

Using HIT to deliver integrated care for the frail elderly in the UK: current barriers and future challenges

Patrick Waterson¹, Ken Eason², Dylan Tutt³ and Mike Dent⁴

¹*Design School, Loughborough University, Leicestershire, LE11 3TU, UK*

²*Bayswater Institute, London, W2 4RL, UK*

³*Innovative Construction Research Centre, University of Reading RG6 6AY, UK*

⁴*Institute of Health Research, Staffordshire University ST18 0AD, UK*

Abstract. In this paper we briefly describe the results of a 3 year project examining the use of Health Information Technologies (e.g., electronic patient record systems) to deliver integrated care. In particular, we focus on one group of patient (the frail elderly) and efforts to design an e-health supported healthcare pathway (the frail elderly pathway – FEP). The aim of FEP is to bring together clinicians and staff from health and social care and allow them to share patient information. Our findings show that progress in delivering a fully-supported and working FEP has been slow, not least because of the difficulties experienced by healthcare staff in using current IT systems. In addition, there are many strategic and technical issues which remain unresolved (e.g., systems interoperability).

Keywords: Care coordination; health information technology; integrated care; sociotechnical system.

1. Introduction

Attempts to integrate health and social care for vulnerable patients such as the frail elderly have been a strategic goal within the UK NHS for some years. Health information technologies (HIT) such as electronic patient record systems are often seen as having the potential to play a major role in realising the longer-term vision of ‘seamless whole system integrated care’ [1]. One of the chief advantages of the use of HIT within integrated care is providing an efficient mechanism for sharing patient information amongst a diversity of groups (e.g., health care, social care) and specialisms (GP’s, Geriatricians) involved in the care of patients.

Technology has an obvious and important role to play in moving toward greater integration of services, giving patients greater choice in terms of where and how care is delivered and moving away from traditional hospital or GP-based points of delivery. However, research on the design of new models of integrated care and the potential role of information

technology (e.g., [1], [2]) in shaping redesign, all point to the importance of balancing social and organisational alongside technical concerns (i.e., a socio-technical approach)

In this paper we describe some of our work over the last three years within two NHS Trusts (NHS Walsall and NHS Northants) and provide further details of their efforts to use HIT in the form of electronic patient record systems to deliver an integrated care pathway for the frail elderly (FEP).

2. Methods

We have used a number of methods of study during the project, these include: (1) Mapping IT supported pathways through discussion with, Information Management and Technology (IM&T) and Informatics managers and Business Change and

*Email: P.Waterson@lboro.ac.uk; Tel: +44 1509 228478

Clinical Change Management ('hybrid'¹) staff and health professionals; (2) Fortnightly attendance at information management and care pathways meetings over the last three years; (3) Carrying out 40 semi-structured interviews with clinicians and healthcare staff involved in the design of HIT systems and the care of the frail elderly (e.g., IM&T personnel, community nursing staff); (4) Running a set of action research workshops, one of the aims of which was to present our interim findings from the project and to discuss issues and problems within the FEP.

3. Findings

3.1 The history of the Frail Elderly pathway (FEP)

The FEP started in April 2010 with the appointment of two coordinators, one based in the Integrated Care Team and the other in the hospital trust. Its initial thrust was to bring patients onto the pathway through nurse-led discharge procedures. The hospital based coordinator and other nurses worked in the Accident and Emergency Department (A&E) and the assessment ward as part of the triage process to assess patients who were suitable for the pathway and did not need to be admitted to the hospital. This process overlapped with the role of the community matrons. Each community matron was assigned to an area of the borough and had the task of working with GP practices, district nurses etc, to identify patients at risk of admission to hospital and to intervene and set up alternative care plans wherever possible. Community Matrons went into the hospital regularly to intercept 'their' patients when they arrived in A&E and to try and arrange early discharge when they had been admitted. Figure 1 shows a simplified map of the various actors and processes involved in the FEP.

