Digital health and social care: what is being done in Cumbria

Introduction
Digital health and social care practices, activities and projects in Cumbria, including those which had expired, were mapped from May 2014 to July 2015. The purpose of carrying out this work was to find out which technologies were currently in practice in Cumbria and to understand further opportunities for the integration of digital technologies into the health and social care scene in Cumbria. The purpose of this article is to provide an outline of mapped digital activities, where a few examples are described, and a commentary on the current state of digital health and social care in Cumbria.

Mapping of Cumbria projects to technology type
We recorded a total number of twenty-seven digital health and social care activities. Nine were telemedicine projects or services, six were telehealth initiatives, telecare and assistive technologies numbered five, and there were seven eHealth efforts. Figure 1 shows an overview of digital technologies mapped in Cumbria.
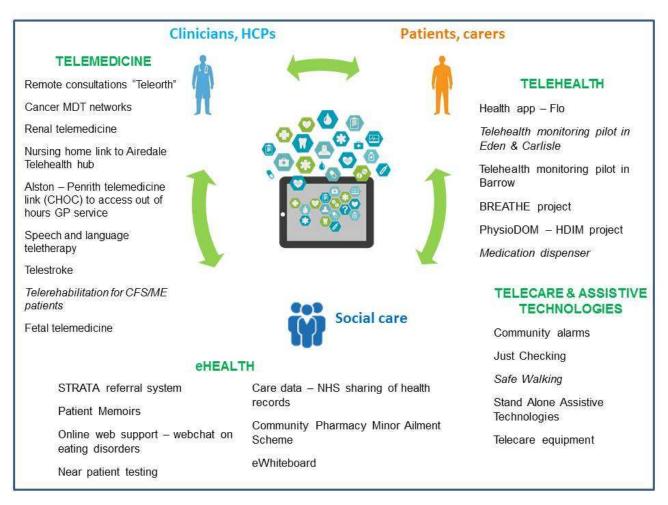
Figure 1. Category of projects mapped to technologies

The different projects/activities are described and discussed in more detail below. Fuller detail on each one is available on the Cumbria Rural Health Forum website at http://www.ruralhealthlink.co.uk/activities/ .

Telemedicine activities in Cumbria

Telemedicine is defined as the remote examination of a patient by a health professional. A few examples of sub-categories of telemedicine are telerehabilitation, telewound care and teleradiology. Efforts in remote consultations can be seen in the work involved in the "Teleorth" project and the provision of out-of-hours telemedicine screen linked between Alston and Penrith Hospitals. The Teleorth project supports remote consultation for patients in elective situations for musculoskeletal conditions. This is a collaborative effort steered by the North Cumbria University Hospitals NHS Trust, involving West Cumberland Hospital, the Cumberland Infirmary and seven cottage hospitals in North Cumbria. This service will provide access to patients during emergency situations and facilitate follow-up reviews for patients following elective joint replacement surgery.

Multi-Disciplinary teams (MDT) working together on sarcoma are provided high spec video conferencing technologies including access to wide area network (WAN) for microscopy and data. Led by Lancashire Teaching Hospitals, the MDT works in partnership with other hospitals to coordinate the care of cancer patients where clinicians can discuss cases and have access to patient data or information that is needed to make treatment decisions. The MDT meeting is based at Royal Liverpool Hospital and is then linked in from sarcoma specialist nurses and other core MDT people from the Royal Preston Hospital. Remote MDT meetings take place once weekly.

Telemedicine in the form of therapy delivery is demonstrated in the speech and language therapy (SLT) work done by the SLT department within the Blackpool Teaching Hospitals NHS Foundation Trust. Since July 2011, over 400 patients have also benefited from the out of hours Telestroke service for thrombolysis. The renal telemedicine service offered by Lancashire Teaching Hospitals connects patients dialysing at home to their renal care team at the Preston or Chorley hospitals and includes some patients based in South Cumbria.

Telehealth activities in Cumbria

Our definition of telehealth relates to remote monitoring to enable patients to monitor and self manage their health at home, and electronically share their health data with health providers. Information from mapping showed that there were six major telehealth initiatives in Cumbria. Although a number of telehealth projects are being piloted in Cumbria, widespread use of telehealth applications is fairly low. One example is the Cumbria Partnership NHS Foundation Trust currently supports a telehealth monitoring project for COPD and heart failure patients in Barrow, which started in January 2014 and runs for three years. The clinical focus was patients with a diagnosis of one or both of the following conditions: chronic obstructive pulmonary disease (COPD) and heart failure. On the other hand, mapped telehealth activities supporting caregivers of patients can be seen in one project called "BREATHE ", of which the informal caregiver of elderly people is given daily guidance and support through a technological platform.

