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Frailty and admission avoidance Exploratory Express

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Purpose of document	Exploratory report
Event detail (delete row if appropriate)	Report on the Express Exploratory/Design workshop for the Healthcare Improvement Scotland (HIS) team on the 19th January 2016 on frailty and admission avoidance.

Related projects	Names and doc reference numbers
Keywords	patient-centred; physiotherapy; stroke; Remote/rural patient support; patient feedback; electronic health record; EHR; mobile apps; rehabilitation

Frailty and admission avoidance Exploratory Express

The Healthcare Improvement Scotland (HIS) Executive team held a meeting at the DHI Maxim offices on the 19th January 2016. HIS had requested to find out more about the DHI and its innovation process, and to gauge collaboration opportunities with the DHI. The Research and Knowledge Exchange team (TD, SR, AW) prepared an interactive Exploratory/design workshop for the afternoon on topics identified as relevant by the HIS-team: Innovative solutions for frail people in the community and preventing admissions to the hospital. Members of the Project team and the Laboratory team assisted in preparing and running of the event. The preparations included planning the design of the workshop, interviewing a real-life patient for a case-study to be used in the workshop, and preparing the workshop materials (SR, AW).

Timetable:

Time	Item	Aim	DHI Lead	Topic
13:30 – 13.45	Welcome & DHI Introduction	Overview of DHI	Justene Ewing – DHI CEO	Introduction to DHI
13:45 – 13:50	Setting the Scene	Explanation of format & purpose of workshop	Toni	The purpose is to explore how a patient-centred, holistic care system could be organised around a frail person in order to avoid hospital admissions
13:50 – 13:55	Activity 1: Icebreaker	Dividing of participants into 4 groups	Aaron	Divide participants into 4 groups Organise themselves into a line according to birth month
13:55 – 14:00	Patient case	Presentation of patient case – Tommy's story	Toni	Short PPT introduction to Tommy's situation Invitation to participants to consider Tommy's care needs
14:00 – 14:20	Activity 2: Listing of patient's needs – Needs, Insights & Opportunities	Listing Tommy's care needs	Toni, Sanna & Aaron	Participants to list care needs, insights & possible opportunities on post-its; Collation of post-its onto shared boards; "Spanners in the works" to be presented before 3rd activity

14:20 – 15:30	Activity 3: Collaborative Design	Organising the ideal care system around Tommy's needs	Don	Organise the available workshop materials and map out/design into the Ideal care system for T using observations from previous activity
15:30 – 15:50	Show & tell	Each group has 5 mins to present the care system they have designed	Don	Each group to present their design highlighting the key issues they have identified Scribes to take notes
15:50 – 16:00	Digital Diabetes, Wrap-up & Close	DHI project demonstration, wrap up and close	Chal	Presenting the Digital Diabetes diagram

The aim of the workshop was to give the participants a flavour of the DHI innovation process by running a short exploratory activity, and to make them think about the health and care system from a person-centred, integrated point of view.

The afternoon started with a presentation by Justene Ewing, the CEO, on the DHI and its future prospects. Dr Toni Dedeu then outlined the programme for the afternoon explaining the topic under exploration: how a patient-centred, holistic care system could be organised around a frail person in order to avoid hospital admissions.

The workshop had attracted ca. 20 participants (list of participants below – 26 had signed up but 20 came along). The room had four tables. By way of breaking the ice and breaking up the participant groups into a more random mix (4-5 people per table), Aaron Wood asked the HIS members to organise themselves into a line according to their birthdays from January to December. The first five in the line seated themselves at the first table, etc. Each table had a collection of materials to be used in the workshop in the middle of the table.

The workshop was planned around a real life case of Tommy[1] (50), who had suffered a stroke. 50% of those who suffer this type of stroke do not survive, and 30% of those who do, never leave the hospital. Aaron and Sanna from the KER team had met with Tommy at his home in a village outside Glasgow to

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[1] Not the person's real name.

get more information about his situation, and to see if he could participate in the workshop as a patient volunteer. Unfortunately, formulating sentences was still quite difficult for Tommy, whose wife was there to assist him in relating his story. Toni presented Tommy's case to the workshop participants.

