyse and assess methods of improving the patient journey. The project is focusing on four healthcare interventions through which Leicestershire County Council hopes to reduce emergency admissions to hospital. The project is conducting a series of workshops to examine the pathway of each intervention; one set for stakeholders of each intervention and one set where users of the interventions (patients and carers) are invited to give their views.

This case study report deals with the first of the 4 user workshops which were conducted as a partnership between staff of SIMUL8 Corporation, Loughborough University and Healthwatch Leicestershire. The workshops were held on 2 separate days, user workshops 1 and 2 being morning and afternoon sessions and similarly, user workshops 3 and 4 morning and afternoon sessions on a subsequent day. This is the case study report of the workshop for:

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

This workshop was facilitated by the project Research Associate from Loughborough University and the simulation consultant from SIMUL8 Corporation attached to the project, aided by the Healthwatch representative. It took place at Voluntary Action LeicesterShire, a central location in Leicester.

The workshop was structured using a facilitated workshop environment:

Model Understanding: The model is explained to the participants and the simulation run showing the movement of patients around the system

Problem Scoping: The discussion them moves on to issues that have been revealed by running the model and their own issues and concerns

Improvements: The discussion turns to methods of improving the pathway and finding ways measuring patient satisfaction

In order to capture their thoughts and actions, cards (Appendix 1) were given to the delegates for them to write down their personal aims and outcomes for the workshop. Similarly, sticky notes were supplied for the participants to record their thoughts and questions about the model or the patient pathway. At the close of the session delegates were asked to complete the "aims" cards; and to rank their experience on a Likert scale.

Description and account of workshop

There were 11 people present, 1 from the case study organisations, 1 representative of SIMUL8 Corporation, 2 from Loughborough University and 7 participants. It was found to be very difficult to invite individuals who had used the Older Persons' Unit (OPU) as they are frail older people often with complex needs. It had been suggested that we could visit them in their own homes, but that would have entailed lengthy ethical clearance procedures, and would not have constituted a workshop. Therefore, the participants were Healthwatch Leicestershire members who have relevant experience and insights to inform our work on capturing patient and carers' views about the effectiveness of the alternative pathways to emergency admissions. Their past experiences covered a range of aspects within the health service, ranging from nursing, health service and practice management, caring for relatives and representation of patient groups. Together, they offered insights into patient concerns and highlighted possible issues.

On this occasion, apart from two individuals, the participants attended both the workshop for the Older Persons' Unit and the following afternoon workshop for Night Nursing. In order to avoid repetition the workshops were structured slightly differently. At the beginning of the morning session all participants shared what they hoped to achieve during the day. In the afternoon session patient satisfaction was discussed. The initial aims stated by the participants were centred on the following issues:

Understanding of simulation modelling
Systems and patient pathway improvement
Patient perspective and satisfaction
Information on current practice
Access to essential services
Benefits of home care over hospital admission
Efficiency and cost effectiveness of services

The workshop commenced by familiarising the participants with the intervention and the concept of simulation modelling. It was hoped that a representative of the Older Persons' Unit could attend the workshop in order to give an overview of the patient journey so that participants had a more informed picture before the simulation model was shown and to provide contextual information. Unfortunately no-one was available; therefore, the researcher talked through a presentation of the intervention to the participants, which had been supplied by the intervention lead. The simulation consultant went on to explain that the simulation models are built from process maps. He informed the participants that models are data driven and built from a technical point of view; they are a representation of reality designed for illustrating a system. The model used in the workshop reflects real people using the system by using rapid modelling development.

The simulation model was then run, but stopped at two intervals to show the routes taken by two fictitious patients according to the severity of their condition. The simulation indicated that whereas one patient referred to the OPU would undergo diagnostic tests and return home, another could be tested and then admitted directly to a ward. The participants then posed some rigorous questions about the intervention.

