

NHS Chief Executive Innovation Review

The ICT industry's response

Intellect
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Russell Square House
10-12 Russell Square
London WC1B 5EE

T 020 7331 2000
F 020 7331 2040
www.intellectuk.org

Information Technology Telecommunications & Electronics Association

Contact: Jon Lindberg, Healthcare Programme Manager
T 020 7331 2021
E jon.lindberg@intellectuk.org

About Intellect

Intellect is the trade association for the IT, telecoms and electronics industries in the UK. Its 800+ members account for over 80% of these markets and include blue-chip multinationals as well as early stage technology companies. Intellect is a not-for-profit and technology neutral organisation.

Intellect Healthcare Programme Mission

- To develop the UK's capability to support a strong and growing information and technology industry operating in the health and social care sector.
- To work with policy makers, decision makers and practitioners to facilitate the delivery of improved health and high quality care for all enabled by information and technology.
- To provide a collective voice for over 260 member companies operating in the health and social care sector to maintain the industry's reputation and champion its strategic importance to our stakeholders.
- To use our expertise and knowledge to provide the highest quality of service and intelligence to our members in the health and social care sector, helping them to make the right business decisions to drive growth and profitability.

Our members covers areas such as hardware, software, applications, telecoms and medical devices and offers solutions across the entire health and social care sector. Visit our webpage for further information www.intellectuk.org/healthcare

For questions or comments regarding this response please contact Intellect's healthcare programme manager Jon Lindberg:

Jon Lindberg
Healthcare Programme Manager
T 020 7331 2021
E jon.lindberg@intellectuk.org

1. Introduction

Intellect welcomes the opportunity to respond to the NHS Innovation Review led by Sir Ian Carruthers on behalf of NHS Chief Executive Sir David Nicholson. Intellect agrees with the principles set out in the review and offers its full support in helping the NHS develop more integrated and effective ways of delivering care. However, we do warn against the NHS focussing too much on 'new exciting innovation' – e.g. buying the latest gadget – before it has started to get the basics outlined in this response right.

There is no doubt the NHS needs to change the way it works due to the challenges it faces, as outlined in the review and elsewhere. Achieving the right change however, can only happen with the appropriate use of information and communication technologies (ICT). Historically, Government's focus on innovation in healthcare has been primarily aimed at the medical device and pharmaceutical industries. Medical devices will no doubt become more sophisticated as will medical treatments and drugs, and so they should. But if the NHS continues working the way it does today these advances will only add to the financial pressures facing the NHS because they carry increasingly higher costs.

NHS drug costs alone increase by over £600 million a year. To afford this we need to transform the systems and processes around drugs. For example, a new drug may be very expensive but work wonders; with a resource-limited NHS we need to ensure patients can still benefit from it. With electronic systems to record and manage ordering, verifying and administration of medicines in hospitals, alongside RFID inventory tracking, through to integration with pharmacy systems and online to patients, the NHS will make dramatic efficiency savings and productivity gains across the value chain, maximising the benefit of the drug, eliminating duplication and reducing medical errors.

The same goes for medical devices; if you integrate devices with ICT infrastructure, clinical applications such as digital health records, mobile devices, and new care pathways and processes, the device's value improves as it becomes part of a joined up system that delivers more effective care. Medical device manufacturers are now starting to converge towards the ICT industry as they realise the need to integrate to be more effective.

That is what transformational change is about, using ICT to automate processes, defining new ways of working through disruptive technologies and enabling the NHS to take full advantage of its expertise and resources. The forthcoming NHS Information Strategy for example must focus on the operational changes that are needed to extract value from information and technology.

Implementing ICT in the NHS must be owned by the executive of organisations and be seen as a business change programme enabled by technology, not simply a project in the informatics department. Intellect invites the NHS, together with the Department of Health to work much more closely with the ICT industry to fully understand the changes required, how to make the change and how to realise the benefits. It is a discussion to be had at executive level from both the clinical and business aspects.

Before the NHS goes out and buys the latest gadget Intellect would urge the NHS to read the views and recommendations we make in this response and talk to us. The more informed the NHS and the industry is the better the outcomes will be and the less money we need to spend.

In Annex A a number of our members demonstrate how the use of ICT can help the NHS transform the way it works by highlighting solutions from our industry (nationally and internationally) that the NHS would benefit from by greater take-up.¹

¹ Also see other Intellect papers that further outline the opportunities and barriers for innovation and health ICT:

1. **Intellect response to NHS Information Revolution consultation:**
www.intellectuk.org/component/docman/doc_download/4885-nhs-information-revolution-intellect-response-13-january-2011
2. **Realising Sustainable QIPP Wins: Opportunities for Telehealth:**
www.intellectuk.org/component/docman/doc_download/4980-realising-sustainable-qipp-wins-opportunities-for-telehealth
3. **Care Commissioning for England:**
www.intellectuk.org/component/docman/doc_download/4465-care-commissioning-for-england--and-intellect-perspective-on-the-challenges-ahead
4. **Joined-up services: Fitting IT all together:**
www.intellectuk.org/component/docman/doc_download/3587-fitting-it-all-together-an-intellect-position-paper-on-health-and-social-care

2. The role and importance of ICT to the UK economy

Intellect members employ more than 1.5 million people in the UK and had a combined UK based revenue of over £80bn in 2010, contributing a GVA of 9% of the UK economy. Exploiting the full potential of ICT could boost the UK economy by an additional £50 billion over the next 5 to 7 years.

The effective use of information and communication technologies (ICT) enables organisations to innovate, do things differently and raise their productivity. It does this by enabling the automation of tasks, functions and processes freeing up labour that can be more efficiently employed in higher value functions.

These productivity benefits derive from innovation enabled by ICT and not the increased use of ICT by itself. So the focus must be on the efficient and effective use of ICT that enables innovation.

A recent report from e-skills UK, *Technology Insights 2011*, succinctly outlined the importance of ICT to the UK economy:

“The UK is highly dependent on its IT & Telecoms workforce – it underpins the economy and is integral to information, business and consumer services, health and leisure and modern day social networking. Across all industries, it is the combination of highly skilled IT & Telecoms professionals, technology-savvy business leaders and competent IT users that enable an organisation’s effective participation in the digital economy.

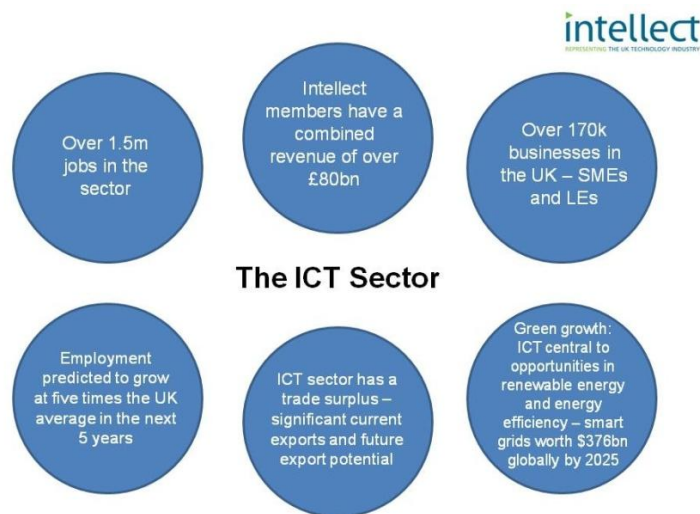
In addition the previously un-assessed economic contribution of the Internet is now said to be worth £100 billion to the UK economy [according to Boston Consulting Group]. ... Access to technologies such as the internet also create social benefits including access to employment opportunities for workless adults, improved standards of living for older people and increased democratic engagement and access to information.”²

Role and importance of ICT to healthcare

Intellect would argue that the role of ICT in healthcare is immensely important not just for the NHS but to the wider economy as well. The health service, alongside education, is what underpins the success and workings of the UK economy; together they educate us and keep us healthy and living longer allowing us to contribute to the growth and development of the economy and society as a whole.