Tommy's case:

Tommy (50) had been sporty and fit, non-smoking, non-drinking person, head of IT by profession, travelling the world on business. Returning from America in November 2014 Tommy had complained pain in his abdomen and in his leg. He had collapsed on the bathroom floor, where his wife had found *him. Judging by the position in which he was, Tommy's wife immediately suspected a stroke. The* emergency services were called and arrived promptly. They confirmed Tommy had likely had a stroke, and were about to take him straight to the Stroke specialist unit at the Southern General Hospital (SGH) in Glasgow. However, the call centre for the ambulance crew called them first back into the local hospital in Paisley, where Tommy was assessed again. It was recommended he is taken to the SGH as originally *planned. Transferring a patient across local authority borders delayed Tommy's treatment. Luckily he* was on time to receive thrombolytic drug, which needs to be administered within a 4,5h window of the stroke happening. Tommy spent 10 days at SGH, after which he was transferred to the local hospital in Paisley, where he stayed another 8 weeks. After that he has been cared for at home.

Tommy suffers from aphasia following the stroke, which also paralysed him on the right hand side of his body. Immediately following the stroke (in November 2014) he was not able to speak or read, nor move. Tommy is now able to speak again, but formulating sentences is difficult for him. He can walk, his leg supported by a splint, but his right arm is still immobile. The stroke profoundly impacted him and his *family's life. Tommy is out of work, while his job is paying for some of his rehabilitation. His wife has been* off work for a year now to care for Tommy full-time. Formerly an active person Tommy is now practically housebound, even if he has made remarkable recovery. His wife takes him to attend a gym and swimming lessons given by a family friend. Tommy has very supportive friends and family. Tommy has had excellent physio therapy from the NHS on his legs, but his arm has been neglected in this. Speech and language therapy (SLT) has been lacking. Tommy waited for 13 weeks to get assigned an NHS speech and language therapist, and had to employ a private one in between. He also uses various apps on his tablet to help with this SLT. Combining private and public healthcare provision has been problematic but necessary. Tommy is getting better, but often feels bored and very frustrated with his situation.

Don McIntyre, the Design director, facilitated the workshop. Following Tommy's story, the participants were asked to think about Tommy's situation and list on post-it notes all the care needs Tommy would have. This done, Don asked the participants to arrange the care needs under headings for "needs" and "insights" on an A3 sheet in the middle of each table. Each table reported the needs they had come up with, each table adding only unmentioned points. A scribe took notes on the needs on a white board.

Needs that were raised included:

- *Tommy's medical* care needs: physio, SLT, other rehabilitation; medication

- Information about the condition, its treatment and prognosis

- Expectation setting; understanding the journey ahead

- Understanding how the care system works

- How best to organise his home environment to allow him the maximum independence

- Emotional and social adjustment following a major trauma

- Carers and their needs - social, emotional, physical, financial support for carers

- *Tommy's need to regain the capacity to express his thoughts and needs*

- Personal care needs

- Differentiating personal needs in the care system

- Continued rehabilitation

- Psychological and mental health care

Issues:

- Worry about family; financial support

- Fragmentation of services

- Lack of communication between services and personnel within the service

- Gap between health services and social care services

Don then asked the four groups to come up with three opportunities for improvement in response to the elucidated care needs. Each group posted their suggestions on a white board, which were rated into "top four" suggestions: the participants had two votes each ("dots" drawn next to the proposals) to pick the proposals that were the best or the most important to them. The facilitators of the workshop identified the top four suggestions:

- Improving communication

- Making physio therapy fun

- Remote/rural patient support

- Gathering patient feedback

Each group picked one topic to work on. The final activity was a collaborative design task during which the participants were given batches of materials (e.g., stickers and paper cut outs symbolizing various elements in a healthcare system, such as "people", "buildings", "devices", "software"; pens and paper, glue, scissors etc.), which they used to design a holistic healthcare ecosystem based on their chosen topic and taking into account Tommy and his needs. This exercise resulted in four different designs, which the groups had five minutes to talk to and explain to each other at the end of the session.

