Inquiry into Clinical Portals and Telehealth

NHS Tayside

Background
The Clinical Portal is an electronic summary of an individual's healthcare records and bridge to other systems. The Clinical Portal is one of the key deliverables outlined in the SGHD eHealth Strategy. NHS Tayside is the first Board in Scotland to begin the implementation of this service.

Current Scottish situation
Across the general public in Scotland there exists a commonly held belief that medical records are all held on computer and are readily accessible by the health care professionals endeavouring to deliver them the best of care, in whatever setting they present within the NHS. The reality is starkly different. Primary care (GP) records are almost completely held on computer systems. The GP system holds the most comprehensive electronic record for Scottish patients, but these systems are visible only to primary care workers within the practice. There are also shared systems that operate between primary care and secondary care such as SCI DC (the national diabetes system).

In the hospital setting there is a complex mixed economy of paper records and a plethora of clinical systems and departmental subsystems all holding different pieces of the patient record. For many systems only a small subset of clinicians working within a specialty may have access to information that would be invaluable to other clinicians delivering care out with the specialty. Each system is a silo containing some elements of the patient record. Usually a system maintains its own access policy, which means that multiple usernames and passwords need to be recalled by clinicians accessing the many systems in order to glean a picture of the patient’s history. Before the Clinical Portal in NHS Tayside the only way for a clinician to know if any of these systems contained information useful in managing the patient before them was to log in and search for the patient. When we have over 60 clinical systems that is not a practical proposition.

So the position is that there is no such thing as THE patient record – a large fragment of the record is held in primary care (mostly on a single GP system), others are on paper, and further parts are contained in other systems either shared or within the hospital. The way these are managed, and the silo nature of the systems mean that no clinician in either primary or secondary care has a complete picture of the whole patient record. An incomplete view of the patient history is not a sound foundation on which to build future medical intervention.

The current situation lets down both patients and clinicians by making the service less effective and introducing errors, delays, and inefficiencies.

What is a Clinical Portal?
The Scottish Government’s eHealth Programme aims to try and improve the safety, effectiveness and efficiency of patient care by enabling appropriate
access to information in a joined up and timely fashion. Implementation of a Clinical Portal will allow clinicians to access different pieces of information about an individual patient as though a true single electronic patient record existed. The portal is able to instantly scan the many clinical systems searching for records pertinent to the patient and assemble the results into a meaningful composite picture that is presented on screen. The portal will allow a clinician with suitable access rights to ‘drill’ into the clinical information presented for a more detailed view, and to move into other systems without having to re-authenticate or reselect the patient (e.g. to request a blood test, or add a clinical note). A sort of ‘Google’ for patient information.

As new systems and services become available the portal provides a single intuitive entry point to these. For example telehealth and telecare systems could be accessed in the context of the patient record through the portal.

This “virtual” electronic patient record will start with key pieces of information that are of value to a wide range of clinicians and will develop incrementally. A survey of clinicians across NHS Scotland carried out by Dr Cathy Kelly this summer identified the following elements as essential to a Clinical Portal:

- Past medical history
- Current problem list
- Current medications
- Allergies and alerts
- Treatment plan
- Events and procedures
- Social history (patient and carer contact details, patient preferences, functional status, social care needs and risk assessment)
- Clinical letters (in particular, Outpatient clinic letters, hospital discharge letters and referral letters)
- Diagnostic test results
- Clinical observations
- Local and national clinical guidelines and access to eBNF
- Some types of clinical notes (clinic notes and hospital admission and pre-assessment notes)

Any Scottish national Clinical Portal deployment is interdependent with the NHS Scotland Identity and Access Management System roll out currently under way. IAMS is a cornerstone in the implementation of the Clinical Portal and will be integral to achieving some of the benefits identified for the Clinical Portal. One of the biggest benefits of a combined IAMS and portal solution is the delivery of a single sign-on for clinical systems. With IAMS the Clinical Portal will be able present information in the context of the role of the healthcare worker operating it to satisfy clinical need, information governance, and patient confidentiality. IAMS has many other benefits that are linked with portal benefits but not strictly down to portal alone. These include: rapid safe user provisioning – so password ‘sharing’ is avoided; self provisioning – so a clinician can reset their own password in the event they ‘forget’ it after the help desk has closed; user de-provisioning so live accounts are not left in systems
after employees have left; as well as single sign-on to multiple systems avoiding the need to retain multiple electronic identities.

