

# i-care:

Information,  
Communication  
and Technology  
in the NHS

October 2013



# Data, Information, Communication and Technology in the NHS

## Executive Summary

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# Executive Summary

The Francis Report and Berwick Review have both identified that the NHS must be reoriented to deliver patient focused, compassionate, safe care from a learning organisation that uses information and communication tools effectively.

People deliver care, and systems are there to support people in delivering that care. Good systems therefore improve the patient experience and patient safety. Against this background, the Academy of Medical Royal Colleges (the Academy) believes that radical changes are needed to NHS information systems.

**The Academy has seven key messages:**

- 1. The patient record forms both the cornerstone of integrated patient care and the main source of data to inform the service.**

The patient record is where the vast majority of clinical information about an individual patient is recorded and stored. It provides information to all practitioners who care for the patient, is a source of communication to others and the major source of data extracted for secondary purposes.

Regrettably, individual patient records are presently dispersed, across organisations and across services within hospitals. The data held is not integrated which severely limits the ability of the NHS to deliver safe, efficient, integrated care.

- 2. Patient record systems must be focused on the individual, not on the disease, intervention, service or the organisation in which the patient is seen, in order to provide an integrated picture of their problems and the care they receive.**

The NHS contains a plethora of incompatible patient record systems that have been developed to meet the needs of specific services or specialties. This approach needs to change, so that systems are designed around the patient. Electronic patient records must be available across organisational boundaries so that appropriate information can be recorded by both practitioners and patients, and accessed by them in a wide variety of clinical and care contexts.

The record of the dialogue between clinician and patient, the decisions made and the actions taken are essential components of the record and it should be possible to enter and retrieve information, whatever the setting or the context of care.

### **3. Clinical data quality and ease of data capture are of paramount importance.**

The safety of patients is dependent on many factors, but especially the quality of the data recorded about them and communicated between professionals. Much greater attention needs to be given to user centred design and sensitive deployment of new technologies such as tablet computers and “bring your own device” to facilitate accurate recording, validation and transmission of patient data in the busy clinical environment.

If this is achieved, better quality and richer coded data will also be available for commissioning, service management and research. The Academy advises caution in the use of data from records to drive payments as this may distort both record quality and care.

### **4. The structure and content of records must be standardised across the NHS.**

Information systems must conform to national standards: Information standards for terminology (SNOMED-CT), drugs and medical devices (dm+d), communication (HL7), patient identification (NHS Number), professional identification (not just for consultants and GPs) and safety (ISB0129 and ISB0160); Technical standards for operating systems, networking and application programme interfaces; and Professional standards for structure and content. Use of national standards will minimise inefficiency and error arising from diverse record structures in different organisations.

Evidence and consensus based clinical record standards have been developed and endorsed by the Academy and now need to be widely implemented across the NHS. The medical, nursing and clinical professions are united in their view that this standardisation of the content of patient records is essential, and have established a Professional Record Standards Body to oversee the continuing development and sustainability of content standards. Priority areas now are electronic medicines management and clinical incident reporting.

### **5. Patients should be given appropriate, standardised access to their records.**

The Academy believes that greater patient access to records is long overdue but that research is required to understand why there is low take-up of record access schemes and whether the structure, layout and functionality of records may need to be changed or developed to make them more informative and useful to patients.

## **6. As a learning organisation, the NHS must use the information it collects in the course of everyday care to enhance that learning.**

There should be standardised recording of clinical incidents within the record as part of the routine processes of care, so that feedback and learning is guaranteed. The next generation of NHS professionals needs to be fully versed in the use of information and communications technologies. Clinical informatics should be developed as a core discipline in health care so they develop an understanding of opportunities and constraints around application of these technologies to healthcare and to management of the individual patient.

The Academy will explore how best to take this forward with appropriate academic rigour and sufficient impetus. The NHS should build on previous informatics successes and progress already made, such as the experiences of mental health and primary care.