Feedback from participants

Participants asked questions about where the patients are coming from. As the OPU is located in Loughborough there were issues raised about transport arrangements, which GPs are making referrals to the OPU and whether the location of the OPU is right. It was explained that on average there were three patients per day using the OPU during January 2015 – September 2015. The capacity of the OPU is 10 patients per day. In light of this information, the participants felt that the pilot is not a true pilot as insufficient patients are referred to the OPU, therefore, it is not being used to its full capacity. The participants were keen to know from which location in the county the patients were being referred. There were concerns that without more patients the OPU was not utilizing staff effectively and this could be seen as wasted resources.

There were comments made that the GPs may not have the information about the OPU and therefore practitioners needed to be re-educated about the service. Those who had been a carer felt that carer involvement should be looked as part of the process. For example, the view of a participant who had daily care of a close relative was overlooked, the relative admitted to A&E and then the carer was unable to take the relative out of hospital. Participants suggested that a possible reason why patients are not being referred to the OPU was because they had more than one condition (i.e. Dementia, Mental health) that the OPU does not deal with. As older patients have more complex health needs, the participants advised that the OPU could be better utilised if some of the factors that exclude patients from this particular pathway become factors for inclusion turning the OPU into a hub.

Participants wanted to know if there was any way of knowing how many patients who used the OPU had to be taken to A&E at a later data. Was there any readmission data available and were patients tracked through the different services? Participants felt that this data was important to assess whether the intervention is avoiding admissions to A&E or whether it is merely deferring admission. Concerns were raised about the timescales between interventions and the pressure on a carer if they have to wait for further interventions once a patient has been seen at the OPU and then returned home. The participants agreed that whole patient care needs should be taken into account but sometimes they are too many to deal with in one go.

Improvement

The discussion then turned to a more formal format. The participants split into two groups and were asked to spend a 10 minutes discussing their opinion of the service, considering whether they understood the pathway, that it made sense and what changes are needed. A spokesperson from each group then reported on their discussion. The points made from both groups The OPU is a very good concept

OPU can provide more timely investigation, care and reassurance
The speed of diagnostic results from OPU to GP would lead to better home care
OPU does not apparently cover psychiatric care
OPU currently underused
The geographic location may be impeding its effectiveness as a pilot service
Possibly biased towards the West Leicestershire Care Commissioning Group

Promotion of the service to possible referrers, e.g. GPs and 111
Concern that 111 staff are competent to decide on the appropriateness of their referral
Model does not reflect the impact of carers
Extension of the pathway to post discharge
Model should include figures for A&E readmission

The groups were then asked to consider three specific questions and discuss them in a similar manner to above. The questions were:

Do you think that the intervention is reducing admissions?

Does the intervention really provide more appropriate treatment than admission?

Are the resources being used effectively?

All the participants felt that they could not give a definitive answer as they did not have enough evidence to show that A&E admissions are being reduced. The participants would have liked to know; how many patients of this type (frail, elderly and over 65 years old) have been to A&E within the date period captured by the model that would otherwise have gone to the OPU. Their discussion points are summarised below:

Only when running at full capacity can the OPU provide the correct evidence for a pilot scheme
The OPU is better and less disruptive than waiting at A&E, could it increase the number of conditions dealt with there?
The visit should include mental health assessment
The service is not out of hours
The capacity of care teams and carers should be considered to provide home support
Self-referral could “make better use of facilities”
Patient Care Plans and their wishes for A&E admission should be taken into account.

Overall they considered that: the system may actually be deferring admission to A&E rather than avoid it completely. On the other hand the comment was made that the “Value of OUP is to speed up diagnostic tests which otherwise would take months, during which a crisis A&E incident might occur”. In that case the OPU would certainly be avoiding an admission.

Methods of collecting and measuring patient satisfaction was discussed in the afternoon session, but will be reported here as well as in the case study report for User Workshop 2: Night Nursing.

Measuring Patient Satisfaction

At this latter point in the workshop various methods of gathering customer views were suggested to the participants as examples, such as star rating, using images on electronic devices (smile, frown) and questionnaires. Participants were then given an A3 sheet of paper headed with the terms Speed; Dependability; Flexibility and Quality and divided into two columns. They were asked to work individually, writing down in the left hand column as many ideas as possible on measurement criteria and ways of gathering it. After a few minutes they were asked to exchange their list with another person, assess the ideas written on the paper that they had received and add other ideas. The papers were circulated in this manner a few times, gathering many comments.

