When less measurement means more listening

How are you? The answer to that question is growing increasingly precise as digital personal health monitoring becomes a cost-effective way to put patients in control and minimise their time in hospital. By Joanna Bawa.

Every trip to the doctor's surgery entails an element of routine for both patient and clinician. The patient presents their symptoms, the doctor clarifies and checks back over the patient's medical notes.

Commonly, the doctor assesses pulse, blood pressure, temperature, weight, or any combination of these, and uses this data to inform their diagnosis and treatment recommendation. It's an established process, during which general practitioners attempt to balance their listening and examinations skills with the need to determine specific physiological measurements – all within the ten-minute consultation period.

Step into the Pod

What if the routine measurements could be prepared before the consultation? This is exactly what Telehealth Solutions is offering, with its Surgery Pod patient assessment system. Comprising a simple touchcomputer, the system can be configured in line with individual surgery software requirements. The Surgery Pod is connected to the existing GP computer system using an Ethernet connection, as well as, for example, digital scales and a blood pressure cuff. Patients arriving for an appointment log in using a unique identifier, and are guided through a series of basic check-up questions concerning their health status, health behaviours (such as smoking and drinking) and general well-being.

Typically installed in a separate room or a private area of the waiting room, the Surgery Pod prompts patients to stand on the scales and attach the cuff (which also records pulse), and the results are quickly and directly recorded into their confidential medical records. If any data entered by a patient is outside the normal range, the system can be configured to print a short brochure advising them on, for example, smoking cessation or relaxation techniques. When the consultation begins, their current health data is instantly displayed on the GP's screen.

"Home and surgery-based health monitoring draws patients into actively understanding and managing their own conditions and treatment regimes."
Jeremy Cummin

The concept of the Surgery Pod is extended in Telehealth Solution's Home Pod, a similar device providing clinical monitoring of patients in their homes, without expert supervision, and is particularly suitable for patients with chronic conditions such as asthma, diabetes, hypertension, depression, alcohol addiction, obesity, and congestive heart failure. Each Home Pod is configured by the clinician according to the needs of an individual patient and installed by a nurse or other carer who can also give the necessary instruction to the patient on the use of the devices attached to the Pod.

Information gathered from the patient by the Home Pod is sent via broadband telephony or wireless to the Telehealth Solutions server. Relevant information (which includes alerts that have been decided by the clinician) is transmitted to the nominated carer(s) and posted to the patient's record at the clinician's surgery, in compliance with the relevant guidelines.

Open standards and modules

All Telehealth devices are built around open standards and can connect with all standard surgery systems. As Pod use becomes more widespread, the company anticipates more highly configured and flexible versions offering blood and urine analysis, lung function and peak flow monitoring; and ultimately integration across wide area networks with pharmacies and the Electronic Prescription Service.

THE GP'S EXPERIENCE

The development team at Telehealth Solutions combines expertise in technology, electronics and healthcare, and sees telemedicine as a significant opportunity in the emerging digital healthcare economy. "Home and surgery-based health monitoring serves two important roles," comments Jeremy Cummin, Founder and Joint Managing Director of Telehealth Solutions. "Firstly, it draws patients into actively understanding and managing their own conditions and treatment regimes. This improves participation, co-operation and a sense of personal responsibility for one's health. Secondly, it generates essential medical information reliably, quickly and easily, which informs GP's decisions immediately. Both these roles mean a higher quality of patient care and a better overall patient experience."

Practising doctors seem to agree. Dr Mike Ingram, a GP in Redlett, Hertfordshire, has been encouraging his patients to use the Surgery Pod for several months now. What results has he seen?

"We're finding it to be a very useful tool, which virtually eliminates the chance of myself or the patient forgetting or exaggerating any medical data," he comments. "It also takes out the most time-consuming parts of a consultation – measurement and paperwork – and leaves more time for the patient to explain their concerns and for me to listen."

But without supervision, is it possible for patients to skip or misinterpret questions? Or fake answers?

"No-one is compelled to use it and no-one 'checks' what you enter," says Dr Ingram. "Of course it's possible to misrepresent, say, alcohol intake per week, or distort answers on the well-being questions – as it is anyway. But there's no incentive to do so – who does it help? – and I can pick up any issues through other data, such as blood pressure or weight." In fact, Dr Ingram reports that the vast majority of patients say the Surgery Pod provides reassurance that their concerns are being addressed, and are keen to work with it. "There's no fear that we're being over-automated; in fact, quite the reverse," he explains. "The Pods do what they're good at, freeing me to do what I'm good at. There's really no downside."