## **7. Professionals and patients need access to reliable information, from both the individual record and the knowledge base of healthcare.**

Access to reliable information from aggregate analysis of patient data, and to peer reviewed evidence, advice and national guidelines, must be universally available at the point of care.

Electronic records must be focused on the patient, and the data recorded, whether in free text or in structured form, must be capable of transfer between clinical applications, professionals, contexts and settings, safely and without any loss or change of meaning. Standardisation of structure and content across the NHS is key to integration of records and to integrated, safe, efficient care. It will also enable the provision of rich and valid data for the many purposes that underpin service evaluation and research.

Service wide implementation of standards; user centred design of clinical systems; training for all clinicians to understand the use of new technologies in the NHS; safe deployment of new information and communication technologies; access to the healthcare knowledge base at the point of care; electronic medicines management and clinical incident reporting are all priority areas for the NHS.

# An Illustration of the Current Situation

The narrative on the following pages provides an illustration of some current IT related frustrations in relation to providing a positive patient experience and high quality patient care.



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0400—0430

Molly, an 80 year old resident at a Dementia Residential Home, falls on her way back from the toilet. Care staff assess Molly and, although she is in pain, she is able to walk and they get her back to bed. The nurse calls 111 and the local 111 provider, who does not have access to any health information relating to Molly, dispatches an ambulance.



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0500—0600

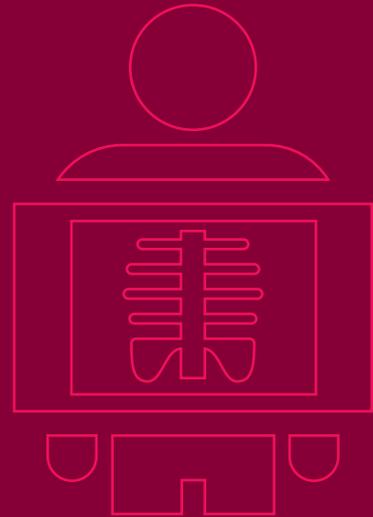
The paramedics evaluate Molly and are told that the local GP is doing a regular morning visit that day. The nurse and paramedics agree Molly should wait for the GP round to determine what action should be taken. The ambulance and paramedics leave.



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0800—0900

The GP reviews Molly and asks for an x-ray to check her hip. Transport is arranged to take Molly to hospital.

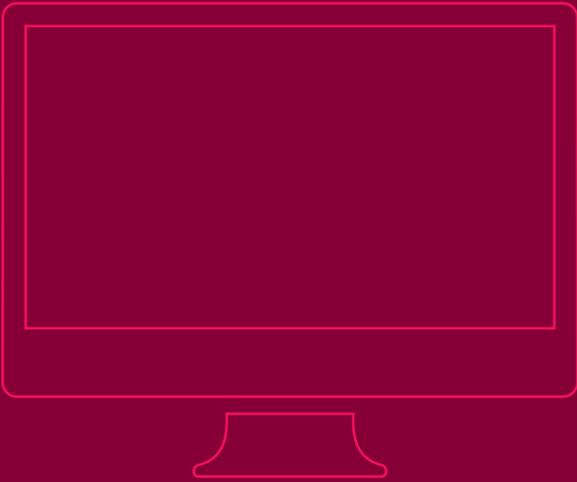


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0900—0930

Molly arrives at the x-ray department, but she is tired and gets distressed in hospitals and she falls again before the x-ray is taken.

X-ray is taken and shows a hip fracture.

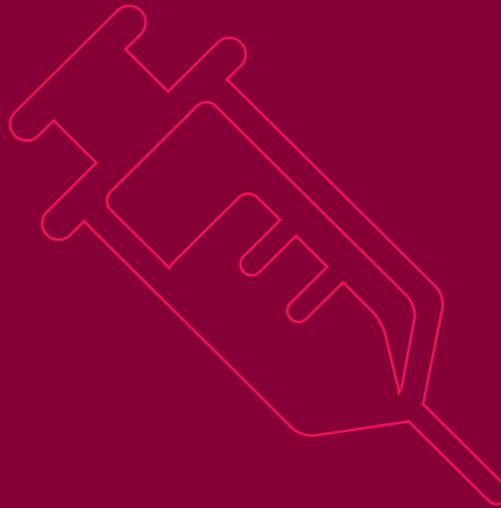


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1000–1100

Molly is admitted just as the ward round is commencing.