A small number of general practices have started offering remote health monitoring using a telehealth app called Florence. In using Florence, patients send their vital statistics to Florence, which has an optional notification and alerting system built in to each service. Health care professionals can log into the Florence website where they are able to see graphs of collected patient data and any messages sent to and from a patient. They can also add new patients and services (e.g. blood glucose monitoring) to new and existing patients. A telehealth project known as the PhysioDom Health and Dietary Intake Monitoring (HDIM) is currently being planned. PhysioDom-HDIM aims to use an ICT system to monitor home

dietary intake and physical activity in people aged over 65 who are healthy as well as those who have chronic illnesses or co-morbidities.

E-Health activities in Cumbria

Seven applications in Cumbria within the field of eHealth were reported. The most prominent e-Health is the Strata software system used for the roll out of shared patient records for e-referrals across health and social care agencies. It was commissioned by Adult Social Care, Cumbria County Council and Cumbria Clinical Commissioning Group. Using Strata has reduced e-referral processing times between Adult Social Care, and the acute and community health services. There are currently 400 patients per month being referred into Adult Social Care through Strata. Out of this number, 70% are Morecambe Bay Acute Hospital referrals and 44% are community NHS referrals.

The Comprehensive Digital Nursing Record project at University Hospitals of Morecambe Bay NHS Foundation Trust enables nursing staff to use handheld devices to record patient observations at the bedside which is uploaded to a central hub on the wards. This recorded patient data then shows up automatically on an eWhiteboard at the nurses' station. The design of the eWhiteboard was produced by the nurses whilst working with the IT team. The technology supports a comprehensive nursing digital record incorporating electronic nursing assessments and patient care plans, enabling electronically captured vital signs, physiological observations and early warning score (EWS) escalation to clinicians. This will improve patient care in hospital.

Other eHealth activities mapped in Cumbria are Patient Memoirs (i.e. online platform for patient information and support), Near Patient Testing (i.e. analysis of bloods at points of care) and the Anorexia Nervosa Intensive Service (ANIS) webchat. These eHealth applications are fairly recent and ongoing except for the ANIS webchat.

Telecare and Assistive Technology activities in Cumbria

Telecare and assistive technology covers the use of devices such as sensors and community alarms to enable patients to call for help in an emergency, and equipment to enable people to manage independent living in and outside the home.

Five major telecare and assistive technology activities have been carried out in Cumbria. Digital equipment for risk management (e.g. movement sensors) associated with both independent and assisted living at home is the most commonly used telecare application in Cumbria. There are currently 1,650 people using telecare services offered by Cumbria County Council. On the other hand, independent telecare providers (e.g. Eden Community Alarms in Penrith) serve a total of 3,500 people. A number of telecare projects have also been piloted in Cumbria, including one using GPS tracking technology associated with independent travel using Everon Vega safe walking devices.

Co-ordinating and integrating digital services

The NHS Five Year Forward View articulates why change in health care is needed, what that change might look like and how we can achieve it. It describes various models of care which could be provided in the future, defining the actions required at local and national level to support delivery. All stakeholders are involved - system leaders, NHS staff, patients and the public – to realise the potential benefits for everyone. Figure 2 illustrates the co-ordination of services in Cumbria across the continuum of care beginning with home care and community care settings through to primary care GP practices and hospitals.
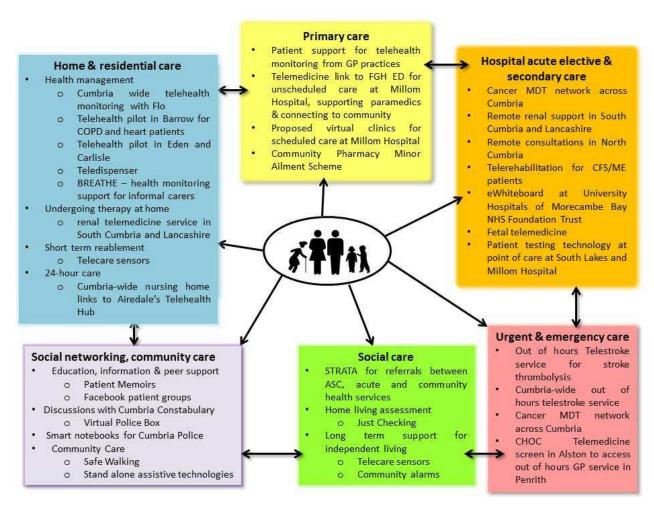
Home & residential care
- Health management
  - Cumbria wide telehealth monitoring with Flo
  - Telehealth pilot in Barrow for COPD and heart patients
  - Telehealth pilot in Eden and Carlisle
  - Teledispenser
  - BREATHE – health monitoring support for informal carers
- Undergoing therapy at home
  - renal telemedicine service in South Cumbria and Lancashire
- Short term reablement
  - Telecare sensors
- 24-hour care
  - Cumbria-wide nursing home links to Airedale's Telehealth Hub