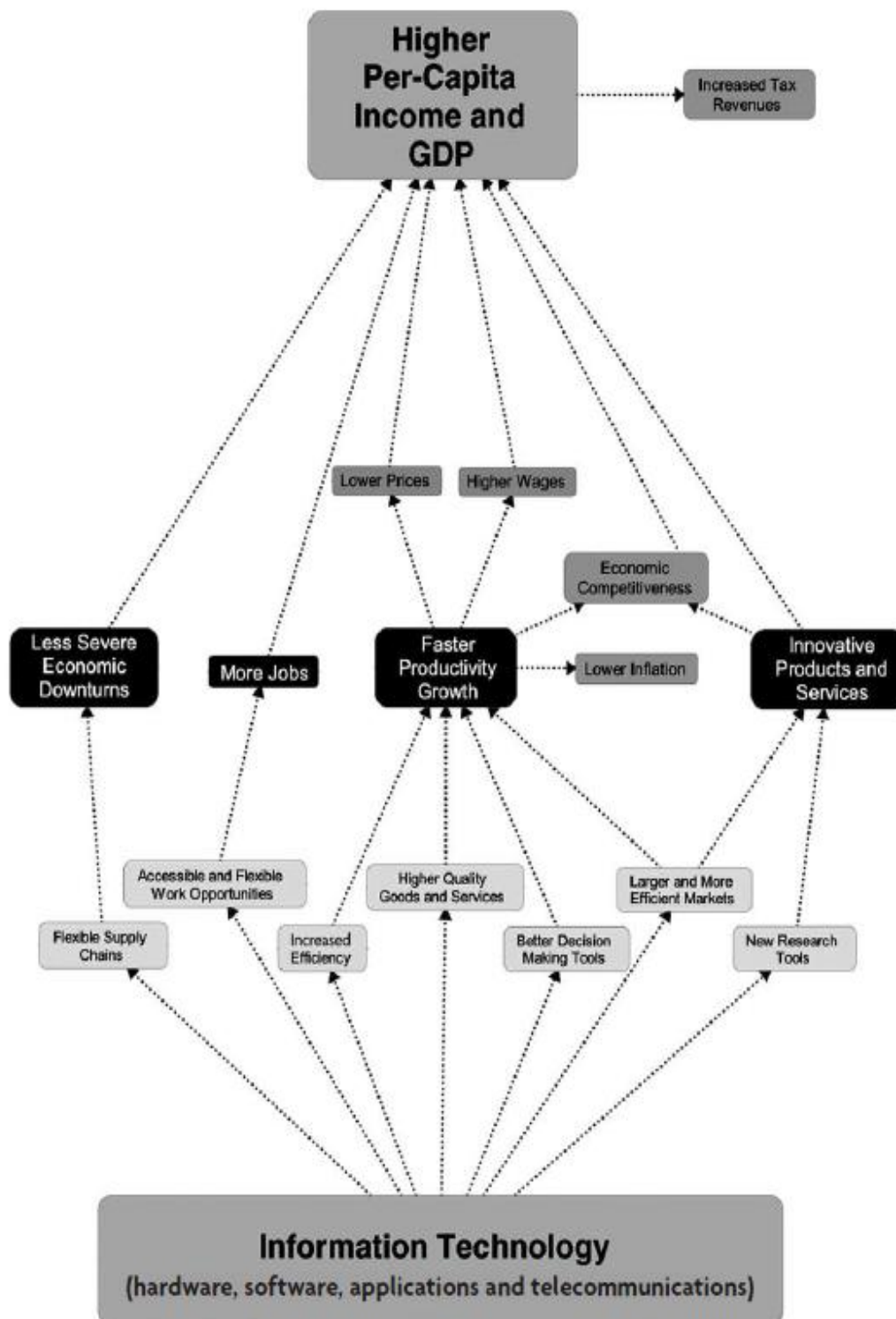
We cannot afford to let the NHS deteriorate because of the challenges of limited resources and dramatic demographic changes. The consequences of demographic pressures, such as an increasingly unhealthy society, will grow exponentially if the NHS’s quality deteriorates; leaving fewer able workers to contribute to the UK economy and subsequently lowering the tax base and funding available to the NHS, which in turn worsens its financial state leading to further cuts in the quality and availability of health services.

To help both the economy and the health service flourish the NHS needs to undergo transformative change to the way it works, all enabled by ICT. Done right, the NHS will benefit from a more efficient, effective and safer service that automates processes in the back-office, enables the clinician to spend more time with patients and provides commissioners with the timely and accurate information needed to determine the right care services. A sustainable NHS will not only benefit the tax payer and keep them alive, but will also benefit the businesses that will develop around the health sector as it becomes a leading industry for R&D, new exciting technologies and best practices for others to mimic.



² *Technology Insights 2011*, E-skills UK, www.e-skills.com/technologyinsights2011

THE PATH FROM INFORMATION TECHNOLOGY TO PROSPERITY



Source: *Digital Prosperity*, The Information Technology and Innovation Foundation (ITIF), 2007, www.itif.org/files/digital_prosperity.pdf

3. How to get ICT in health and social care right

ICT in health and social care should be a productivity-improving and cost-reducing agent, pulled through by solid business cases justified by the needs of patients, clinicians and other professionals; rather than pushed through by an enthusiasm for technology and the fear of falling behind. After all, when ICT is used to enable the clinician to multi-task, to interact more efficiently internally and externally and facilitate information to flow meaningfully and seamlessly across care settings, it can deliver vast benefits.

We are not at this point yet. Nor are we starting from scratch, but looking forward the NHS needs to overcome a number of barriers.

- **Cultural and educational** – There is a lack of understanding amongst health professionals as to what ICT can do for them. Many fear ICT will make them redundant (it shouldn't) or will jeopardise safety and confidentiality (it will improve safety and confidentiality). Others fail to embrace the freedom ICT will bring them – more time focussing on delivering better care and less on admin and chasing down paper records. More time needs to be spent educating the NHS from the bottom up on the benefits of ICT to the profession and patients.
- **Organisational** – the NHS is huge with 1.5 million staff but also federated with hundreds of individual organisations and often isolated departments within organisations, this makes the NHS complex. Many of the benefits derived from ICT enabled transformation require intra- and inter-working (including information sharing) across the NHS. Unlocking organisational barriers is essential for achieving integrated and better care. There are some promising signs with the move to link payments to outcomes measures which should drive cross-organisational working. ICT can help remove some barriers to joint working, but will not resolve them all.³
- **Commercial** – Public procurement processes hinder the NHS to exploit and scale innovation. With an average of 16 months long timescale, cumbersome bureaucracy, and lack of skills procurements become costly, increase the risks, and remain a barrier to entry for SMEs. Often the end result is neither fit for purpose nor innovative. Other commercial issues surround adequate support to the policy shift to hand back decision-making, including risk management and procurement responsibilities of ICT, to Trusts as a new approach to complement the limitations of NPfIT. The centre should provide assistance where it can to help Trusts, including promoting recent procurement guidance developed jointly by the Efficiency and Reform Group and Intellect, that will help cut time scales, enhance and clarify requirements and reduce risks.⁴ Most importantly the NHS should seek the advice of industry as a whole on any major projects prior to procurement (see *Talk to us sooner* section).

Our recommendations below will help the NHS move forward, and Intellect offers the industry's combined expertise and experience to get it right. Before the NHS starts looking at new solutions and the latest gadgets we recommend it does three things:

1. **Benchmark** and exploit what it already has; the NHS has a lot of solutions and expertise that it should make better use of.
2. **Invest in the enablers and infrastructure** required to scale innovative solutions and services that would transform the NHS.
3. **Make interoperability a priority**; the NHS needs to make ICT systems interoperable within and across organisations if we want an integrated and more effective health service.

Benchmarking

The NHS needs to benchmark what it already has and make the findings available, not just within the health service but in spirit of the open government agenda to the public as appropriate.

Benchmarking in the NHS would:

- Provide a baseline to work from, e.g. how many telehealth solutions there are, what they provide and cost comparatively, and

³ See link for further analysis of barriers to integrated care: www.nuffieldtrust.org.uk/publications/removing-policy-barriers-integrated-care-england

⁴ www.intellectuk.org/cross-government-initiatives/procurement/6320 and www.cabinetoffice.gov.uk/sites/default/files/resources/lean-study-accelerating-government-procurement.pdf

- Identify what has worked best and worst, e.g. where has an EPR system been successfully implemented and why, or where have mobile solutions not worked and why?

Following the Government ICT Strategy the NHS should create and populate a comprehensive cross-NHS asset register to identify reusable applications, equipment and resources. If a solution has already been sourced and successfully implemented the NHS should look at converging towards a standardised sourcing approach. Hundreds of individually tailored projects to achieve the same outcome will not help the NHS deliver more integrated and effective care nor will it stimulate innovation in the market. The mandation of open standards will make ICT solutions easier to integrate, allow for reuse, sharing and scalability across organisations.

Invest in enablers and infrastructure

To scale innovative solutions and services the NHS must first invest in the enablers and infrastructure required to facilitate the ICT industry to produce innovative solutions in response to the needs of the NHS. Without these enablers and underlying infrastructure many innovative solutions will simply not be effective.

For example, if you gave a clinician a tablet device it will be useful but not transformative if all he/she can do is enter data. The tablet would be a much more effective tool if the clinician has underlying infrastructure that he/she can interact from by accessing and managing digital health records, pull up lab results, view images from the radiology system or download information to illustrate a point to the patient, all supported by an information architecture that facilitates the meaningful exchange of information and a communication channel open to the GP and other carers as needed in the new joined up NHS.

However, the NHS needs better enabling infrastructure for innovation to flourish and for integrated and better care to be delivered. The NHS needs a better N3 network, one that has more bandwidth capacity and a better access regime. Crucially, the NHS will also need to invest in wireless networks both within hospitals and out in the community as many of the innovative solutions today and tomorrow are mobile.