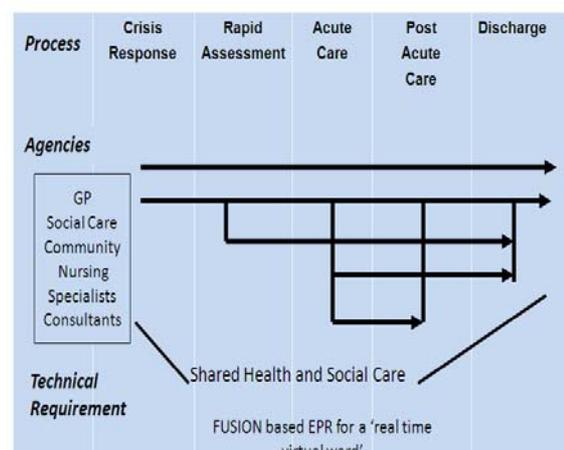


Figure 1: Frail Elderly Pathway (FEP) Map

3.2 Experiences of HIT use

When the FEP was established the community matrons worked with the coordinators to synchronize their discharge efforts with FEP. In many instances the coordinators identified 'the referral' and asked one of the senior nurses in the ICT or one of the community matrons to make an assessment. One of the community matrons was now spending a substantial amount of her time with the Frail Elderly team and she gave an example of how it worked:

"The hospital FEP coordinator rang me to say that a lady presented in A&E yesterday and the coordinator thought she might be suitable for FEP. So tomorrow I will go and see her to assess whether we could manage to stabilize her at home." (Community Matron)

When a referral was made the nurse making the assessment also had access to electronic information (within the 'FUSION' system) about the patient.

I had a new referral this morning for frail elderly and the first thing I did was to check on FUSION to see what other clinical staff were involved and what her last lot of bloods were. (ICT Nurse)

Often the patients are 'frequent flyers' at the hospital and as a result FUSION will contain a great deal of information about them. As one of the interviewees put it 'You have got all the jigsaw puzzle pieces together'. The staff had no direct

¹ 'Hybrids' here refer to IM&T/Informatics staff coming from a background in the health professions [3].

access to GP records but GP staff were fairly quick to respond by fax.

"We would all die without the fax" (ICT Nurse)

Community matrons also had another facility to help them respond quickly. A&E staff were familiar with the matron's caseload of 'frequent flyer' patients and sent them a FUSION Alert whenever one of these patients re-presented and it was often the case that a community matron could attend and find a way of avoiding hospital admissions.

In December 2010 a rapid response team was established to reach patients before they went to hospital. Once an initial assessment had been made and the patient admitted to FEP, the assessment nurse set up the Single Assessment Process (SAP) documentation in the patient's home. This consisted of an 'overview and contacts list' behind which every nurse, therapist, carer etc who became part of the team could add their specialist record. Carbon copies of the SAP documents completed by members of the team were taken back to the office to be put on the patient's electronic record (stored within the iPM system).

For the coordinator of the FEP the creation of the rapid response team was making co-ordination more difficult for three reasons; more patients were coming into FEP for a short period of time, they had to move very fast in the rapid response phase and there was now a bigger team to co-ordinate. Many patients were admitted as a result of falls at home and they may stay on the pathway for a relatively short time. The team had previously had morning meetings but now people were beginning to feel they were not coping.

"We are getting comments like 'I am frightened of missing something' because of the complexity of who else you have to coordinate with and the speed you have to do it.....You know, somebody might miss their IV antibiotics for a couple of visits because we thought the district nurses were doing the next doses."(ICT Nurse)

There were calls for an electronic whiteboard like in the Accident and Emergency Department and a strong feeling that, as the FEP caseload got bigger, the more they would need a 'virtual ward' where they could find all the new data about their patients.

3.3 Current developments

As a result of the implementation of the FEP, and the gradual ramping up of the numbers on it, there was considerable pressure on the existing ways of coordinating care within the team and with other agencies. The usual ways of getting information and coordinating care; SAP paper-based records, team meetings, using the telephone, getting faxes from GPs etc, all took time and getting back to the office to put data into iPM was a strain. The hope of many was mobile working so they could access patient data and input their reports 'on the road'. There were plans for e-SAP but there were doubts about its achievement.

We have had plans to move to eSAP for seven years and the fact that we have got nowhere tells you something about how difficult it is. (ICT Nurse)

Some of the interviewees had used a laptop on their rounds and they found it very useful not only to access patient records and make their reports but to send and receive emails. Some of the interviewees recognized the advantages of a laptop but also worried about the weight and the need to carry a printer in order to leave copies with the patient. And some recognized that the current 'workarounds' by which they got information and made reports whilst on the move could be fairly effective.