**Clinical Portal Benefits**

The Clinical Portal is expected to deliver benefits in the broad areas of patient safety, organisational effectiveness, clinical effectiveness, patient focussed care, and cost.

**Safer treatment and reduced risk**

- Reduction of clinical errors due to simple lack of information.

- Visibility of primary care information will reduce the risk of medication errors due to drug interactions, prescription of the wrong drug, or omission of an important medicine. It is reported that up to 15% of hospital admissions are complicated by medication errors (Kerr report). Currently when a patient is admitted to a hospital ward there is no access to the GP medication record. A portal view of the GP medication will reduce the incidence of adverse events due to medication errors.

- Often a hospital pharmacist or doctor has to spend time phoning primary care and relatives to piece together the medication record. A portal view of the GP medication will alleviate much of this allowing more time for direct patient care.

- Access to identical information (a common view of the record) will enable more informed discussions between health professionals and services, leading to better decision-making.

- Reduced repeat questions to patients to obtain relevant information, leading to time savings that can be spent on the consultation itself and to improved patient confidence.

- Visibility of primary care information will reduce the risk of adverse drug reactions due to unknown allergies.

- Visibility of alerts (e.g. child protection) and security messages will inform better clinical decisions.

**Better use of clinical time**

- Generation of an in context virtual patient record pulled from different systems will speed up access to complete information and reduce the risk of missing out key elements leading to better decisions, time savings and less frustration.

- Patient information being displayed in a standard way will speed up finding relevant information.

- A standardised portal user interface will improve the intuitiveness of the system leading to a reduction in training requirement for users. A standard
portal means the mobile workforce of junior medical staff has transferable skills as they move between organisations within NHS Scotland.

- Community and practice attached staff working remote from the practice are able to access summary records from the GP system when they are working away from the practice site.

**Better information governance**

- Availability of audit reports will enable the monitoring of individual access reducing the potential for inappropriate access and discouraging transgressions.

- Making patient information more visible to more health professionals will increase the chance of identifying erroneous data.

- Better visibility of the record will enable updates to demographics and other details to filter through to contributing systems leading to better data quality in the medical record.

**Reduced cancellations and follow-up appointments**

- Availability of a single electronic patient record that is accessible at the point of care, at all times, by all involved, will reduce time spent chasing information by phone (acute) or answering phone requests (GP practices).

- Availability of a single electronic patient record that is accessible at the point of care, at all times, by all involved, will reduce appointments cancellation due to lack of information.

**Better coordination of care between health services**

- Better visibility of the patient pathway will reduce the number of calls from GPs to hospitals to check on referrals progress.

- Better visibility of the patient pathway will enable better coordination of care where multi-disciplinary teams are involved.

- Better visibility of the patient pathway(s) will enable hospitals to see what GPs have done to date, reducing the amount of repeat tests and improving coordination of multiple referrals.

- Access to information on patients’ other current treatments, hospitals attended, past results and future appointment dates will enable emergency care services to avoid unnecessary admissions, tests and treatments.

- Visibility of the complete pathway will make it easier to track and monitor referrals progress leading to better planned and more timely interventions contributing to bettering 18 weeks referral to treatment time.
• In complex cases with multiple pathways, visibility of all discrete pathways will enable better awareness of the full picture leading to better collaboration between clinicians and services.

• Sharing of pathway information will enable identification of bottlenecks and specific issues, which can then be addressed.

Reduced costs of managing paper

• Availability of a single electronic patient record that is accessible at the point of care, at all times, by all involved, will reduce the cost of sending records by taxi, courier, and fax to where they are needed.

• Replacing fragmented and locally bound paper files with a single electronic patient record that is accessible at the point of care, at all times, by all involved, will reduce delays and serious risks due to decisions having to be made without proper information.