The participants considered that the criteria for measuring speed are: One pathway from admission to discharge and time taken from referral to intervention or discharge with no A&E admission or readmission. The methods suggested for gathering the data were by full involvement of the patient, collecting “good feedback” or simply noting that it was a “successful outcome”. It was noted, however, that speed should be tested “versus quality”. These suggestions did not offer a practical method of gathering the data.

The criteria for measuring dependability included: The “number of failed visits”; “prompt response time”; “delivered as promised”, that is, the time the intervention has taken and the quality of the service or staff arriving at the right place on time; analysis of “complaints”, “commendations” and “praise” on a quarterly basis. The suggestions for gathering the data were as follows:

Scales of good/less good/bad or 1-10
Use of smiley faces, although certain age groups may not understand their significance
Open ended questions
Interviews with patients
Questionnaires and surveys

Some participants considered that using qualitative methods to gather the data are time consuming and will use a lot of staff time. One participant commented “All comprehensive surveys… may bring up interesting answers but [they are] not easily comparable or measured in bulk”. Another commented that he felt “the need for something simple and quick”.

Finding ways to measure flexibility proved to be a tricky concept. Participants listed their concerns around the awareness of the interventions amongst GP’s and thought that the number of referrals to the pilot schemes should be measured or the policies and procedure could be examined. However, one participant suggested that the “number of ways that a service can be accessed” and “how quickly their needs are met” would provide a measure of flexibility and other considered that removing time constraints from the services would give greater flexibility. Choice of service appeared to be important to the participants and equality of service to different ethnicities. The means of gathering data were similar to above:

“Use a smiley face or line chart” – “easy and easily comparable visual indication”
“Use two questions” – “easy to obtain a variety of answers”
How easy was it to access this service?
How difficult was this?
“Use 5 open ended questions” – “labour intensive”

Measuring quality produced a longer list of criteria. These were: Personal attention; being comfortable, physically and with the surroundings; dignity and respect; confidence in clinicians; being given clear information to “understand why?” and choices given; satisfaction with outcomes; continuous assessment of patient care and admissions and re-referrals. Suggested ways of gathering the data to assess the quality of a service focused on more qualitative methods of collection, such as feedback from patient or carer, PPGs and other stakeholders and the quantitative use of graphs or continuous rating scale.

Near the close of the session the participants were asked to share their feedback on the simulation models and whether they thought it worked. Their responses are listed below:

“I thought it would be more like real life and simulation would be more like seeing a patient going through the system”

“It did not make much sense to me”

“Patient stories would be a good accompaniment with simulation to bring it to life”

“Data and simulation can be geared to just about anything – there was missing data from patients and carers”

“We don’t know if the pathway has made any difference at all - I do not think you can evaluate it without looking at the outcome for the patient”

Overall the participants felt they needed to have more understanding of the models and the whole data to make a conclusion about admission avoidance. In their view patients did not necessarily need to see the models but it was important to have information on case histories and to hear patient stories.

Reflection

Despite the failure to reach any individuals who had first-hand experience of the OPU either as a carer or a patient to come to the workshop, the participants who had accepted the invitation from Healthwatch provided a variety of experience and expertise either as a patient and voice of patients, as a carer for frail patients with complex and unusual needs or as retired health professionals who put forward a patient perspective. They were lively and engaged participants that analysed the intervention with critical scrutiny. Discussion during the simulation demonstration was free and unstructured. However, the participant’s thoughts were guided during the “Improvement” and “user satisfaction” phases of the workshop. All discussions during the workshop were searching and each individual contributed their thoughts.

The major topic of discussion was the service of the OPU with the concern that it appeared to be a beneficial service which was being underused. The patient pathway to the service was discussed much less frequently although it was the second most mentioned topic. This could reflect the background of many of the participants as they have been responsible for services and they therefore took a managerial viewpoint rather than putting themselves into the shoes of the patient.