Don't get me wrong, - having a laptop would be very beneficial. But we do learn how to manage. I can get on FUSION on any computer in any clinic and I can do my emails. So you learn your way around ...you know which doctors surgeries you can go into and say 'can I access FUSION?'(ICT Nurse)

One of the important areas where they needed to share information was with the care managers from social services. The main documentary way of sharing information was through SAP which was only fully available when you were with the patient. Two social workers were embedded with the ICT and when, for example, they had a multi-disciplinary meeting they could look at their electronic records (held on the 'Paris' system within Social Care) for a patient whilst healthcare staff looked at the iPM records. Together they could build up a picture of the patient. But for many of the patients, responsibility for social care rested with local care managers and it was harder to share patient information with them. Another expressed

need therefore was to be able to access Paris records via FUSION. Some limited progress in this direction was reported. The social workers in ICT had been given limited access to FUSION and the ICT FEP coordinator was now able to use the social workers' computers to access to Paris records.

4. Discussion

Although great strides have been made in both NHS Trusts to provide e-health systems that enable information to be shared across organisational boundaries, there are no examples of e-health systems that support the entire FEP. There are always boundaries to agencies that are 'outside' the reach of system. Similarly, although there is provision for sharing information, staff can always point to ways in which it could be enhanced. In all cases therefore, there is potentially a lot more that could be done.

The landscape of e-health systems that support coordination across agencies in both NHS Trusts is an evolving one with a great deal of unfinished business. Its evolving shape appears to be a product of four forces (a) 'top down' national influences through IT programmes, pathway developments and information governance policies, (b) local Trust priorities for working on inter-agency co-operation, (c) an evolving awareness amongst the user community that creates 'bottom up' pressures for system improvements and (d) local informatics policies and strategies that attempt to create a resilient IT infrastructure by using a mixture of flexible database systems, middleware systems and specialist systems that can cope with the emerging demands of the other three forces. As a contribution to the debate about 'top down' versus 'bottom up' design, our work demonstrates that what is happening in practice has 'top down', 'middle out' [4] and 'bottom up' contributions.

4.1 Challenges for the future

Within the two Trusts, we have found areas in which substantial progress has been made in creating working forms of integrated care in healthcare pathways. These islands of progress have produced solutions that are quite different from one another and they are the result of evolutionary processes over many years in the face of many difficulties. As a result, there are parts of the systems development process that are quite mature in the ways in which the challenge of integrated design is tackled. We would

single out, for example, the long tradition that has now built up for engaging 'hybrid' as the go-betweens in the endless dialogue between informatics specialists and the healthcare user community.

However, current electronic support for integrated care can only be described as patchy and does not approach the vision of what is already possible within the NHS [5]. To build on what is already in place; there is a need to create more mature systems development processes that can cope with the many challenges of bringing together a diverse set of stakeholder interests across a number of different healthcare agencies to create not just technical systems but sociotechnical systems geared to the specific needs of healthcare pathways.

References

- [1] Ham, C. and Smith, J. (2010, September), *Removing the Policy Barriers to Integrated Care in England*. Nuffield Trust Report. Available at http://www.nuffieldtrust.org.uk/members/download.aspx?f=%2fecomm%2ffiles%2fRemoving_the_Policy_Barriers_Integrated_Care.pdf (last accessed 6th March 2011)
- [2] MacAdam, M. (2008), *Frameworks of Integrated Care for the Elderly: A Systematic Review*. http://www.cprn.org/documents/49813_EN.pdf (last accessed 25th July 2011)
- [3] Buchanan, D.A., Addicott, R., Fitzgerald, L., Ferlie, E. and baeza, J.I. (2007) Nobody in charge: distributed change agency in healthcare, *Human Relations* 60(7): 1065-1090.
- [4] Coiera, E. (2009), Building a National Health IT system from the middle out. *Journal of the American Medical Informatics Association*, 16, 3, 271-273.
- [5] Thistlethwaite, P. (2011, March), Integrating health and social care in Torbay. The Kings Fund. http://www.kingsfund.org.uk/publications/integrating_health_1.html