Intellect supports the direction of the Government ICT Strategy and its vision to shift towards cloud computing, and common technology standards to “enable the delivery of an open platform to support smaller, interoperable solutions. By opening up access to this platform, government will be able to procure solutions directly from SMEs ...helping to create a fairer and more competitive ICT marketplace.”⁵ This would especially benefit the NHS as many of the suppliers are SMEs developing niche clinical solutions. Allowing the supply community easier access to the NHS through a platform (e.g. an NHS Apps Store) from which to create and sell their solutions will speed up deployment, allow for flexibility and reduce costs. This may require a number of Enterprise Wide Agreements for networks, data centres and operating systems. This platform should be wrapped by the appropriate and proper use of security standards and information management.

Prioritise interoperability

The NHS needs interoperability in order to share patient information across the information silos that exist today within the NHS. The NHS sits on a wealth of data and is good at collecting data. But many NHS organisations also rely upon stand-alone systems where information is trapped in silos. This means that many of the existing information systems are not able to communicate meaningfully within or across organisations. Consequently, achieving integrated and better care is difficult. For example, long term conditions patients often use primary, secondary and social care services. Today these services are not joined up in a way that follows the patient’s needs and journey, one reason is that information systems within the involved services are not able to effectively communicate with each other and automatically update new information generated through new interactions.

There is renewed recognition by the NHS that the biggest gains in clinical care are to be achieved where information systems share their information across smaller geographic regions, coherent with where the patient receives their primary, secondary and tertiary healthcare together with social care. With today’s NHS focus on making referral more efficient, discharge better informed and providing continuity of care across providers, this has to be supported by an investment in information technology in order to improve efficiency and reduce costs.

⁵ www.cabinetoffice.gov.uk/content/government-ict-strategy

Open standards underpin growth across all IT markets; proprietary systems reach limits over the medium to long term. It is with this ‘truth’ in mind that Intellect members strongly support the need for open interoperability standards in the NHS. Openness fosters shared ownership and removes concerns that both suppliers and the NHS may have about lock-in, anti competitiveness, or closed markets

New innovative solutions will not be able to be scaled and used to maximum benefit if interoperability is absent in the NHS. It is therefore essential the NHS invest resources to achieve desired levels of interoperability.

Intellect is currently writing a position paper on interoperability aimed at the NHS. We will share this and the recommendations we make with the NHS and DH when it is published in September.

4. Talk to us sooner

We can’t stress enough the benefits of collaborating more closely with industry at an early stage.

To achieve integrated and better care driven by innovative technologies, services, processes and ideas requires the NHS and DH to proactively work with the ICT industry from the onset. Executives and Board members in the NHS will benefit from having regular discussions with the industry on determining the needs of the NHS, how to achieve transformational change, and how to generate benefits from ICT enabled change. Intellect, as the representative body for the ICT industry offers a technology and business neutral platform from which to engage. Our elected Council, special interests groups, forums and services provides opportunities for the NHS to engage with the industry in a number of ways, but also with the trust that it is with industry they speak to rather than individual suppliers.

One good example where the NHS and DH collaborate with industry is around our work on interoperability. With the Interoperability Toolkit (ITK) project Intellect plays an important role in liaising with the DH and its members through various events taking the work forward with industry support. Indeed the ITK can be a success story which will, if the NHS provides the right support and investment, provide a standards based approach to integration and hopefully provide a more cost effective foundation stone to support ICT innovations.

But more collaborative work on understanding the benefits that ICT can bring to the NHS is needed. For example, collaborative work is urgently needed on outlining the new patient journey and the Information Governance (IG) issues associated with each step (including behind the scenes) and what we need to do resolve these issues to promote a seamless journey. This is not about guidance on how to do IG, it is about removing barriers to seamless care, and where current IG practices unnecessarily block the NHS from integrating the patient journey envisioned in Liberating the NHS White Paper.

Intellect also offers a service called Concept Viability⁶ that the NHS can use before it goes to procurement to test the feasibility of the project or programme with industry. This will help the NHS save money, improve the likelihood of getting it right, to budget and on time and can reduce the risks. Concept Viability has the support of the NAO and Cabinet Office and has been used in over 90 projects in the public sector, including NHS customers.

Intellect also runs a series of ‘Innovation Dens’⁷ that allows SMEs to showcase their solutions and the benefits to a panel of decision-makers in the public and private sectors. This platform helps SMEs to showcase what they can do to potential customers. It helps the panellists to understand what the market has to offer and provides an opportunity to follow up with suppliers that have something they need. The feedback from both suppliers and panellists has been overwhelmingly positive. Crown Commercial Representative for SMEs Stephen Allott supports the Innovation Dens.

Early and collaborative engagement allows the NHS to access wider supplier perspectives and expertise that can help formulate requirements and desired outcomes, enhance market awareness and stimulate innovation and activity in the supplier community. This approach can improve and speed up the deployment of solutions that ultimately leads to better services for patients and users while improving the relationships between customers and suppliers.

⁶ www.intellectuk.org/conceptviability

⁷ www.intellectuk.org/cross-government-initiatives/innovation-den

5. Additional actions at national, local and NHS partner level

Apart from the recommendations above, we have outlined a number of actions below with regards to the specific questions in the Innovation Review. However, achieving the recommendations above are a prerequisite to enable the following actions to stimulate innovation and achieve wide-scale adoption.

Q: What specific actions do you think national NHS bodies, such as the NHS National Commissioning Board, need to take to encourage and stimulate the successful and rapid adoption and spread of innovations throughout the NHS?

Incentives and direction

Duplication and waste are often found in the public sector because no one has the whole picture of what's going on, this includes the NHS. Many successful innovations tend to be localised, operating within silos. This is a waste as many of these examples may be replicable and/or scalable, enabling a further and wider realisation of benefits. One problem for the failure of wide spread adoption of innovation is incentivising both the innovator and potential beneficiaries from taking it up (even in the NHS they look at internal innovation with scepticism).

- **Reward success** – The NHS should reward innovative solutions that are proven to work to stimulate an appetite to speed up wide-scale adoption. Innovative solutions that would clearly benefit the entire NHS should be rewarded and if appropriate subsidised for wider adoption.
- **Channels of dissemination** - The centre should ensure there are mechanisms to channel information, best practices and ideas across the NHS. Initiatives such as the Innovation Launch Pad are a step in the right direction but more needs to be done including a clear strategy on the roles of the centre, local NHS and industry and what incentives will be provided.
- **Actively support Intellect's Innovation Den** - Intellect's Innovation Den offers an excellent way of demonstrating innovative solutions in a face-to-face environment with the opportunity to ask questions directly and follow up with interesting solutions. This beats online channels every time, brings the NHS and industry closer together and improves the understanding of what the market has to offer and what the demand is.
- **Align financial incentives** – Many of the issues associated to integrated care delivery and failure to deploy certain technologies stem from poor payments systems that hinder organisations from collaborating. The move to linking payments to outcomes will, if done right, drive collaboration across organisations, it will allow, for example, GPs and the acute sector to collectively invest in technologies such as telehealth.
- **Personal budgets** – Personal budgets are becoming key to identifying patient 'pull' by creating consumer power amongst groups of individuals who are most appropriate to decide upon the level and choice of care they receive. The design of the personal budgets should therefore include substantive incentives to utilise the most innovative methods and technologies that can best facilitate self management of their condition.

Q: what specific actions do you think local NHS bodies, such as providers and Clinical Commissioning Groups, need to take to encourage and stimulate the successful and rapid adoption and spread of innovations throughout the NHS?

Encourage new, riskier approaches

Innovation can often be thwarted by over prescriptive requirements, testing/validation and a need to prove the solution in every single instance. This leads to pilot overload and can often hamper further innovation. A supplier also runs the risk of running out of money as its solution is kept from entering the wider market space, leading to costs remaining high and customers being put off because of high up-front investment costs. All these factors mean a radical rethink is needed in terms of the health service's approach to innovation.

- **Encourage a new approach to innovation** –The NHS needs to reduce how prescriptive it is in its requirements and focus more on the outcomes it wants to achieve. The necessity to prove every single solution in a multiple of settings needs to be discouraged and new innovations, some of which may have needed a higher level of risk need to be rewarded and publicised as acceptable to encourage others in the system to do the same.
- **Create risk sharing environments** – The NHS is currently incredibly risk adverse and this has an unhelpful effect on suppliers who find contracts include an expectation that suppliers will

manage the risk. This needs to change if innovation is to flourish – sharing the risk (and subsequently the reward) of projects will incentivise more suppliers to engage with the NHS and be more flexible in delivering the outcomes needed.

