Case Study Report of SIMTEGR8 User Workshop 2: Integrated Crisis Response, Night Nursing

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 Integrated Crisis Response, Night Nursing; to engage patients with the process of avoiding emergency admissions; to explore ways of measuring patient satisfaction and therefore make recommendations to Leicestershire County Council
Date of Event	10th November 2015 13.00 – 15.00
Aim of SIMTEGR8	To assess the effectiveness of using a SimLean methodology in order to stimulate debate and recommend actions in order to improve patient pathways

Context of Event

The SIMTEGR8 project is collaboration between Loughborough University, Leicestershire County Council and Healthwatch Leicestershire. Leicestershire County Council is piloting four healthcare interventions to reduce emergency admissions to hospital so this project is using computer modelling and simulation techniques developed by SIMUL8 Corporation to analyse the effectiveness of the pilots. The project is conducting a series of workshops which examines the patient 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 second of the 4 user workshops which were conducted as a partnership between staff of SIMUL8 Corporation, Loughborough University and Healthwatch Leicestershire. The workshops were help 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:

Integrated Crisis Response (Night Nursing Unit) – health and social care support given at home for up to 72 hours.

The workshop was hosted at Voluntary Action LeicesterShire by Healthwatch Leicestershire and facilitated by the Research Associate from Loughborough University, the simulation consultant from SIMUL8 Corporation and the Healthwatch representative all of whom were attached to the project.

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 10 people present, 1 from the case study organisations, 1 representative of SIMUL8 Corporation, 1 from Loughborough University and 7 participants. It was found to be difficult to identify and invite users of the Night Nursing service as they are generally individuals with an underlying condition who use the service at a crisis point in their condition. Therefore, the participants were Healthwatch Leicestershire members who have relevant experience and insights to inform the 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 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 one in the morning and one in the afternoon, the participants attended both the workshops for the Older Persons' Unit and 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, then examined the Older Persons' Unit. In the afternoon session Integrated Crisis Response, Night Nursing was examined and 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 Night Nursing could attend the workshop in order to give an overview of the patient journey to provide participants with a more informed picture before the simulation model was shown. This would provide contextual information. Unfortunately no-one was available; therefore, the researcher and simulation consultant provided a very brief overview of the intervention to the participants. This part of the workshop was quite challenging as the participants had questions about the service that we were unable to fully answer.

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.

Feedback from participants

After the simulation was shown the participants asked for more information about the service, the patient pathway and the effect of the intervention. For example, when people are nursed at home rather than at a community hospital how does this constitute a reduced admission to A&E. Similarly, does the service cover people who have been discharged from hospital? Questions were raised about the End of Life (EOL) care pathway and participants were curious about the way which that service interlinked and worked together with the night nursing team. They also questioned the triaging competence of 111 operators, were they adequately trained, or should it be more appropriate for the GP or East Midlands Ambulance Service (EMAS) to refer patients to the night nursing team.

Some participants did not understand the practical working of the virtual bed system such as the number of staff and their deployment. Fortunately a participant with a strong nursing background was able to inform the group about the details of running a virtual ward. The participants spoke positively about the pathway and felt that the data showed a huge number of successes for such a small team. Participants commented that the simplicity of the pathway might be the reason that it is working well.

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 are summarised below:

Principles of the pathway understood
Concept is good but more data and evidence of wider context needed to make more sense
It is better than no care at all
Nursing staff should be able to understand cultural aspects in the community e.g. gender specific (male/ female carer) or cultural specific needs
Recognising the problems of people coming into your home e.g. patients with dementia
Continuity in Care, will the same person visit?
Will lack of sleep disturb the elderly person
Is there access to equality of services?

Concerns were raised about medical professionals being able to gain access to patients' homes in the night, for example would a carer, doctor or neighbour be present to unlock doors as a vulnerable person may not give consent for a stranger to enter their home, especially if they are "suffering from mild cognitive impairment or dementia".

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?

As the simulation showed that the number of unnecessary admissions had reduced once this intervention was put into practice, the participants agreed that overall the service was

avoiding individuals being rushed into Accident and Emergency during the night. The discussion points are listed below:

- Admissions appear to be avoided
- Uncertain whether the care given is social or medical, more data needed
- Uncertain whether the patient would be better off admitted to hospital
- Patient wishes should be taken into consideration, e.g. if an individual receiving end of life care has a “living will”, or that their wellbeing depends on their surroundings
- Cost and resource effectiveness could be impaired by low number of patients and geographical spread of virtual beds
- Are the patients satisfied with the service?