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IT'S THE CLINICIANS who matter

Ireland's use of healthcare ICT has been patchy but that's changing as the country's healthcare strategy gets going. Murdoch Mactaggart learns from the HSE's Damien McCallion why good ICT is vital and why clinician support is essential.

The 2006 Euro Health Consumer Index report placed Ireland last of the 26 countries surveyed, calling its historical performance "dismal". By the following year things had improved dramatically. Ireland was now rated 16th out of 29 countries (the EU plus Switzerland and Norway), one place above the UK.

"The priority is to get a good foundation in place"
Damien McCallion

At least some of this improvement must be down to the formation of the new Irish national health service, launched on 1st January 2005. This replaced the ten regional health boards each with its own CEO and board structure, IT framework and health records, the last remaining firmly in a given region even when the subject moved to a different part of the republic.

"We're in the process of finalising with our board the first national IT strategy for Ireland," says Damien McCallion, Head of ICT for the HSE. "That will cover the next three and a half years and the priority is to get a good foundation in place."

National framework

As in the UK, the use of IT among GPs is good but there's work needed to implement further connectivity.

"We've had some success in linking GPs to hospitals, particularly around handling lab and other results," explains McCallion. "Now we want to integrate GPs and hospitals more comprehensively but also link GPs to work with other community health professionals locally."

"We'd want to be taking a federated approach, giving clinical flexibility"
Damien McCallion

One of the benefits of starting from a low base, as McCallion points out, is the chance to learn from others' mistakes. An important question is around application standardisation.

"Every country needs to decide which areas need single solutions – immunisation records, for example, where it doesn't make sense to have different systems. We'd say a single solution was best in some business areas while in clinical areas we'd want to be taking a federated approach, one based on standards that allowed systems to talk with each other but which gave clinical flexibility."

Clinical support essential

It's arguably the case that mandating single applications makes data transfer easier, particularly if there's a single huge data network, but many IT experts are very wary of such an approach from technical perspectives, quite apart from issues around user convenience and flexibility or the costs of ripping and replacing.

"It makes no sense to rip out perfectly good systems"
Damien McCallion

"Clinical acceptance is very important," explains McCallion. "If you try and foist common national systems on to clinicians - doctors, nurses, social workers - you'll meet considerable resistance because you're removing their ability to flex things for their own needs. And, anyway, that model just hasn't been successful elsewhere, evidence shows that it's been littered with failures and difficulties, even in the US private sector. It makes no sense to rip out perfectly good systems as you're wasting money you could use elsewhere."

Information transparency

An important issues for the HSE is making information about specialities, lists and quality of care widely available.

"One of the key behaviour changes we believe we can make is to open up performance information and right now we're about to go live with a fairly comprehensive set of data and we intend to expand that out into primary care and community care," says McCallion.

PACS and other initiatives

Other initiatives including extending the PACS system to all 53 Irish hospitals, making more use of business intelligence tools, implementing a national patient record sufficiently flexible to accommodate differing local needs and using IT actively to continue the country's dramatic improvement in healthcare. "We can actually make the healthcare system safer and more efficient by implementing technology, exactly as happened with aircraft," says McCallion. "I'm passionate about that! The challenge is to create sufficient clinical leaders around the system to take that on and help move it to another level."

Healthcare in Ireland

Ireland has a socialised system of broadly free healthcare funded by general taxation. Its scope is wider than the UK's NHS systems as additional services such as social services and environmental healthcare are included. The Irish Department of Health and Children (DoHC) has political responsibility while service delivery, ICT included, is managed by the Health Services Executive (HSE). The HSE is Ireland's largest employer with over 100,000 workers and a budget of some €12bn.

Residents, and visitors with a European Health Insurance Card, are entitled to use the public health service. Many services are free but higher-income users may pay something towards GP consultations, treatment or inpatient charges up to a limit of €660 annually. Appliances and prescribed drugs are often free but may sometimes be charged at subsidised rates.

Despite long waiting lists, public satisfaction with Ireland's health service is high, ranging from 85% to 97% in different clinical areas.

Nearly half Ireland's population has private health insurance. Legislation requires that all adults, some pensioners or others excepted, pay a fixed premium irrespective of age, sex or health history or profile and that no one can be refused health insurance.