- **Look for collaboration not competition to drive integration** – In order to drive integration Trusts should incentivise and encourage suppliers and the provider community to collaborate instead of creating an atmosphere of competition so patients benefit from better interaction between various care settings.
- **Encourage a wider perspective** – Too often the NHS sees itself as a unique entity that has to have bespoke solutions. The NHS needs to be encouraged to learn from other government departments, nationally and internationally as well as examples of what has worked in the private sector. Talking to the ICT industry would help the NHS understand what it is missing out on and what it can do to take onboard external innovation.
- **Strategic leadership** – To ensure innovation is taken up throughout the NHS the Boards and Chief Executives of Trusts should be responsible for driving innovation. It is ultimately their responsibility that their organisation is able to meet quality standards, service demand and not make a loss. None of these responsibilities can be met in the future if the NHS doesn't look towards innovative approaches. Clinical and commercial leads would receive the right support for taking up innovative solutions and try new things.

Q: What specific actions do you believe others, such as industry, academia, patient groups or local authorities, could take to accelerate adoption and spread, and what might encourage them to do so?

Keep demanding collaboration and challenge the status quo

For too long the NHS has kept its stakeholders at arm's length. This behaviour can no longer work if the NHS is to change for the better. The suppliers have a difficult time understanding what exactly the NHS wants and therefore developing solutions that meets its needs. The NHS in turn has a difficult time understanding what is actually out there that it is missing. Industry needs to keep demanding the NHS opens up and starts collaborating with industry (and within the NHS). The suppliers often have a better view of what is going on across the NHS as they serve multiple clients. The NHS should take advantage of this. Intellect, as the representative body for the ICT industry offers a technology and business neutral platform from which to engage.

The recommendations we make in the *Talk to us sooner* section are applicable here:

- **Senior leadership forum** – The executive leaders from the NHS and ICT industry should meet regularly to discuss overarching business issues, determining the needs of the NHS, how to achieve transformational change, and how to generate benefits from ICT enabled change. Each discussion should be focussed on a theme where each side comes prepared by understanding the issue and ways it can be resolved. Where further work is needed we recommend using the channels below to take work forward.
- **Opening up wider communication channels** - To facilitate the exchange of ideas and expertise between the NHS and industry regular discussions would help the NHS take the right direction. Our special interests groups, forums and services provide opportunities for the NHS to engage with the industry in a number of ways, but also with the trust that it is with industry they speak rather than to individual suppliers.
- **Encourage the NHS to use Intellect's Innovation Den⁸** – As mentioned above, Intellect runs a series of 'Innovation Dens' that allows SMEs to showcase their solutions and the benefits to a panel of decision-makers in the public sector and private sector. A regular series of health-related Dens would help the NHS understand developments in the market and for the suppliers to get insight into the needs of the NHS.
- **Demand the use of Intellect's Concept Viability⁹** – Whenever the NHS starts thinking about any major ICT enabled project or programme suppliers should demand the NHS use Intellect's Concept Viability to test the feasibility of its thinking. This will help the NHS save money and time, by either cancelling the project before procurement or by improving the likelihood of getting it right and reducing the risks.

⁸ www.intellectuk.org/cross-government-initiatives/innovation-den

⁹ www.intellectuk.org/conceptviability

Annex A – selection of case studies

To support the points raised in our response we have compiled a selection of case studies from a few of our members of examples of innovative solutions that exist in the UK, Europe and globally. Intellect does not support one specific solution over another in this digest, it is merely here to showcase what is out there already that the NHS can learn and benefit from. Annex B lists all Intellect Healthcare members.

1. Business Intelligence Solution for Commissioning

Solution

Advanced Health & Care's unique approach and the flexible nature of the data warehouse, which takes feeds of information from multiple sources, provides a holistic view of the population enabling commissioners to make timely and effective decisions. In addition to business analysis and measurement tools Advanced provide the business systems required to support the NHS back office function.

Examples in use

In 2010, NHS Wakefield District invested in a business intelligence solution. One of NHS Wakefield District's biggest IT investments to date, the solution provides a valuable insight into how the primary care trust (PCT) is performing in relation to the health needs of its population. Health in the Wakefield District is generally poorer than other parts of England, which provides the PCT with considerable challenges and a requirement to measure needs and performance accurately. Since implementation, thousands of pounds of savings for NHS Wakefield District have been realised through improved operational efficiencies and more streamlined procurement.

Benefits

These systems provide efficient delivery of financial management and procurement, and proven savings of £5.2m have been realised at the Countess of Chester Hospital NHS Foundation Trust.

Provided by Advanced Health & Care for further information please see www.advancedcomputersoftware.com/ahc

2. Care management system - MyAmego

Solution

MyAmego is a personalised pro-active care management system. It combines a sensor network with complex algorithms for data analysis, which deliver real-time intelligence to the carers about the behaviour patterns and activity levels of their patients, enabling immediate response to events and further trend analysis later on, without the need for constant line of sight attention. It can be programmed to remind carers to perform necessary actions in direct relation with real-time contextual data.

Installation of the system in a care home requires a wireless network of beacons to be deployed across the area for monitoring (non-proprietary equipment, made by Multitone for various healthcare applications in care homes and hospitals), with each patient having an individual monitoring device which is linked to the patent-pending MyAmego data collection and monitoring system hosted in a base PC and a secure server environment.

Examples of use

MyAmego is currently deployed in many care settings. It is being used in care homes for people with mid- to late-stage dementia and in mixed ability assisted living settings where the residents have other conditions such as learning disabilities, depression, physical disabilities and blindness. It is also used to monitor and assist rehabilitation and enablement programmes. MyAmego has been working on is the development of a home based system (trials with South-East Coast NHS Trust) to compliment the care home system.

Benefits

- It is passive for the resident
- It enables residents to do what they are capable of in the least restrictive way

- It reduces the need for shadow care facilitating independence and dignity
- More time is available for staff to spend quality time with people and staff productivity and efficiency is enhanced
- The safeguarding reporting helps staff feel protected, so if ill informed suspicions/or accusations around neglect, abuse or mistreatment are levied at the staff, the system can be used to investigate the movement, activity and whereabouts of all staff
- The relationship between the care home and it's staff and the resident's family is changing as the family can access the system to see how their relative is getting on
- Care management can access the system to check specific care is being addressed eg nighttime checks
- Doctors can view the data securely on line and identify developing trends e.g. infection, depression, vascular heart episodes and effects of medication changes on behaviour.
- Care task prompts and reminders are provided automatically for such activities as medication, checking and turning, hydration programmes
- A variety of business enhancing benefits from asset protection and evidence for staff and resident safeguarding to marketing.

Outcomes are being seen such as:

- Reduction in the use of antipsychotic medication and sedation Reduction in behaviours that challenge or better management of such behaviours through drug reduction and greater freedom of residents
- Reduction in hospital admissions and falls – between 30-50%
- More 1:1 care can be delivered as staff are freed up from traditional task based care delivery
- Less time on administration relating to, and better relationships with, CQC and other monitoring bodies as the reports evidence care delivery
- The securing of higher appropriate funding for ongoing care from PCTs and Local Authorities for certain individuals based on the evidence the system has produced

Provided by MyAmego Healthcare Ltd for further information please see www.myamego.com/page/1refc/Case_Studies/Supporting_Individuals_Needs.html

3. Clinical Decision Support - InterQual®

Solution

The undisputed gold standard in evidence based clinical decision support. InterQual is used by 5000 organisations across the world to identify and validate the appropriate level of care, for any patient, in any health care setting, both in hospital and the community.

When used as an audit tool InterQual informs strategic planning of resources as it is used to determine:

- Appropriateness of admission to the hospital/ community/ home setting
- Appropriateness of the length of stay or length of time cared for in both the acute and community hospital
- Discharge planning and delayed transfer of care issues, ensuring patients are moved efficiently and safely to the right level of care in the community setting and beyond
- Highlights patients at risk of re-admission

Examples of use

Rotherham Partnership began implementing InterQual in February 2009 initially on three wards covering emergency admissions; trauma and orthopaedics; and healthcare for older people. InterQual was also implemented in the community in a purpose built facility for patients with chronic obstructive pulmonary disease. In each care environment a case manager (a senior nurse or therapist) was appointed and trained to use InterQual.

During the first 16 weeks (16 February 09 to 8 June 09), 3631 reviews were undertaken on 892 patients. Of those reviewed against the acute criteria, 558 were admission reviews, 2872 were against the continued stay criteria and 83 reviews were undertaken against discharge screens.