Participants were concerned that the medical care that the patients received would be equal to that which they would have received in hospital. They also considered that gathering information on patient satisfaction for this service was very important. Methods of collecting and measuring patient satisfaction was then discussed and has been reported in the case study report for User Workshop 2: Night Nursing as well as here.

Measuring Patient Satisfaction

At this 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 swap their list, and assess the ideas written on the paper that they had received. 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 GPs 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 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.

Feedback on Simulation

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

As in the previous workshop session that concentrated on the Older Persons' Unit (OPU) all participants were highly engaged with discussion throughout and critically analysed the process of the intervention. The mix of experience within the group provided for lively discussion with individuals being able to provide information to the group. However, the workshop would have benefited from an experienced staff member or user of the Night

Nursing service to provide detailed knowledge. It was noticeable that more detailed questions about the implementation of the service and its effect on the patient were asked than at the earlier session for the OPU. This could have been due to a more detailed overview of the OPU being given than that of Night Nursing.

On this occasion the patient pathway was mentioned an equal number of times to the overall service, with brief mention of related services, the most relevant being the End of Life team. The model was only discussed on one occasion. It had been agreed early in the discussion that it showed the patient pathway and its simplicity. The participants watched the story mode of the computer simulation quietly and with interest. The participants showed more concern about patient satisfaction for this service than in any of the preceding workshops. This meant that the discussion about patient satisfaction became relevant to the workshop.

The paper exercise for devising measurable criteria for patient satisfaction successfully recorded participant suggestions. It seems that it is easier to measure certain aspects of a service than others. Speed of delivery can be timed, although participants felt that faster speed could compromise quality. Dependability could be assessed through measuring accurate and timely arrivals at patient's homes. Working out a measurable aspect of flexibility proved a problem, but there was no problem in identifying measurable aspects of quality. The measuring instruments that participants suggested included quantitative and qualitative methods but the overall agreement was that the method should be quick and easy for the patient or their carer to complete and quick easy for staff to administer and analyse. A table of the criteria and measuring instruments suggested can be seen in Appendix 2.