Molly is confused and upset and finds it hard to communicate with the ward round team. The review of Molly takes some time as the team have to crowd round a terminal near the nurse's station, some distance from Molly, and have to log in and out of different IT systems, using different passwords, to review the x-rays and admission information.



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1100–1130

The doctor leading the ward round suspects Molly has a urinary tract infection as well as a broken hip and asks for her Practice Surgery to be contacted to get more information on Molly's health background, including previous anaesthetic issues as Molly is likely to receive surgery in the near future.

The doctor also asks that some blood tests are done urgently to ensure Molly can be treated quickly and is in as good a state of health as possible for the operation on her hip.

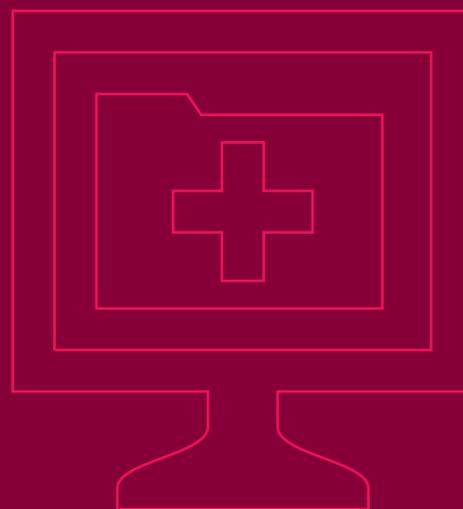
One of the ward round team doctors takes Molly's blood and gets the porter to take the samples to the lab. The doctor has to remember to check every few hours to see if the results have been received.



### 1100–1300

When received, the blood test results confirm the urinary tract infection has led to bacteria being present in Molly's blood. The doctor isn't able to readily access hospital policy and guidance for suspected urinary tract infections in the elderly so prescribes a standard antibiotic.

They have to handwrite this on a drug chart which is in a different format from the last unit they worked in and it takes some time to work out how to prescribe the drug to be given urgently rather than regularly.



### 1300–1500

Meanwhile the ward nurse is having difficulty getting through on the telephone to the GP Practice to check details from Molly's records. When the nurse does get through it takes a while to match the correct records as the GP Practice's match on date of birth records a first name as Mary and the hospital's own reference number in earlier letters is buried within the GP records.

Molly's electronic records are currently incomplete on the GP Practice's system as they were too big to be successfully transferred from her previous GP when she moved to the Dementia Residential Home - manual re-entry of data from the paper records sent has not yet finished.



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### The next day

Because of Molly's possible infection, Molly's operation is delayed for 24 hours.



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### Two days after submission

Molly receives surgical treatment for her hip, which goes well.



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### A few days later

Molly has recovered well from the operation and is receiving all the necessary physiotherapy and dietetics care and blood tests show the sepsis resulting from her urinary tract infection has been successfully treated.

Her consultant decides she no longer needs hospital care, but does need to be placed in a Nursing Home, rather than a Residential Home.



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### A week or so later

Molly is discharged to a Nursing Home. The discharge information is given as an 'Immediate Discharge Letter' to Molly and a copy is emailed to the GP. Molly does not understand the information in her letter and this adds to her anxiety as she faces a move to a new Home.



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### A day after discharge

Whilst continuing to recover well from her hip operation, Molly is feeling confused and vulnerable as a result of her change of environment. The GP visits her in the Nursing Home and the only discharge information they are able to access is their copy of the Immediate Discharge Letter.

This does not have full details of the tests and therapies Molly has had during her hospital stay, so the GP orders further blood tests and assessments to ensure Molly is receiving the care she needs. The additional tests and assessments all distress Molly further.