The wider context was considered a little but the model itself only featured four times in the discussion. However, the participants had concentrated on the simulation when it was run and became noticeably engaged as soon as the pictures appeared in the story telling mode of the model. This lack of analysis of the simulation could be explained by the expectation of computer simulation being more like computer animation rather than the visual outcome of underlying mathematical and statistical analysis, for example the comment “I thought it would be more like real life”. On this occasion the process map had not been shown beforehand which may have given the participants a better understanding of the modelling process.

The critical analysis led to many questions about the OPU being posed including some that could not be answered in certainty by someone who was not actively involved on an operational level, for example was the patient cared for by OPU staff in a holistic way? Or, what level of mental health problems formed part of patient diagnosis? It was unfortunate that no-one from OPU had been available to attend. Questions were written down on sticky notes and those that could not be answered were put to the relevant staff after the workshop (Appendix 2). The replies have since been distributed to the participants.

At the end of the workshop, participants were invited to comment on the points that they hoped to achieve which they identified at the start of the session. The comments included the following points:

A better understanding of SIMUL8

Information gathered on changes to current practice

Contributed to making a better pathway for frail older people

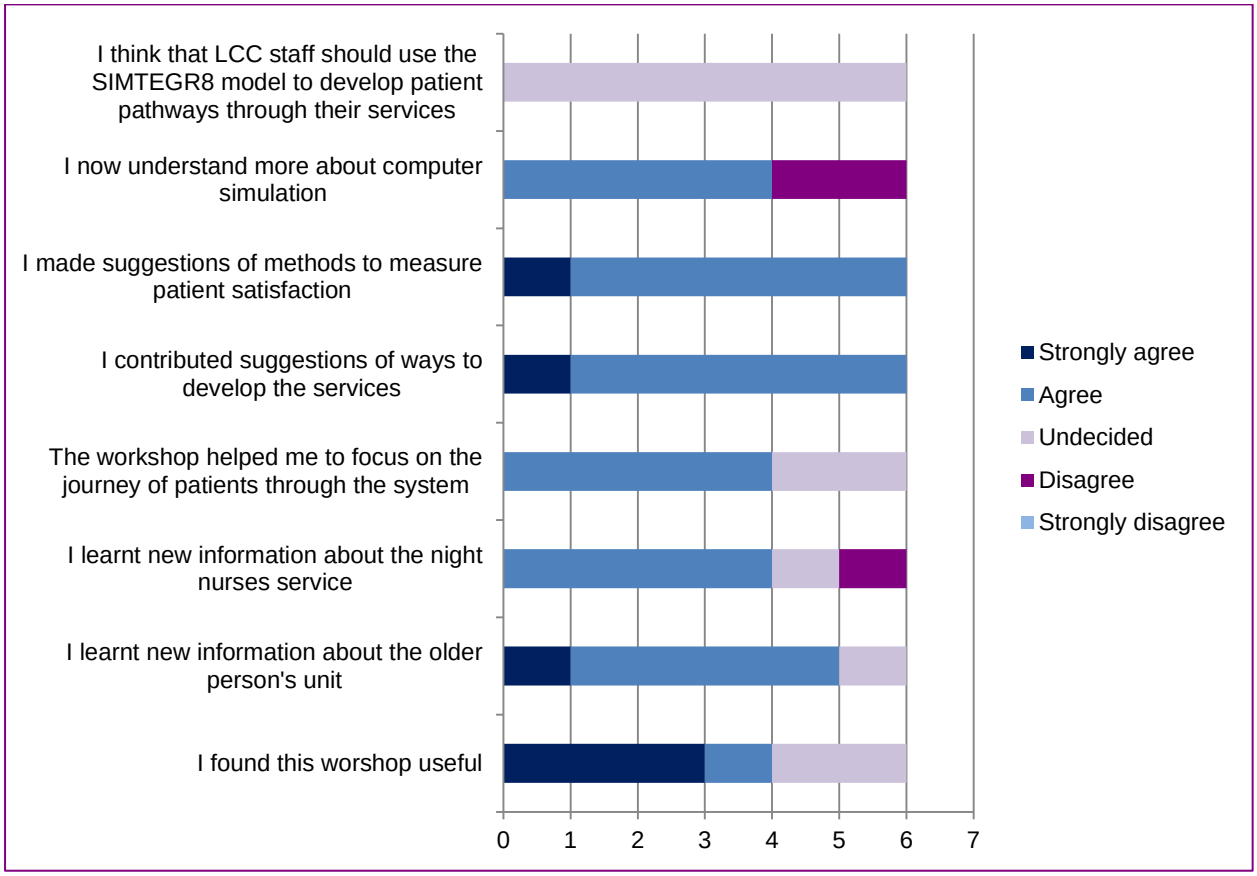
Hopefully contributed to minimising unnecessary journeys to A&E