Primary care
- Patient support for telehealth monitoring from GP practices
- Telemedicine link to FGH ED for unscheduled care at Millom Hospital, supporting paramedics & connecting to community
- Proposed virtual clinics for scheduled care at Millom Hospital
- Community Pharmacy Minor Ailment Scheme

Hospital acute elective & secondary care
- Cancer MDT network across Cumbria
- Remote renal support in South Cumbria and Lancashire
- Remote consultations in North Cumbria
- Telerehabilitation for CFS/ME patients
- eWhiteboard at University Hospitals of Morecambe Bay NHS Foundation Trust
- Fetal telemedicine
- Patient testing technology at point of care at South Lakes and Millom Hospital

Social networking, community care
- Education, information & peer support
  - Patient Memoirs
  - Facebook patient groups
- Discussions with Cumbria Constabulary
  - Virtual Police Box
- Smart notebooks for Cumbria Police
- Community Care
  - Safe Walking
  - Stand alone assistive technologies

Social care
- STRATA for referrals between ASC, acute and community health services
- Home living assessment
  - Just Checking
- Long term support for independent living
  - Telecare sensors
  - Community alarms

Urgent & emergency care
- Out of hours Telestroke service for stroke thrombolysis
- Cumbria-wide out of hours telestroke service
- Cancer MDT network across Cumbria
- CHOC Telemedicine screen in Alston to access out of hours GP service in Penrith

Figure 2. Current digital health and social care in Cumbria. Note: Italicis indicate services that have ended.

Some issues identified and future oppornities

- **Most telemedicine services or projects are in fairly early stages, or have only been recently implemented.** One of the earliest telemedicine efforts took place in 2009 where therapy via videoconferencing from Keswick Cottage Hospital was provided to patients with chronic fatigue syndrome or M.E. Despite implementation, the M.E. service has been discontinued. Other examples of early implementation can be seen in the Cancer MDT network having commenced in 2012, and the earlier mentioned "Teleorth" project funded by the North Cumbria University NHS Trust, which started in July 2014.

- **There is great potential for Out of Hours use of telemedicine**. Telemedicine has been effectively used to cope with out of hours demand in Cumbria, for example the Stroke Thrombolysis Telemedicine Service which has seen over 400 patients across Cumbria, Lancashire and Southport since the implementation of its service in 2011. The latest out of hours telemedicine development in Cumbria is the telemedicine linkage from nursing homes in Cumbria to Airedale's Telehealth Hub, commissioned by Cumbria CCG.

- **Ideas for using telemedicine to involve community**. Millom Hospital has proposed having scheduled remote consultations as an alternative to regular outpatient consultations. In addition, they plan to use their telemedicine link to involve the community where information and advice could be given by their GPs to train non-professionals involved in the care of patients. Their newly acquired telemedicine equipment would also be utilised as a means to train nurse practitioners and pharmacists.

- **Near patient testing technologies can save time and speed up treatment.** Near patient testing technologies have started to be used in Cumbria. There is one being piloted at South Lakes, and the most recent has started at Millom Hospital. The advantages of using near patient testing over laboratory testing is the relative immediacy of getting results. This would enable doctors to start treatment quickly and shorten waiting times for the patient. The number of outpatient appointments and visits to hospital could also be reduced.

- **Health management can be supported through telehealth.** A number of GP practices have subscribed to telehealth programmes either through their NHS organisation or as an independent subscriber. Patients are recommended to use telehealth to manage their health condition. One example is Florence (Flo), which requires patients to send their health vitals by text managing. In return, patients receive medical advice on managing their health by SMSes on their mobile phones.

- **There are frequently sustainability issues.** Digital health and social care activities in Cumbria face limitations in funding and time. Of the six telehealth monitoring activities, only two are implemented services and the rest are trials, which have either just started, currently in progress or ended.

- **Data sharing.** This can be seen in the implementation of the Strata e-referrals system commissioned by Cumbria CCG, which aims to enable more efficient transactions between health and social care agencies in Cumbria. Efforts have also begun in introducing patients to sharing their data from their GP practices with the NHS database. Another example of data sharing is the recent Community Pharmacy Minor Ailment Scheme in Barrow. The data exchange takes place when the pharmacist is able to access the patient's GP records and prescribe medications for the patient without having to go through a GP. In common practice, a prescription from a GP is normally required. But using the new scheme means that patients can consult their local pharmacist for help and advice for minor ailments instead of having to make an appointment to see their GP.

Note
The information presented may not be a complete picture of all digital health and social care activities in Cumbria and is obviously time-dependent. It is based on details provided by partners from July 2014 to August 2015 and continues to be updated on our website.