## 1.2 The issues illustrated by the narrative are summarised below.

### For the patient

- Information about the patient is not readily shared across the healthcare system. If the Residential Home had recorded Molly's tendency to get distressed in hospital and the x-ray department had been able to access that information, might the second fall (which could have been the one that caused the hip fracture) have been avoided?
- Receiving appropriate treatment may be delayed if the doctor is not aware that test results are available. What if Molly's infection had been more advanced – might she have suffered a severe reaction before the test results were picked up by the doctor and antibiotics administered?
- No ready access to summarised good practice material at the bedside that can be shown to the patient and used to support informed, shared decision making and information sharing between the patient, carers and the doctor. Was the antibiotic given to Molly the optimum one for her – with a full understanding of any other issues with Molly's health and access to latest guidance, might there have been a drug with less risk of side-effects, or one with the same efficacy but easier to administer to a distressed, elderly dementia patient?
- Increased likelihood of the patient having to repeat tests as doctors are unaware of what has already been done. Molly has already had a distressing couple of weeks – how much gentler would her settling into a new home have been without the additional, unnecessary tests and assessments?

### For the clinician

- Decisions have to be made with the available details – the more partial these are, the greater the risk of unintended harm
- Time is wasted:
  - o No requests for imaging were lost or delayed and, as a result, no patients had their discharge delayed by imaging
  - o Repeatedly learning new record screens and structures
  - o Searching for information about the patient in different systems
  - o Checking inconsistencies in identification e.g. name and address
  - o Repeating patient history
  - o Checking for test results rather than being automatically alerted or seeing them automatically in the record
  - o Potentially repeating tests unnecessarily
- The doctor is not able to readily access evidence-based guidance or reference material at the point the decisions are being made to check they are getting the latest Trust approved treatment

- Personal levels of stress and frustration can be raised because of IT barriers and doctors may feel more harried than necessary, potentially impacting their ability to communicate with patients and colleagues
- Tests and their results generated by one part of the system are unavailable to other parts of the system, causing delay, duplication or potentially conflicting decisions
- Care transfer details and requests may be missing or unclear, requiring time and effort to clarify.

## For the service/system

- An organisation's risk profile is raised if processes are inefficient, frustrating and not fully informed
- Resources are wasted due to unnecessarily repeated tests.



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# Academy Vision for Data, Information, Communication and Technology in the NHS

Electronic records must be focused on the patient, and the data recorded, whether in free text or in structured form, must be capable of transfer between clinical applications, professionals, contexts and settings, safely and without any loss or change of meaning. Standardisation of structure and content across the NHS is key to integration of records and to integrated, safe, efficient care. It will also enable the provision of rich and valid data for the many purposes that underpin service evaluation and research.

## 2.1. The patient record

The patient record forms both the cornerstone of integrated patient care and the main source of data to inform the service. The patient record is where the vast majority of clinical information about an individual patient is recorded and stored. It provides information to all practitioners who care for the patient, is a source of communication to others and the major source of data extracted for secondary purposes.

Electronic patient records should focus on the patient, rather than on the disease, intervention, clinical service or location.

The record of the consultation between the clinician and the patient, of decisions made and the management plan should be accessible whatever the setting, context or system it is held in. Such information needs to be transferable without ambiguity or data loss. Patient records must be compatible across organisational boundaries so that appropriate information can be recorded and accessed by practitioners, patients and their carers. To allow genuinely patient-centred care, this has to occur throughout, and between, social, primary, community, secondary and tertiary care.

## 2.2. Clinical data quality and ease of data capture

The data captured and generated in the course of caring for the patient should be the source data used for all reporting needs, including identification of service and care pathway improvements and individual performance management. Structured clinical data collected in this way can be aggregated with confidence and provide the best source of information to underpin service evaluation and research.