Making physio fun: APPiness

This design was about making physiotherapy more fun and appealing. The team envisaged and designed an App to help with physical recovery and to record physical activity that, the team explained, Tommy would design. He would use the app with the help of his wife to collate data on his physio therapy and activity patterns as he would go to the gym or have a physio therapy sessions. He could share the data with his family and friends via a mobile device, as well as with a peer group he would hook up with online through a social media platform. He might get to meet up with the group face to face over time. The health data he is collecting, together with the social improvements in his life, would lead to diminishing need in medication and improved physical and emotional condition. Tommy would even get in touch with the DHI to apply for funding to push his product out to the wider world, and with this business expertise, be able to set up a small company, and then sell his app to the NHS to help other stroke patients.
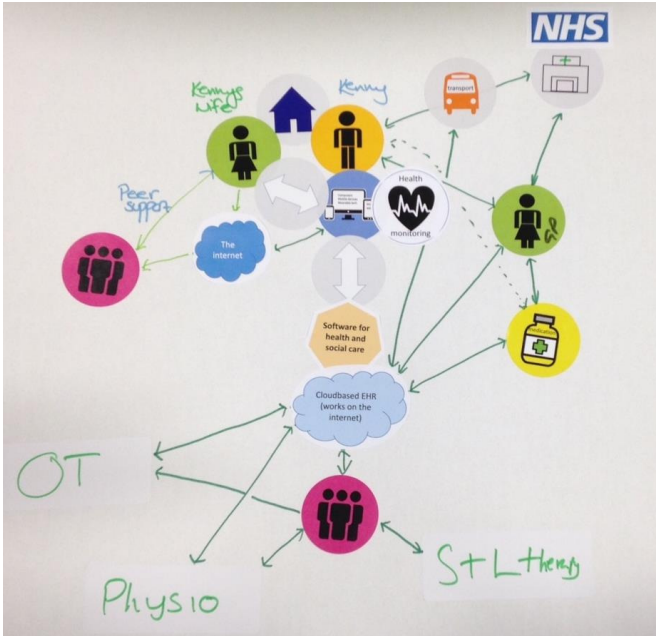
Improving communication in the health and care system

The aim of the second design was to answer the question of how to improve communication between healthcare and social care systems, the patient and their circle/network. The design centred on Tommy and his wife and family, and focussed on using electronic communications.

An electronic health record (EHR) system used by the doctors' surgery and the NHS more generally would allow the medical staff to communicate directly with Tommy, who would have ownership of his own record. Because the electronic health care record system would use an open API and be cloud-based, external related agencies, such as the pharmacies could utilise that to hook up their database to the same communication platform that Tommy uses with the NHS. The cloud-based system would furthermore mean that all parties using the NHS EHR could access it via a normal web-browser on any digital device, be it a computer or a mobile device. Tommy could also use technology to get reminders to keep appointments and take medication, or access apps and games that help with speech and language therapy. The team also noted that it would be important for the NHS to have technology advisors to help the citizens, their carers and the medical & social care staff to use the available technology to their advantage. The question the team left us with was: "Who will pay for this technology?"

Improving getting feedback from the patient

This design was about getting better feedback from the patients to the healthcare system. The design focussed on the use of technology and mobile apps and devices for gathering evidence on the patient recovery and on customer satisfaction on the service received from the NHS.

The GP could, for example, receive information on Tommy's condition, exercise routine, medication etc. through wearable technology that would record Tommy's activities during a certain period of time. Tommy could also choose to share only certain aspects of his information online with his GP, or he could share this information with his friends and family via social media.

Improving remote and rural support system

This design was about improving support system for citizens living in remote or rural areas. Tommy and his wife could use mobile apps and devices for accessing health information online, such as physio and speech and language therapy tutorials on Youtube, or have sessions with a physio, occupational therapist or a SLT therapist via Skype. This would reduce time used on travelling on the part of the medical staff leaving time to treat more patients.

Tommy could also access peer support online via social media sites and get information on his condition and learn from the experiences of others. Tommy's GP could monitor Tommy's health remotely in between physical meetings. The Apps could be used to book transport to the hospital as needed, as well as for renewing prescriptions and getting reminders for taking medication.

After the show and tell session the workshop finished with Chal Chute, the DHI Programme Manager, presenting a piece of our work on Digital diabetes, where the incoming innovations had been arranged into a holistic system.

The DHI senior leadership team and HIS Executive board had a closed meeting after the workshop to plan for next steps in the DHI-HIS collaboration.