Benefits

- 49% of the admission reviews met the criteria for an acute admission; 45% did not meet the criteria. The remaining reviews were either redirected off the project or referred for a secondary review
- The continued stay reviews show that 15% met the acute criteria and 77% did not meet. Again, the remaining reviews were either redirected off the project due to transfer to other wards or were sent for secondary review
- This data shows that the 77% of continued stay reviews and the 45% of admission reviews which did not meet the criteria resulted in patients occupying an acute bed, for a total of 1574 variance days, when patients could have been cared for at a sub-acute level if that level of care had been available in Rotherham

InterQual provided by McKesson Information Solutions UK Ltd for further information please see www.mckesson.co.uk

4. Clinical Decision Support Solution - RelayCare™ Call Centre

Solution

An advanced clinical decision support solution to facilitate the delivery of a multi-disciplinary, continuum-based approach to support patient self-management of acute and chronic disease states. The software enables disease management services to meet the unique education and condition management needs of the local patient population. RelayCare allows assessment, monitoring and tracking of conditions using a single database. By utilising patient centric care plans the solution enables the development of relationships with patients, reduces inappropriate use of health system services and raises healthcare quality.

Examples of Use

The Provincial Health Contact Centre (PHCC) operates an innovative care management program launched by the Winnipeg Regional Health Authority to help better manage patients with chronic diseases, such as congestive heart failure (CHF), in the community. As Manitoba is largely rural and residents have limited access to primary care, the PHCC was tasked to help improve the health of CHF patients through the use of technology.

Benefits

The program has achieved:

- 70 per cent of participating patients lost weight
- A quarter of patients lowered their risk level
- Better medication compliance resulted in better health
- Reduced emergency department visits
- PHCC staff were able to identify patients at high risk and recommend medical attention before conditions progressed

RelayCare provided by McKesson Information Solutions UK Ltd for further information please see www.mckesson.co.uk

5. Digital Pen and Paper solution

Solution

At present, a typical community nurse's working day involves an initial journey to base to collect paperwork and obtain the day's workload. Throughout the day, s/he has experienced the inevitable frustrations and delays that arise from working in the community without smart secure mobile connectivity. The consequences are significant waste and delay that adversely impacts patient experience. By integrating a range of BlackBerry-enabled solutions that are available now, the nurse's day could have been far more efficient, much less stressful and achieved a significantly improved patient experience, all with enhanced care quality. That nurses day begins at home by picking up a work schedule that the team supervisor has pushed to each community-based member of staff's BlackBerry smartphone.

The work schedule includes relevant patient details including case history, location details and other key information. The BlackBerry uses its inbuilt satellite navigation capability to plot a route to the first patient of the day. On arriving, but before entering the patient's home, the nurse reviews case notes and also activates the lone worker safety capability on the BlackBerry which keeps base up-to-date with location details and sets a likely appointment duration after which an alert would automatically be raised. On entering the patient's home the nurse uses BlackBerry-enabled digital pen and paper to record notes, which are seamlessly and securely transferred to base without even having to take the BlackBerry out of the bag.

Examples in use

[Portsmouth Hospitals NHS Trust](#)

Benefits

The digital pen and paper solution alone has saved £200,000 per year for midwives at Portsmouth NHS Hospitals Trust. When community-based teams are free to integrate the full range of solutions then the real benefits of innovative technology will be realised.

Provided by Research In Motion for further information please see www.blackberry.co.uk/casestudies

6. Electronic Whiteboards - Horizon Enterprise Visibility™

Solution

A visual control system that takes feeds from disparate hospital systems and displays real-time patient information against a geospatial hospital floor plan.

Information aggregated from clinical, ADT, housekeeping, transporter and other systems is intuitively displayed via large, electronic "whiteboards." Colour-coded, time stamped icons mapped against a geospatial plan of the hospital ward enable caregivers to quickly identify patients with orders pending or critical lab results, patient locations and discharge times, and discharge status and room availability. This easy access to information enables all members of the care team to continually work toward optimally treating patients, while moving them efficiently towards discharge.

Examples of use

Walsall Hospitals NHS Trust implemented Horizon Enterprise Visibility (HEV) as part of a major transformation programme. The objectives of the programme were to improve resource efficiency and bed utilisation, to reduce costs and improve the quality of patient care – outcomes that support QIPP; an NHS initiative for the promotion of Quality, Innovation, Productivity and Prevention.

Benefits

In just 18 months from the start of installation, HEV has delivered significant operational improvements. Measured during the period, May 2009 to August 2009 operational efficiencies included:

- An improvement in bed allocation for planned admissions
- A 21% reduction in average length of stay in adult acute wards
- A 40% reduction in breaches of the four-hour emergency wait limit
- A 68% reduction in Medical Outliers
- A 16% reduction in Surgical Outliers
- A 78% reduction in the number of surgeries cancelled due to lack of available beds
- Patients requiring an alternative level of care were quickly identified
- Promoting patient safety - Walsall found that HEV can be customised. For example, when the government introduced compulsory MRSA swabbing for elective patients on 1 April 2009, Walsall decided to do this for all patients and created a new icon within HEV showing a patient's swab status. This acts as a constant reminder to nurses of what they need to do, promoting patient safety. Similarly, with the arrival of swine flu, HEV has helped Walsall to control the H1N1 virus.

Horizon Enterprise Visibility (HEV) provided by McKesson Information Solutions UK Ltd for further information please see www.mckesson.co.uk

7. End of Life Care Register

Solution

Advanced worked with a leading palliative care consultant to develop a web based End of Life Care Register solution which builds on existing and proven Advanced technologies. It is recognised that one of the most significant limitations of information technology within the NHS is that different systems have limited ability to communicate with each other.

Examples of use

Based in Weston-Super-Mare, the Weston Area Health Trust was the first to implement the Adastra End of Life Care Register (EOLCR). Since then, 13 of the PCTs within the area have signed up to the register, creating a unified approach across the South West.

Benefits

Availability of the register has invigorated the uptake of advance care planning and is having a significant impact on where people die. This is a major achievement as advance care planning is an extremely delicate subject and health professionals have been reluctant to have these kinds of discussions. Without them though, it is difficult to fulfil the patient wishes about where they are cared for during their final illness. The demand for the End of Life Care Register to effectively deliver support in all areas of specialist care, has proven a very real need to ensure that there is system integration. Information sharing will be the future of integrated care.

Provided by Advanced Health & Care for further information please see

www.advancedcomputersoftware.com/ahc/resources/pdf/end-of-life-care-southwest.pdf

8. Geographical Information Systems

Solution

GIS technology offers varied solutions from improving field data collection and reporting to supporting disease surveillance and analysis with online mapping and spatial statistics. Maps, the visual product of GIS, improve the ability to communicate the evidence-base of a health situation, such as MMR take-up, to decision makers.

Examples of use

Esri (UK) is an SME and the leading provider of location based information technologies to organisations including the Department of Health, PCTs, PHOs and the Health Protection Agency. Globally Esri provides the analysis of complex geographical data to 300,000 customers worldwide including the majority of the world's governments.

Geographic Information Systems (GIS) are already deployed extensively across UK Central Government, Local Authorities and Non Departmental Public Bodies. GIS is widely used across government and have recently been utilized in wide-ranging applications such as redesigning citizen service delivery within Westminster City Council, supporting ONS with the analysis of the 2011 Census and helping deliver the low carbon agenda in Nottingham.

The NHS is already using GIS to support effective healthcare. It is a tried-and-tested solution used across healthcare bodies and in some cases represents an existing capability that could be further exploited by other healthcare stakeholders. Examples of where GIS is innovating in health today include:

SHAPE (Strategic Health Asset Planning and Evaluation) <http://shape.dh.gov.uk/>. West Midlands Cancer Intelligence Unit who are using Geographic Information to support Cancer Information Provision. The Health Protection Agency uses GIS to protect the public from threats to their health from infectious diseases and environmental hazards. PCT's, for example Mid Essex use GIS to commission local health care provision. Central NHS bodies use GIS to better understand their business e.g. NHS Counter Fraud and the Blood Transfusion Service. Specialist bodies such as the London Healthy Urban Development Unit (HUDU) uses GIS to improve communication and cooperation between the spatial planning and health sectors in London.

Benefits

- Better informed commissioning decisions
- More efficient estate management
- Better use of staff resources in the community
- Patient choice and competition
- Creating a patient-centred world view
- offer lower risk deployments in direct support of policy implementation, transparency and accountability, citizen engagement and local decision making.
- ability to visualise multiple layers of data from disparate systems without the need to permanently link legacy systems or records.

Provided by Esri (UK) Limited for further information please see www.esriuk.com

9. Homecare Monitoring

Solution

Homecare monitoring uses telephones, mobile phones or similar data collection methods to track the times of visits by homecare staff. The service is well proven with five companies approved to supply to Local Authorities. Currently over 100,000 carers record their visits using these services. Data from these visits shows that a minimum of 15% of commissioned care is not being delivered. This represents a loss to the care budget of over £100 million.

Examples of use

Notable successful councils are Kensington & Chelsea and LB Havering

Benefits

About 30 English LAs are currently using homecare monitoring with the best performing making significant savings in payments to care providers and in administration costs. The upfront investment is very small with the operational cost being about 1% of the care bill but with savings of over 10% of the care bill.