There should therefore be a philosophy of IT system design and implementation that:

- Supports rapid, intuitive use to support core clinical activities
- Is responsive, agile and user led, matching and improving ways of working. It should be without superfluous functionality or data collection that adds unnecessary complexity and is rarely used
- Addresses inefficient use of staff time in delivering patient care
- Exploits advances in data security and access
- Has a 'completer/finisher', full life-cycle approach (i.e. implementation is not left with unresolved issues, or only partially rolled-out, and upgrade/replacement is planned for from the start).

## 2.3. Standardised structure and content of records

To allow relevant data to be available at the point it is needed, wherever and whenever that is, both the structure and content of the data to be shared, and the interfaces between systems must be standardised. These standards must reflect clinical practice, be evidence based, developed through consensus and professionally endorsed and, as much as possible, existing relevant 'dictionaries' should be used.

## 2.4. Patient access to records

Patients should have greater online access to their records in a way that makes them informative and useful. The use of IT should support quality accessible care that addresses health inequalities, reduces fragmentation of care, provides coordinated care for people with multiple morbidities, and involves patients and carers more in decisions about their health.

## 2.5. Use of information to enhance learning

There should be standardised recording of clinical incidents within the record as part of the routine processes of care, so that feedback and learning is guaranteed. The next generation of NHS professionals needs to be fully versed in the use of information and communications technologies. Clinical informatics should be a core discipline in health care. Informatics skills should be valued and developed in all healthcare professionals so they gain an understanding of opportunities and constraints around application of information and communication technologies to healthcare and to management of the individual patient. The NHS should build on previous successes and progress already made, such as the experiences of mental health and primary care.

## 2.6. Access to information at the point of care

Access to reliable information from aggregate analysis of patient data, and to peer reviewed evidence, advice and national guidelines, must be universally available to professionals, patients and their carers at the point of care.



# Priority Areas for Action

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Service wide implementation of standards; user centred design of clinical systems; training for all clinicians to understand the use of new technologies in the NHS; safe deployment of new information and communication technologies; access to the healthcare knowledge base at the point of care; electronic medicines management and clinical incident reporting are all priority informatics areas for the NHS.

### 3.1. Service wide implementation of standards

Clinical standards relating to the structure and content of admission, handover, discharge, outpatient and referral records and communications were endorsed in April 2013<sup>1</sup> by 50 health and social care organisations.

The Systematized Nomenclature Of Medicine Clinical Terms (SNOMED CT) provides a comprehensive list of clinical phrases and terms approved as the terminology to be adopted by the NHS in England. It is also underpins other standards, such as the NHS Dictionary of Medicines and Medical Devices<sup>2</sup>, and links to the National Laboratory Medicine Catalogue. NICE is also developing common definitions for specific conditions.

The use of a primary identifier supports integrated care by allowing patient records to be linked. It also facilitates personalised care planning and continuity of care across health and social care settings (including community pharmacies), for example for use with children with long term conditions.

The use of the NHS number in all records and communications in England has been encouraged for some time and the July 2013 NHS England publication '*Safer Hospitals; Safer Wards – achieving an integrated digital health record*' notes the mandated use of the NHS Number as primary identifier in the NHS from April 2014.

Implementing these standards will result in more legible, complete records that can be:

- Used to understand each patient's pathway and what helps them
- Used for more reliable admission, handover and discharge communications between primary and secondary care and with the patient and their carers, with admission/referral information from GPs automatically becoming part of the hospital record and discharge information automatically becoming part of the GP record
- Used for more accurate prescribing
- Accessed by patients to view their own records and become better informed about their illness and how to self-manage
- Used to identify and correct errors more swiftly
- Shared safely between different IT systems in different settings, as the context and meaning of the data are maintained
- Used to provide clinically rich, reliable, aggregated data for indirect care purposes such as research, audit and commissioning

- Automatically coded at the point of entry, minimising expensive, inefficient, inaccurate data extraction from patient records
- Used to provide an upgrade path or bridge between paper and fully electronic systems, with efficient and effective searching and retrieval of documents from different Document Management Systems
- Transferred without the current need for manual review and re-entry (5-15% of patients move from one Practice Surgery to another every year, and whilst nearly all GP systems are enabled for GP to GP record transfer, currently only 40% of records are fully imported this way). With standardised records, communication with Community Pharmacists would also then be much easier as patients relocate.