Understand that our insight might have an influence within the pilots

The participants were most concerned that their voices were heard and that their suggestions were seriously considered for incorporation into the intervention.

Finally, the Likert scales that 6 of the participants completed indicated that they had had a positive experience at the workshop (**Figure 31**). Three strongly agreed that the workshop was useful, 1 agreed and 2 were undecided. Four participants thought that workshop helped them focus on the patient pathway and although 4 thought that they had increased their understanding of computer simulation, 2 did not and all were undecided whether LCC staff should use computer simulation to plan patient pathways.

Figure 1: Participants' Opinion of Workshop



It was found that:

Participants were so engaged with discussion about the service that it would have been useful to have a representative present

Details of the service and their implications for patients were rigorously considered

The participants engaged with the computer simulation better when the story mode was activated

Participants were concerned that their comments would help to improve the OPU service

The patient perspective could have formed a greater part of the discussion

The use of a computer simulation of a patient pathway in this case appeared to incidental to the greater discussion of the service provided by the OPU, its value for money and under use. Some of the more forceful participants demonstrated that they did not really understand the principal of computer modelling because they did not believe that we had presented all the data available to them. However, the workshop was certainly a focus for in-depth consideration of the OPU.

Next steps

Develop the story mode aspect of the computer simulation to show to patients

Make a greater effort to capture the perspective of the patient pathway, for example invite users of the specific intervention to the next workshop

Follow up the delegates to discover

- Their general opinion of the workshops

Appendix 1

Sample of card given to delegates to record personal aims

This is what I hope to gain from this workshop	This is what I did gain from this workshop
	I consent to a follow up phone call: Phone no

Appendix 2

Questions sent to OPU staff after the workshop, with the replies

Where do those who have been ill in the system come from, East or West CCG areas?

- 90% West (483)
- 9.3% East (50)
- 0.7% Other (4 – 3 city, 1 from Rushcliffe CCG)

Are East Leicestershire CCG area GPs using the OPU?

- Not as much as we had initially hoped, however we have an excellent East GP advocate who is based at The County Practice in Syston. It is appreciated that distance is a barrier for some EL&R CCG Practices; however patient transport is available through St John Ambulance who will collect and return patients wherever they reside in West Leicestershire or East Leicestershire and Rutland localities. Work is ongoing with EL&R CCG colleagues to raise awareness and promote the service. Currently myself and the Programme Lead are attending GP locality meetings to give an overview of the service and answer any queries GPs may have.

What are the statistics for the medium term outcomes of OPU versus A&E/Hospital after discharge?

- I don't have that data but the OPU is currently being evaluated along with other emergency avoidance schemes so that will give us an insight into this.

How confident are OPU that care is available at home?

- Unless the GP notifies the OPU at the point of referral then the OPU staff won't be aware of this. Maybe this is something we need to highlight as they see many patients with long-term conditions that may have a care plan in place. This will be fed into the overall work on care planning which is being progressed. As for referring onwards from the unit and any care that the patient may need going forward, they ensure that all patients have a discharge letter completed and this is sent to the GP.