For more information see www.ezitrackerhomecare.com

10. iNurse and iConnect

Solution

To succeed, a move to community based care must be supported by better technology for frontline workers – by moving away from inefficient paper based working to streamlined electronic communication. Advanced has addressed this technology gap with two breakthrough products for mobile health and social care workers: iNurse and iConnect.

Easy to use software installed on hand held PDAs, smart phones, BlackBerry and consumer mobile phones enables field based staff to send and receive secure patient data and appointment information on the move, reducing the need to travel to base, cutting out unnecessary administration, improving security of patient data, and supporting excellent activity reporting.

A similar mobile product from Advanced for the social care market is iConnect, an intuitive and revolutionary point of care solution designed specifically for providers delivering home care, extra care and supported living.

Examples of use

The technology is already delivering major time and cost savings for more than 5,000 frontline staff, and offers enormous potential for up scaling.

Benefits

- iNurse is proven to save each nurse a minimum of one hour per working day. For example, if the product was used by a team of 300 nurses, saving only half an hour per day, the results would be the equivalent of adding

- 18.7 full time nurses per year at a salary cost of over £0.7m. More importantly, this would translate into an additional 28,500 patients visits per year. With this kind of return on investment there is arguably no reason for a health provider not to embrace technology and more specifically, mobile technology as a way to drive down costs and improve patient care.
- iConnect frequently results in efficiency savings of over 20 per cent. If all 111,700 local authority care workers achieved a 20 per cent efficiency gain, an extra 34.4m visits per year could be delivered.
- Time saving: frees up a minimum of one hour per eight hour shift for NHS district nurses (iNurse) – equating to one extra patient visits per day or the option to reduce staff numbers through improved efficiency.
- More efficient working: delivers an average of 20% efficiency savings for social care workers, by cutting out unnecessary travel and paperwork (iConnect).
- Reduces travel costs by eliminating the need to travel back to base 2 to 3 times a day to collect appointments/paperwork (iNurse and iConnect).
- Delivers an immediate return on investment; customers report productivity improvements within three months of implementation.
- A proven, secure and accredited solution: our products are already being used within the NHS and local authorities and have achieved the required security standards (e.g. iNurse is NHS security compliant)
- Allows the joint goals of clinical excellence and cost saving to be delivered by the same project.

Provided by Advanced Health & Care for further information please see www.advancedcomputersoftware.com/ahc/resources/pdf/inurse-delivers-efficiencies.pdf

11. Medical Device Integration Platform - Capsule Neuron

Solution

The Capsule Neuron solution automatically collects data from medical devices and validates it at the point of care. This improves the quality, completeness and timeliness of clinical information which contributes to increased patient care and reduced medical errors. It enables the clinician to focus more on the information itself rather than the process of data collection. Data is delivered to the EHR wirelessly before the nurse leaves the patient thus ensuring that information is immediately accessible to support clinical decision making without having to carry another hand-held device or the need to log into another workstation. Neuron Mobile Vitals Plus is the first, intelligent touch screen platform dedicated to managing device connectivity at the bedside. It validates and sends vital signs and observations data wirelessly, right from the point.

Examples in use

The success of the solution is evidenced through the operational use of Neuron in Europe, the US and Far East. UK customers include: Royal Brompton and Harefield NHS Trust; The Cromwell Hospital; Queen Victoria Hospital NHS Foundation Trust; NHS Ayrshire and Arran (Scotland); East Kent Hospitals NHS Trust; South East Coast SHA.

Key Benefits

Neuron is an all-in-one solution and requires no additional devices to be carried on a busy unit or shift. Workflow, Productivity, efficiency and patient safety benefits comprise:-

- Reduction in nursing hours spent manually collecting vital signs data and then keying data into a workstation or other mobile device;
- Automation of manual processes which are prone to transcription errors;
- Streamlines workflow and minimizes the time taken from clinical data capture to availability for clinical care and decision making;
- Utilities existing medical devices;
- Requires minimal training;
- Use of integrated RFID supports positive patient id, alerts and warnings and conflicts.

Capsule Neuron is provided by eNovation for further information please see www.enovation.nl/en/

12. Medicines Management solution

Solution

Currently in each hospital in the NHS in England and Scotland there is a discrete IT system managing the supply chain of medicines for that given hospital. Drug budgets are the second largest cost item after salaries in the NHS. JAC developed a Medicines Management solution which allowed multiple hospitals either by region or even country to share a single drug database and system allowing for major consolidation of systems across the service.

Examples in use

Provincial Government of Western Cape in South Africa – Who are currently using the system and rolling it out to 40 hospitals covering 10% of the population of South Africa.

In the UK the same system has recently been contracted by Belfast Services Organisation (BSO) and is being implemented for the whole of Northern Ireland.

These models can be further extended to cover automation in Medicine Management and Electronic Prescribing within the Acute care sector.

Benefits

- The system implemented will provide for a single drug database major streamlining of medicine management across the whole province.
- Considerable savings and improvements in business efficiency
- patient safety and reduction of theft and other drug misuse are being delivered.

Provided by JAC Computer Services Ltd for further information please see www.jac-pharmacy.co.uk

13. Process Mining - ReflectOne

Solution

The solution provides a visual animation of processes and activities and instantly highlights inefficiencies and bottlenecks. Process Mining is a new technique that automatically analyses business processes by extracting data from system event logs. It provides a rapid understanding of all activities and detail such as metrics, volumes, processes, elapsed times, how work was passed between individuals and teams, all in all a complete multi level picture of processes.

Examples in use

It is successfully installed in large commercial companies in the UK and many Local Government organisations.

Benefits

The solution lends itself to a whole range of healthcare environments from Internal Audit through to Patient Pathways. One particular Local Council has implemented ReflectOne to help deliver savings of over £1.5 million in 2010/11 and provide support for the implementation of major central government initiatives and improved processes within its Adult Social Care and Children's divisions. ReflectOne was able to perform a quick but fact based process discovery within a single day as opposed to a potential 3 month manual based project this gave users tremendous confidence in the re-design process and supported better management of referrals, reductions in time recording and facilitated Hospital and District Teams using a more integrated approach to care delivery.

ReflectOne is provided by eNovation for further information please see www.enovation.nl/en/

14. Telehealth - Bosch Telehealth Plus

Solution

Bosch Telehealth Plus enables interactive monitoring of patients with long-term conditions. The system helps healthcare professionals to identify even gradual changes in a patient's condition so that treatments can be quickly modified to prevent serious health complications. It can help identify problems, modify behaviour and improve quality of care of the patients.

Examples of use

US Department of Veterans Affairs has adopted the Bosch System for about two-thirds of the veterans in its Care Coordination Home Telehealth program, and has consistently shown the ability to reduce hospitalizations by 50 percent among targeted populations, irrespective of the primary conditions addressed (multiple complex chronic to mental health to diabetes to cancer).

Bosch's CMS HBC Telehealth Program is a population-based, demonstration project funded by the United States Centers for Medicare and Medicaid ("CMS"). It focuses on high-cost and high-risk patients over the age of 65 and aims to demonstrate the clinical benefit and cost effectiveness of a provider-driven, technology-based model of care management. The Program's patient participants have a range of chronic diseases including congestive heart failure (CHF), COPD, complex diabetes and co-morbidities.

Key findings include¹⁰:

- **Slower Cost Growth:** Medicare cost growth was slower in the intervention group in both the original and refresh population. A savings target of 3.75% (savings of more than \$6 million dollars) was met and exceeded across the intent to treat population of 1700 patients with an engagement rate of 45% .
- **Reduced Hospitalizations:** All-cause hospitalizations declined within the refresh intervention group while the rate of all-cause hospitalizations increased within the comparison group.
- **Reduced mortality:** A lower rate of mortality was observed among intervention beneficiaries that used the Bosch system.

The projects with NHS Barnsley, Leeds and Hull provide a successful scalable end to end solution that allows us to address the entire value chain associated with successful management of patients with long term conditions. In Barnsley, we are supporting both health and social care stakeholders in their care coordination programme with integrated telehealthcare services for a planned 2,500 patient group. In Leeds and Hull, we are partnering with NHS Direct to provide scaleable telehealth services to local COPD and CHF patient groups with a goal to enrol more than 1000 patients by the end of March 2012. The models are commercially viable at this point and have planned Phase II and III activities. Both programmes include evaluation partners although they are not clinical trials.

Benefits

A four year study (2003-2007) by Darkins, Ryan et al demonstrated reduced hospital utilization using the Bosch system:

- 19% fewer acute hospital admissions
- 25% fewer hospital bed-days

Koff (2009) at the University of Colorado completed a randomized clinical trial utilizing the Bosch System to provide an intensive proactive integrated intervention to COPD patients. Study findings:

- "Dramatically" improved quality of life as measured by the SGRQ (10.3 versus .6)
- Decreased symptoms, increased exercise tolerance
- Decreased cost (\$1401) versus increased cost in control group(\$1709)

Phase 2 of the Demonstration is underway and incorporates design adaptations to reflect some key differences between the geographies and the delivery systems of the participating sites. Results across all client populations show:

- 85% of patients use their Bosch daily
- 90% recommend use of Bosch System

Outcomes demonstrate that our system enables care that can reduce hospitalization and at the same time, we can enable our global clients to leverage scarce and expensive clinical resources by dramatically increasing their efficiency and effectiveness through a model of continuous monitoring, self-management support and exception-based care management.