The Academy wishes to see all current and new electronic patient record systems across the NHS take account of these existing clinical standards for record structure, content and terminology.

The Academy is also keen to develop standards for inclusion of clinical incident data in patient records as part of the routine processes of care, so that feedback and learning is guaranteed.

Whilst the Academy is a UK-wide organisation and would ideally like to see the same unique patient identifier format used across all four home countries (Scotland uses a Community Health Index number as a unique patient identifier, used by all GPs and in secondary care information systems with 93% compliance), the Academy strongly supports the drive for universal use of the NHS number as the primary patient identifier in England and would welcome an opportunity to discuss how it can help NHS England to deliver this objective.

The Academy recognises the major leadership role that the Informatics Services Commissioning Group (ISCG) has in prioritising, developing, embedding and reviewing standards – balancing the benefits to patient safety and experience and the bureaucracy burden. The healthcare professions need to support the ISCG in this role and the Academy believes that the Professional Records Standards Body can play a critical role in driving this. The Academy is also keen to facilitate the incorporation of a strategic clinician perspective into ISCG operations and will continue its work with NHS England on how to deliver this.

The Academy and medical Royal Colleges will also continue to work with the Professional Records Standards Body (PRSB) to enable provision of comprehensive clinical assurance and advice on care record standards.

In continuing its contribution to the Information Governance work led by Dame Fiona Caldicott, the Academy will reinforce, where appropriate, the “duty to share data where it is in the person’s interest” for both the person’s own care; and to support research.

## 3.2. IT system design and informatics skills

There are a number of recent IT developments that are already making a significant impact on the quality of patient care and the effectiveness of clinical practice. However, the Academy believes that often the high enthusiasm, resourcing and momentum that drives the start of such initiatives isn’t maintained for the life of the project and lingering issues fail to be resolved – often severely impacting the ability to realise the benefits anticipated at the start. This can cause reputational concerns and cynicism for IT developments. Additionally, if IT systems are poorly designed, they can be felt to be a hindrance rather than an improvement. Examples include:

- The inability for large messages to be sent between GP practices (there is currently a 5MB limit – although this is due to be addressed in version 2.2 of GP2GP)
- Pathology messaging, where the infrastructure is over a decade old with minimal maintenance during that time, making it now very costly to upgrade and complete implementation of the National Laboratory Medicines Catalogue
- The following anecdote showing the experience of an Emergency Department (ED) which reverted to using paper forms following failure of the electronic request process for radiology:
  1. No requests for imaging were lost or delayed and, as a result, no patients had their discharge delayed by imaging
  2. Radiographers used a hand written list for managing their in-patient work load. With all their requests in one place there was no need to search through multiple electronic lists and double check their e-mail accounts for requests that had gone astray
  3. There were no episodes of breaches of information governance relating to staff requesting x-rays on other people’s electronic log in
  4. Requests for imaging took less than 30 seconds to complete as compared to 2.5-3 minutes on the electronic system. If extrapolated to a whole day, with the ED making 100-120 imaging request daily, using hand written request forms would save the ED 3-4 hours every day of clinician time spent at a PC, releasing staff to see patients.

Lessons learned from IT development and implementation projects across the UK, and internationally, should also be readily shared, so good practice can be spread and duplication of effort reduced.

Good IT development and implementation practice should also reduce the development and introduction of IT changes taking place in isolation from other IT and organisational changes. It should also ensure the training requirements of implementation are fully considered including, for example, training and support for nursing and midwifery staff so they can help patients access online information and records.

Clinical informatics skills should be valued and developed. Clinical leadership in information and information technology should be encouraged and supported, including the appointment at Board level of a Chief Clinical Information Officer (CCIO) in every Trust. The role of the CCIO is still evolving and needs, along with the associated required competencies, to be clearly defined and promoted.