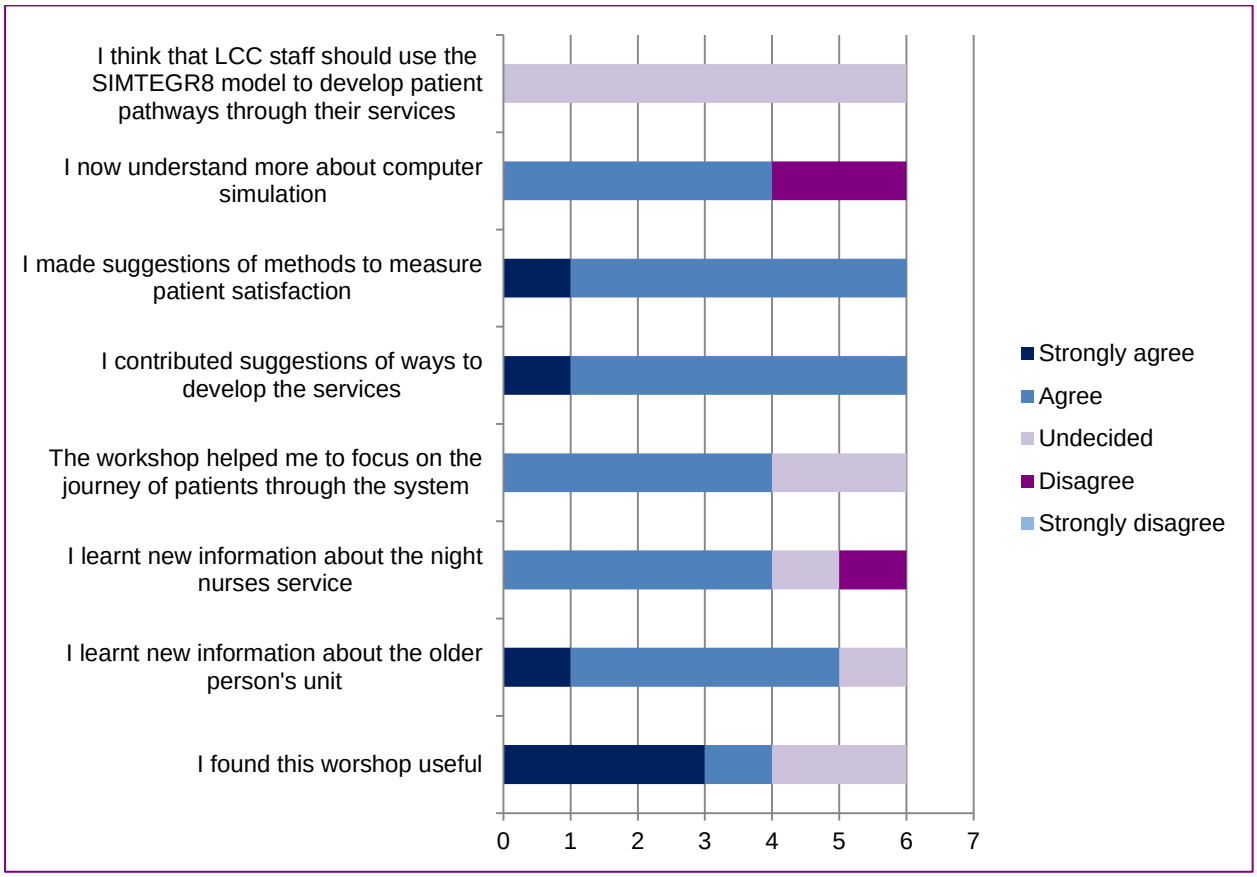
Questions were written down on sticky notes and those that could not be answered were put to the relevant staff after the workshop (Appendix 3). The replies have since been distributed to the participants. At the end of the workshop, participants were invited to comment on the points that they hoped 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 pleased and hopeful 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 be incidental to the greater discussion of the patient pathway and the Night Nursing service. One participant did not understand the process despite explanations by other participants and the facilitators. On this occasion, although there was little discussion about the simulation it was accepted that it demonstrated a clear picture of the reality of the patient pathway, which led to a very detailed and searching analysis of the patient journey and experience.

Next steps

- Develop the story mode aspect of the computer simulation to show to patients
- Make a greater effort to include users of the intervention to provide a more informed debate of the patient pathway and patient satisfaction

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

Participant's suggestions for measuring patient satisfaction

Measure	**Speed**	**Dependability**	**Flexibility**	**Quality**
Criteria	Only one pathway from admission to discharge Time taken from referral to intervention Time taken from referral to discharge No admission to A&E No readmission	Number failed visits Prompt response time Delivered as promised (right place right time) Complaints/ commendations/ praise	Number of referrals to pilot schemes Policies and procedures Number of ways service can be accessed How quickly needs are met No time constraints	Personal attention Physical comfort Comfort with surroundings Dignity preserved Respect shown Confidence in clinicians Clear information and reasoning Choices Satisfaction with outcomes Continuous assessment patient care
Measuring instrument	Collect "good feedback" Note successful outcome	Scale good/less good/bad Scale 1-10 Smiley face chart Open ended questions Interviews with patients Questionnaires and surveys	Smiley face chart Line chart Two questions on ease of access Open ended questions	Feedback from patient Feedback from carer Feedback from stakeholders Continuous rating scale graphs

Appendix 3

Questions sent to Night Nursing Project Lead after the workshop, with the replies

Night Nursing

How do nurses gain access to patient's home?

- Access to the patient's home is directed by the individual patient and can be by the use of key safe, relatives and neighbours etc.

Are any of the patients in home nursing pilot suffering from mild cognitive impairment or dementia?

- Yes many of the referrals we have responded to have been because of mild cognitive impairment and dementia and this was the patient group we hoped to capture.

Do the patients see the same staff each visit?

- We are very mindful of continuity of care and aim to enable this, however, it is not always possible but due to our handover process all the staff are very familiar with the patients'' journey and needs before they visit

Are the staff trained to be aware of cultural issues?

- All the staff are trained and very mindful of patients being individual with expressed beliefs and preferences, this includes culture and again any issues are covered in our handover process to ensure the best experience for all.