Provided by Bosch Healthcare for further information please see www.bosch-telehealth.co.uk

¹⁰ (McCall et al, http://www.cms.gov/reports/downloads/McCall_Eval_of_CMHCB_Demo_April_2011.pdf)

15. Telehealth - doc@HOME, Docobo Ltd

Solution

doc@HOME is an integrated telehealth solution for the remote management of patients with a range of Long Term Conditions (also known as Chronic Diseases). It is the means for the collection and analysis of essential patient related data, permitting effective management through efficient interaction between clinicians and patients at home.

Furthermore, a range of systems and capabilities are now becoming available to meet different levels of clinical need at optimum cost-benefit, and also solutions across care pathways and reaching into also social care issue. Examples of these are:

- Docobo's doc@HOME telehealth monitoring with vital signs monitoring for complex conditions.
- Availability on either dedicated HealthHUB @device or on tablet based 'Apps' for the more technologically able.
- The new CarePortal, meets both health and social needs of the individuals, allowing connectivity through a Skype' like interface for social networking of isolated individuals, access to local community services.
- Lower down the triangle of need, email and SMS based technologies are being developed, to support patients to self manage.

Examples of use

Docobo can cite numerous cases in the UK where significant success has been achieved with doc@HOME telehealth. Much of this is due to commitment of individuals who embrace the technology and adapt their roles; and where management approach is supportive and enabling.

- **Case Study: NHS South East Essex – NHS Direct/Docobo Ltd**
65 patients were monitored over 7 months commencing April 2009. 11.8% reduction in the length of Community Matron face to face visits; 75% reduction in A&E visits; 83% reduction in hospital admissions; 72% reduction in 999 calls ; 56% reduction in GP visits. Furthermore, 80% of patients and carers who responded believe it has helped them to better understand their condition and to care for themselves.
- **Case Study: NHS Solent Healthcare promotes self management in patients with COPD**
Using doc@HOME@telehealth, patients with COPD were trained to recognise their symptoms and self manage acute exacerbations. Telehealth monitoring enabled earlier detection intervention exacerbations. The technology allowed the staff to provide and enhanced service without adding to the team. In December 2009 - December 2010 192 admissions.
- **Case Study: Managing heart failure patients in Knowsley**
A 12 month doc@HOME telehealth pilot in 8 patients with complex heart failure patients was undertaken by partnership between the Metropolitan Borough of Knowsley and Knowsley NHS. Between March 2009 – March 2010 the pilot showed savings of £5600 per patient, with an overall cost saving for the project of £185,000. The service now continues to be developed.
- **Case Study: Management of an Elderly Lady with Downs Syndrome**
Health and Social care staff at Knowsley utilised doc@HOME telehealth to manage an elderly lady with Downs and respiratory problems, enabling her to stay in her own home and environment, and preventing her from being placed into a Nursing Home. Not only was she able to continue to live the last days of her life, happy and content in her own home and environment, the team also managed to wean her off oxygen. By not admitting into a nursing home, savings to the social care budget alone were in excess of £35,000
- **Case Study: Australian Innovation brought to the UK**
In September 2010, Docobo became the UK as sole distributor for Silverchain, Australia of ComCare. Comcare is a mobile community staff management tool that has grown from the ground up over 17 years of use by a community healthcare organisation. It is highly relevant to today's UK NHS - it enables the right complete care to be delivered in the right place - 'making every intervention count' – at the lowest possible cost. It has delivered produce huge benefits to Silver Chain in terms of efficiency and cost savings: a days activity of a nursing team 62 hours of travel reduced to 27 hours; 3708 km reduced to 1620km. Community clinical IT systems available in the UK have limited logistical functionality, whereas, efficient management of a mobile workforce, which requires delivery of specialist care over widespread rural and urban geographies, is a logistics operation. ComCare® provides both clinical and logistical functionality, managing staff rosters, travel time, lone worker protection

and also access to patient data at the point of care. Massive savings have been estimated by UK NHS organisations – by one trust £4M from a £500k/year investment.

Benefits

See case studies above

Provided by Docobo Limited for further information please see www.docobo.co.uk

16. Telehealth and Telecare - Tunstall

Solution

Tunstall provides complete and fully-integrated telecare and telehealth solutions for home, assisted living and specialist care environments, hospital communication systems, associated support services, response centre software systems and monitoring services.

- Telecare is the real time, 24 hours a day monitoring of risks to a person's independence.
- Telehealth status monitoring captures body vital-signs measurements and health surveys for individuals with assessed needs.
- The resulting sets of information can be processed and combined in single views of client data, to enable triage services and early interventions.

Examples of use

- **Care pathway redesign – NHS North Yorkshire and York**
NHS North Yorkshire and York was the first NHS commissioner to redesign care pathways for long term conditions patients with the associated implementation of telehealth. Feedback from phase 1 of the project has shown that the introduction of telehealth has delivered a 40% reduction in non-elective hospital admissions and a further drop of 28% in A&E attendances and it is anticipated that such savings will be a key driver for delivering the overall quality and productivity targets. 3 The innovation undertaken by North Yorkshire and York in redesigning care pathways for long term conditions with the assistance of telehealth provides a model for commissioners for redesigning their services for long term conditions patients to improve patient care and efficiency in service delivery. For further information click [here](#)
- **Creating new incentives - Gloucestershire**
Gloucestershire has a population of more than 600,000 people with approximately 6,000 of those people living with a long-term condition (LTC). To meet this need NHS Gloucestershire is introducing telehealth for 2,000 patients with chronic obstructive pulmonary disease (COPD), chronic heart failure (CHF), chronic heart disease (CHD) and diabetes. For further information click [here](#)
- **Patient information and communication – NHS North Yorkshire and York**
Tunstall welcomes the Government's plans to increase choice in the NHS and to deliver a revolution in the way that health information is collected and delivered to patients. NHS North Yorkshire and York, which is deploying 2,000 telehealth systems has created an online portal for patients, carers and clinicians to find out more about telehealth and its use. This patient facing information portal is an example of the information revolution in practice and includes:
 - How telehealth works
 - Patient case studies
 - Frequently asked questions
 - How an individual can get access to telehealth
 - A contact portal for queries and comments

The portal provides a direct access point for patients with an interest in telehealth and acts as both an education and information tool. Other trusts who embrace innovative methods of service delivery should likewise consider the creation of such portals to engage with patients about new services. For further information click [here](#)

- **Strong leadership - GP engagement and clinical leadership – NHS Tameside and Glossop**
NHS Tameside and Glossop has recently deployed a fully-managed telehealth service for patients with COPD. The Trust serves a population of 240,000 and has a high prevalence of people with long-term conditions living in the area. In 2009-2010, heart failure and Chronic Obstructive Pulmonary Disease resulted in 1,024 emergency hospital admissions for Tameside and Glossop. This alone equated to a cost of approximately £2.7m, which is

predicted to rise to £3.5m annually over the next ten years. The example of Tameside and Glossop shows the potential of greater clinical engagement in commissioning and provides a good model for clinical commissioning groups looking to deliver innovations in the delivery of care for patients with long term conditions. For further information click [here](#)

- Integration of health and social care – Walsall Metropolitan Borough Council**

New technologies such as telehealthcare are well placed to help deliver this integration and Tunstall is working with Walsall Metropolitan Borough Council to better integrate health and social care services, that are helping to deliver benefits to patients and commissioners. 39% of households in Walsall have a long term condition and the commissioning costs for managing emergency admissions, ambulance call outs and outpatient appointments relating to this group has been estimated to cost £12.9 million a year. Walsall is using new technologies such as telehealthcare to help better manage patients with long term conditions in the community, thus reducing pressures on health and social services. Walsall is pooling a £2.5m investment in telehealthcare between the health service and the local authority over the next two years and seeks to generate a threefold return on this investment over the next five years. The experience of Walsall demonstrates the importance of real partnership working to ensure the better integration of health and social care services. The innovative approach adopted by Walsall provides a model that should be adopted by new health and well being boards as they look to be the fulcrum for delivering greater integration in the new world. For further information click [here](#)
- Risk sharing models – various sites**

The Walsall model above of sharing funding across health and social care is one example of innovation in risk sharing to address the issues associated with the upfront costs of introducing new innovations and technologies in the delivery of care and support to patients with long term conditions. Another way to address this is through the adoption of longer term views on investments. NHS Gloucestershire as part of its adoption of telehealth has subscribed to a three year risk sharing deal. This agreement allows NHS Gloucestershire to share the risk of investment and service change with Tunstall Healthcare, with Tunstall reducing fees and undertaking a joint guarantee of volumes against a target of reduction in unplanned admissions to hospital. This joint commercial approach represents a new model of public and private sector financial partnership to meet the challenges that the rise in long term conditions present on the UK economy. For further information click [here](#)
- Reward individuals who undertake effective performance management – NHS Yorkshire County Council**

North Yorkshire County Council is using telecare to help deliver improvements in the care of social care service users in the community. In its first year of adoption telecare has helped saved £1million that would have been spent on domiciliary or residential care. One of the main reasons why telecare is effective in North Yorkshire is that its use is performance managed and is part of the supervision and appraisal of social care staff. Staff are trained regularly on the latest technology and telecare is part of the standard care management - with all individuals who are assessed for social service support considered for telecare, ensuring that it is introduced both appropriately and broadly. The council also has four dedicated telecare co-ordinators who support the embedding of processes and practices into the Directorate practice. The council has also embedded telecare into its future commissioning strategy and has set targets for increasing the percentage of packages including telecare by 15% annually.