Informatics training for clinicians is vital to their being able to make effective use of information and information systems. There is a need for all clinicians to be competent in the use of electronic health records, information governance, the value of coded data and the use of aggregated clinical information.

**Working with CCIOs to develop organisational skills in IT-related change management, system specifications, clinical safety and data management is an area where the Academy would welcome and support Department of Health and NHS England focus. The Academy is working with the GMC on a review of generic capabilities for medical curricula and informatics skills are being considered as a part of that.**

**The Academy will also explore with its members how best to support the faster deployment of new technologies, standards and skills with appropriate academic rigour and sufficient impetus.**

### 3.3. Safe deployment and access to information at the point of care

The deployment of communications infrastructure, to appropriate security and systems interface standards, will facilitate greater use of mobile and remote technology. This will support improved patient care by bringing information to the point of care – including within the patient’s own home or care home. Rather than small, single-purpose apps limited to the device they are installed on, development of increasingly functional clinical apps that can integrate with current systems would reduce risks arising from storage of confidential patient data on portable devices.

To support this, the following will be needed:

- Electronic patient record systems suppliers to publish their interface specifications (APIs) to enable app suppliers to develop interfaces to them
- Use of relevant existing standards
- Appropriate quality assurance of apps (the Health Apps Library hosted by NHS Choices makes apps available that have been reviewed by the HSCIC clinical safety team) so that health professionals and organisations can make informed choices about their use or recommendation to patients or the public.

As stated earlier, the Academy believes that greater patient access to records is long overdue but that research is required to understand why there is low take-up of record access schemes and whether the structure, layout and functionality of records may need to be changed or developed to make them more informative and useful to patients.

The Academy would be pleased to work with the Department of Health and the ISCG in encouraging and supporting developments in this area – where some of the Academy’s members are already making active progress.

## 3.4. Electronic medicines management

Over a billion items are prescribed every year from general practice alone, with an expectation of 1.5 billion by 2020. Electronic medicines management systems can avoid errors of calculation, drug interactions and illegible prescribing and should be routine across the healthcare system. Apart from causing unnecessary suffering and hospital admissions, medication errors are a common cause of negligence claims. Counterfeit medicines and fake prescriptions are also an increasing concern and electronic medicines management systems would help address this. Electronic medicines management also facilitates medicines optimisation, ensuring that individual patients receive the safest and most effective medicine for their specific circumstances, within national treatment guidelines and in a cost effective manner.

Primary care has provided strong leadership in the use of technology to support the prescribing process, from computer aided generation of prescriptions (now used by all GP practices) through to electronic transmission and functionally rich electronic medicines management systems with such benefits as:

- Decision support, aiding the choice of medicines and other therapies, with alerts such as drug interactions
- A robust audit trail for the entire medicines use process
- Alerts for contra-indications, drug interactions and recorded adverse reactions including allergies
- Guidance for inexperienced prescribers.

There are lessons from the experiences of primary care (UK GPs are arguably one of the most IT literate clinical user groups in the world) that should benefit implementation of electronic medicines management in other care settings. For example:

- Whilst the GP Systems of Choice (GPSoc) scheme sets standards such as adherence to the NHS Dictionary of Medicines and Devices for the systems it covers, some of the existing electronic medicines management systems require resource intensive manual mapping
- A standardised approach to describing dosages in electronic medicines management systems ('dose syntax') would improve clinical safety
- Standards for communication between prescribing and dispensing systems would improve efficiency and safety
- Incorporating a prescriber ID (e.g. GMC or NMC registration number) and location code (e.g. use of NHS Organisation Data Service codes) will facilitate the use of appropriate checks and balances, including monitoring of peripatetic prescribers
- Controlled Drugs are currently not included in electronic transmission of prescriptions. This is leading to instances of patients visiting a pharmacy and only the electronically prescribed medication being available. The patient may need to visit their GP Practice to collect the paper prescription and make a further trip to the pharmacy; however, on some occasions it is not even clear to the patient or pharmacy that a Controlled Drug was prescribed, creating a significant clinical risk.