• Availability of data from different systems will enable the generation and pre-population of letters, reducing delays in their issue.

• Electronic storage of letters will enable quicker access to this information (lab results and clinic letters being the most valuable in term of content).

Better coordination across boards and services

• At present, tests are often re-run by the receiving HB to ensure timely access to results. Sharing patient’s information and laboratory /radiology results between boards will reduce unnecessary repeat tests in cross borders referrals leading to best use of NHS services.

• Access to patient records across health boards boundaries would enable a better management of referrals from one HB to the other.

A stepping stone to engaging patients and developing a patient portal

• Much of the infrastructure of the Clinical Portal is the foundation required in a future patient portal development. By developing the Clinical Portal we open the way to allowing patients access to their record through a patient portal.

• The portal will enable health professionals to share the record with patients (initially at the desk sharing a screen, and eventually through patient portal) leading to increased engagement and health literacy.

• Allowing patients to see their own information will make the care process more transparent and increase patients’ confidence in the NHS.
The Tayside Clinical Portal

Since early 2004 NHS Tayside has been migrating towards a single electronic record shared between primary and secondary care. This strategy, supported by the clinicians, the LMC and the board, is one of systems convergence with better integration between fewer systems. The NHS Tayside approach to delivering the portal was to establish a clinically led collaborative development programme involving a number of key NHS software application providers, both internal and external. There has been no ‘big bang’ purchase of portal technology and we are achieving our objectives with a step-wise, low cost, low risk approach ensuring we maintain clinical leadership and ownership at every juncture.

In 2005 under the GP contract the Tayside GPs came together to decide on migration to a single GP system - Vision 3. This gave NHS Tayside 95% coverage of the population with a GP system that would interface with the Central Vision patient record and lab system shared between primary and secondary care. InPS who produce both Vision 3 and Central Vision (CV) have worked as part of the development collaborative programme on production of the Clinical Portal User Interface within CV as well as links to other systems to support a common shared record. For Tayside this is the natural home for the portal as part of a larger clinical communications strategy. CV provides test requesting and results reporting for labs and radiology, a document store for clinic letters, referrals, discharges, assessments and reports. By incorporating the portal within CV we can display summary information from other systems through the portal in the context of test results and clinical communications. The portal covers medication, allergies, medical history, recent clinical measurements, baseline lifestyle indicators (smoking, alcohol, exercise) appointments tracking, patient location history, summaries of recent investigations, summaries of 5 long term conditions (respiratory, cardiac, stroke, diabetes and thyroid), out of hours contacts. It also provides links to other systems indicating whether or not a patient record exists for the patient selected for each of these systems. The Tayside portal covers the list of essential elements from the national portal survey.

The Tayside Clinical Portal is unique in NHS Scotland in two respects - it pulls information from the GP system; and is a shared view of the record with community, primary care and hospital access. Any portal solution that does not incorporate GP data links is fundamentally hampered. The GP system is the most comprehensive single electronic record in Scotland and as stated earlier is the largest fragment of the complete record. It is the authoritative source for medication, allergies and alerts, medical history, clinical measurement in the community and baseline lifestyle data. Medicines reconciliation without a view on the GP prescribing data is difficult and error prone.

At present we have 13 general practices live with the portal. The roll-out process started 1 month ago following successful pilot in 2 practices. This process will continue until we have universal coverage, projected by summer
2010. In order to pull in the GP data roll-out to the GPs is an essential step in giving the system utility in secondary care. It is planned that roll-out to acute care clinicians will begin in the spring.

Behind the portal lies a comprehensive process of patient engagement, clinical buy-in and semi-automated information governance. There is huge enthusiasm for the Clinical Portal amongst primary and secondary care clinicians in Tayside. The benefits of the portal are immediately obvious to clinicians and patients. The evidence from Tayside indicates that the Clinical Portal is one of those projects whose time has truly come.

Dr Clifford Barthram
Consultant Anaesthetist & Joint eHealth Clinical Lead
NHS Tayside