North Yorkshire County Council's approach shows the benefits of using performance management amongst its social care staff to drive the broader uptake of new technologies, such as telecare which result in the more effective and efficient delivery of health and social care services. For further information click [here](#)

Benefits

See case studies above

Provided by Tunstall Healthcare (UK) Limited please see www.tunstall.co.uk

Annex B – List of members in Intellect's Healthcare Programme

3M UK Plc

Accenture (UK) Ltd

ActivIdentity UK

Advanced Business Solutions	Dbi Consulting	Ingres Europe Ltd
Advanced Computer Software plc	Dell Corporation Ltd	Initiate, an IBM Company
Advanced Health & Care	Detica Ltd	Innotec Ltd
Airwave Solutions Ltd	Dictate IT Ltd	INOVEM Ltd
Alert Life Sciences Computing UK Ltd	Docobo Limited	Integrated Software Solutions Ltd
Alpha Zero Ltd	E.Novation UK Ltd	Intel Corporation (UK) Ltd
Alpine Resourcing Limited	Ecebs Limited	InterSystems
AMTEC Consulting plc	Eduserv	ION Information Technologies Ltd
Analysys Mason Limited	Egress Software Technologies Ltd	IPL Information Processing Ltd
Apple (UK) Ltd	E-Health Media Ltd	iSOFT Group plc
Ardentia Limited	Electronic Assistive Technology	JAC Computer Services Limited
Ascribe plc Group	Elekta Limited	Kable Limited
AtoS	eLINIA WebServices	Kemp Little LLP
Axway UK Limited	Enterprise Estonia	Kingston Smith LLP
Azeus UK Limited	EqualGold Associates Ltd	Knowledge Powered Solutions Ltd
Beachcroft LLP	Ericom Software (UK) Ltd	Konica Minolta B.S. (UK) Ltd
BeCrypt Limited	Ernst & Young LLP	KPMG LLP
Bidetime Ltd	ESRI (UK) Limited	L-3 COMMUNICATIONS ASA Ltd
BigHand Limited	Ethitec	Lagan
Bird & Bird	Excelerate Technology Ltd	Larsen & Toubro Infotech Limited
Blancco UK Ltd	Experian Ltd	Launchpad Europe Ltd
Blue Star Infotech UK Limited	Experian QAS	LinuxIT (Europe) Ltd
Bluewire Technologies Ltd	Fasken Martineau LLP	Lloyds Pharmacy Ltd
Bosch Healthcare	Ferret Information Systems	Logica
BridgeHead Software Ltd	Limited	Mastek (UK) Limited
British Standards Institution	FINMECCANICA UK LIMITED	McKesson Information Solutions
BT Group Plc	First DataBank Europe Limited	MedeAnalytics International Ltd
BTexact Technologies	fitness2live Ltd	Medical Mosaic Limited
Burges Salmon LLP	Fivium Ltd	Mentis Management Consultants
CA technologies	Fujitsu	Mercato Solutions Ltd
Cambio Healthcare Systems Ltd	Fulcre Partners Ltd	Methods Consulting Ltd
Capgemini UK Plc	GB Group PLC	Microsoft Health Solutions Group
Care FX Ltd	Gemalto UK Ltd	Microsoft Ltd
Cerner Limited	Getronics UK Limited	Microtest Limited
Chameleon Information Management	Global Crossing (UK)	Mills & Reeve
Services Ltd	Graphnet Health Ltd	Mott MacDonald Limited
CIC Consulting Informatico	Hays Specialist Recruitment Ltd	Mouchel Limited
Cisco Systems Ltd	HCL Great Britain Limited	Mouchel Management Consulting
Clearwater Corporate Finance Limited	HD Clinical Ltd	MQ Software Ltd
Clinical Solutions Int Ltd	Health Information Systems (UK)	MyAmego Healthcare Ltd
CliniSys Solutions Limited	Health Intelligence Ltd	NCR Financial Solutions Group
CMS Cameron McKenna LLP	Healthcare Software Systems	New Zealand Trade & Enterprise
Coactiva Aspiren Ltd	Healthcode Ltd	Next Intelligence Ltd
Cognizant Technology Solutions UK	Hewlett - Packard Ltd	nFocus Limited
Cognos Limited	Hicom Technology	NICE CTI Systems UK Limited
Coldharbour Systems Limited	Hidalgo Limited	Northgate Information Solutions
Computacenter (UK) Ltd	Hogan Lovells International LLP	UK Ltd
Computer Aided Development	Hornbill Service Management	Northrop Grumman
Corporation Limited	HP Enterprise Services	Nous Infosystems Private Limited
Convergys EMEA Ltd	Huawei Technologies (UK) Co Ltd	O2
Corelogic Limited	Hughes Network Systems Ltd	Oakleigh Consulting Limited
Courtyard Group UK Ltd	Human Recognition Systems Ltd	Oasis Medical Solutions Ltd
Cresset BioMolecular Discovery Ltd	Hytec Limited	One Point Consulting Limited
CSA Waverley Limited	IBM United Kingdom Limited	Open University
CSAM (UK) Ltd	iCitizen Ltd	Oracle Corporation UK Ltd
CSC	ICON Corporate Finance Limited	Orion Health Ltd
CSE-Healthcare Systems Ltd	IHE- UK Ltd	Panztel (UK) Ltd
Daden Limited	IMS Ltd	Partnerships & Alliances Limited
Dataline Software Ltd	In Practice Systems Limited	PCTI Solutions Ltd.
Datanomic Limited	in4tek Limited	Penta Consulting Limited
Datix Ltd	Informatica Software Limited	Philips Electronics UK Ltd
DAV Management Limited	Information Edge Ltd	Philips Research Laboratories

Phoenix Software Ltd	Vecta Consulting Ltd
Pinsent Masons	VEGA
Plain Healthcare	Virgin Media Business Limited
PricewaterhouseCoopers	VocaLink Limited
ProWellness UK Ltd	Vockrodt Projects Limited
Qi Consulting	Vodafone Limited
Quicksilva Limited	WCI Healthcare
Quintec Associates Limited	Wipro Technologies
Rackspace Ltd	Woodcote Consulting Ltd
REaD Group (UK) Ltd	Woodward Associates (UK) Ltd
Research In Motion UK Limited	Wragge & Co LLP
RM Data Solutions	Wyse Technology (UK) Ltd
Royal Mail Group	Xerox (UK) LTD
Sagem Communication UK Ltd	Zeta Compliance Technologies Limited
SAP (UK) Limited	
Sapior Ltd	
SAS Software Limited	
Savant Limited	
Savience Ltd	
Savvis UK Ltd	
SBA Group	
Seetec Limited	
SELEX GALILEO	
Selling Sciences	
Sensible Standards	
Serco Ltd	
SFW Limited	
Sharpcloud Ltd	
Siemens Healthcare	
Silicon Bridge Research Limited	
Silverbear Ltd	
Simpl UK Ltd	
Smart Use Ltd	
SMS Exemplar Ltd	
SN Training	
Sollis	
Sophos Limited	
SQS Group Ltd	
Stadium Electronics	
Stalis Limited	
Steria Limited	
Streets Heaver Computer Systems	
SunGard Availability Services (UK) Ltd	
Sunquest Information Systems Ltd	
Sybase (UK) Limited	
Sybersolve Ltd	
Symantec (UK) Ltd	
System C Healthcare Plc	
Systematic Software Engineering	
Tandberg	
Tata Consultancy Services	
Teleperformance	
Teradata UK Ltd	
TestPlant Ltd	
The Salamander Organization	
ThinkShield Ltd	
This is Business Coaching	
Tibco Software Ltd	
Touchstone Consultancy	
Tribal	
Tunstall Healthcare (UK) Limited	
Vangent Ltd	