The Academy welcomes the Safer Hospitals, Safer Wards £260m Technology Fund announced in May 2013 which will focus on locally-led developments for electronic medicines management and integrated digital care records.

To ensure interoperability and the safe communication of medication data between secondary and primary care and pharmacies, the Academy would wish to see all electronic medicines management systems and integrated digital care records (including those supported by the Technology Fund) take the following into account:

- The April 2011<sup>3</sup> standards for prescription charts
- The April 2013 clinical record standards (see 3.1. above)
- The relevant Information Standards Board standards (for example ISB 0129 and ISB 0160 which reference clinical risk management in the development and deployment of health IT systems)
- The NHS Dictionary of Medicines and Devices
- Learning from the GP experience of electronic medicines management systems
- The learning and resources already available, such as Common User Interface work, now hosted by the Health and Social Care Information Centre
- The philosophy of IT system design and implementation described in section 2.2. above – including use of the expertise and perspective of both clinicians and pharmacists.

# Wider Issues



The Academy has identified the priority areas in Section 3 based on where current activity is already significant and can be built on and productively harnessed. However, it recognises there are other issues that will have implications for current and future informatics activity across health and social care. The Academy is developing its own understanding and perspectives on these and is not currently in a position to offer any firm views but they are noted here for completeness.

1. **If the aspiration is that patient data can be accessed across all care systems, does this mean:**
  - A single, complete master record held centrally somewhere by somebody and accessed by authorised users?
  - A solution that allows viewing and updating of a summary patient record with some parts held by the GP, some held by the hospital, some held by social care, some held by the pharmacist?
  - Solutions that share data between systems – either in real-time or off-line e.g. by regular updates?
  
2. **Each of the options in 1. raises many major information governance issues. For example:**
  - Data quality (completeness, accuracy, timeliness, provenance) is critical for confident use of and maximum benefit from integrated or shared records
  - The more data is distributed, the more critical is provenance of the data
  - The more data is centralised, the more critical are physical access control methods based on location.
  
3. **Trusts also have information systems for indirect patient care purposes, such as personnel and finance systems. Whilst some of the points raised in this document may also apply to these systems, the focus has been on direct patient care.**

The Academy recognises that the Department of Health and NHS England are also aware of these issues and are actively addressing them.

# Conclusions



The Francis Report and Berwick Review have both identified that the NHS must be reoriented to deliver patient focused, compassionate, safe care from a learning organisation that uses information and communication tools effectively. People deliver care, and systems are there to support people in delivering that care. Good systems therefore improve the patient experience and patient safety.

Currently, the health and social care information systems landscape in the NHS is extremely variable. There are examples of exceptional forward thinking leadership and innovation. There are also examples where the NHS seems a generation behind other areas of life.

The Academy has set out a vision for patient-centred records, that can be accessed and updated at the point of care, wherever that may be, and that provide the prime source of rich and valid data for the many purposes that underpin service evaluation and research. The Academy also wishes to see enhanced informatics skills in healthcare professionals so that the significant benefits that technology can enable are realised.

The Academy and its constituent Colleges and Faculties will champion this vision with their members and partner organisations. The Academy, Colleges and Faculties are also keen to work with the Department of Health, NHS England and the GMC to produce, implement and maintain informatics standards; encourage IT system innovation and develop clinical informatics as a core discipline.

## References

1. [http://www.aomrc.org.uk/publications/statements/doc\\_details/9702-standards-for-the-clinical-structure-and-content-of-patient-records.html](http://www.aomrc.org.uk/publications/statements/doc_details/9702-standards-for-the-clinical-structure-and-content-of-patient-records.html)
2. [www.dmd.nhs.uk](http://www.dmd.nhs.uk)
3. In April 2011, at the request of Bruce Keogh, the Academy produced a joint report with the Royal College of Nursing and the Royal Pharmaceutical Society on standards for the design of hospital in-patient prescription charts. Standards for the structure and content of medicines data in are also included in the April 2013 PRSB clinical record standards (referred to above).



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