INFORMATION TECHNOLOGY

Special report editor
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COMMUNITY MOBILE

MODERNISATION

Laptops with wireless internet connections are an obvious choice for community healthcare workers, so why are so many still stuck with a pen and paper, asks Daloni Carlisle

To most of us, life without the laptop and a 3G dongle is quite simply unimaginable. Picking up emails, checking our diaries and reviewing shared documents on the road are now part of our daily working life.

For a large proportion of the community healthcare workforce the opposite is true and life with these modern tools is a long way off. They are still carting around bundles of paper and returning to base to type up their case notes. Where PCs are in short supply, they are still queuing to pick up their emails. For a service that accounts for £11bn of NHS spending, it is a pretty shocking state of affairs.

As Coleen Milligan, the Department of Health's community information programme manager, drily notes: "On the whole, community services have not received the same support for the modernisation of working practices that has been afforded to the primary and secondary care domains."

With community services set to take an ever greater role under the care closer to home policy and with the same need as elsewhere in the NHS to deliver more care for less money, the DH set out last year to make the case for giving laptops to community health workers.

The problem, says Ms Milligan, was not that anyone disputed the idea that mobile IT was a good idea. "The use of mobile devices in clinical care had long been touted as a cost-saving, productivity-enhancing solution for clinicians, and in particular for community clinicians who provide daily care in patients' homes, at clinics, schools, nursing homes and other such disparate locations," she says.

No, it was more a case of providing the evidence for this. "And very little in the way of quantifiable evidence has yet been recorded, making it more difficult for service managers to put forward the case for investment," she adds.

So last year the DH set out to make the case with 11 pilot sites testing a service provided by BT using Panasonic Toughbook laptops. A preliminary report, published in March, shows that the benefits experienced by the rest of us hold true for community healthcare workers too. With a laptop and a 3G connection, they are more efficient, provide a better quality of care and have a better work-life balance (see box, opposite) and patients love it.

'Community services have not received enough support for the modernisation of working practices'

Services sharing an integrated care record made efficiency savings

Trevor Wright, deputy chief information officer of NHS Yorkshire and the Humber, probably knows more about the benefits and potential pitfalls of mobile community health working than anyone in the NHS. He has a simple way of describing the benefits: "It's a no-brainer," he says. About four years ago, when he was director of informatics at NHS North Lincolnshire, Mr Wright began to look at mobile working as a way of improving efficiency, productivity and quality.

"We already had an integrated care record [CSC/TPP's SystmOne supplied under the local service provider contract] but our community nursing staff were not able to exploit it fully, because they were not able to access it where they were working – in people's

'There was a significant increase in efficiency as workers had to travel less'

homes," says Mr Wright.

So he started to look at mobile solutions. Nurses told him that size matters. "They wanted to carry it in their existing bags," he says. They wanted a long battery life and wanted something easy to use. The requirements led him to a laptop with an in-built 3G card. No patient sensitive data is stored on the laptop as nurses use secure web services to access records and applications.

Big bang

North Lincolnshire launched the project with a big bang, deploying 600 devices that enabled community healthcare workers to access the shared record, electronic diaries and email. They could make referrals electronically and deliver test results, send instant messages and cancel appointments that were no longer needed as a result of their visit.

"We saw a significant increase in productivity as nurses no longer had to go to their base office to pick up their notes in the morning and return at the end of the day to type up notes," says Mr Wright.

"There was a significant increase in efficiency as they had to travel less. We also saw a marked increase in benefits associated with staff wellbeing. They felt valued in that they had been given this piece of kit that brought them into the 21st century and they were able to work in a more free and agile way. They were able to get home at a reasonable hour as they could type up their notes as they went along."

The quality of care went up too. "The response from patients was fantastic. They loved it. It saved them unnecessary trips to hospital and to the health service because the nurse could give them test results such as pathology."

Since then, NHS Yorkshire and the Humber has progressed nicely with deploying mobile IT in community services, he says. This has been facilitated by the regional infrastructure. "It does help that 70 per cent of GPs, all hospice providers bar three and 100 per cent of the community services use SystmOne, while a number of hospitals are also beginning to use the software to access records in out of hours care and A&E," he says. "Subject to patient agreement, this is a record everyone can share."

Ten out of the 14 local health communities in Yorkshire and the Humber now use mobile devices, including Kirklees, Sheffield, North Yorkshire, York, Rotherham and Doncaster. "Some have insisted on doing small-scale pilots, which is frustrating because all the hard work to prove the benefits has been done," says Mr Wright.

Kirklees is not one of them. "Everybody in the community now has a Toughbook," says Elaine Gomersall, SystmOne service improvement lead. That's 630 community nurses, healthcare assistants and allied health professionals.

According to a case study published by BT, NHS Kirklees expects to save £600,000 a year in travel costs alone and make savings anticipated at £10m a year through saving clinicians' time, increasing productivity and avoiding unnecessary admissions, referrals and planned appointments. A bit less than half of this saving is cashable.

It has to be said the DH pilots have not found this level of saving and Ms Gomersall is also sceptical – at least about the travelling costs. "There was a perceived idea that we would save a fortune in travel costs but it does not work out that way," she says. "Travel has reduced in that staff no longer have to come in first thing to pick up their notes but they are seeing more patients – clinical contacts and activity have gone up."

Across the board, the biggest barrier to using mobile devices in the community is connectivity. In rural places and in new buildings, the 3G network is simply not that good and there are anecdotal reports of nurses using patients' home broadband or losing unsaved work as their connection fails.

As usual, IT directors are finding solutions. Andy Kinnear, head of Avon's information management and technology consortium and one of the DH pilot sites, is looking to version 2 of the community system RiO, which is planned to include a "store and forward" module that would negate the need for the 3G network.

Dave Smith, head of information management and technology in Ashton, Leigh and Wigan Community Services, another pilot site, has worked with BT to configure laptops to use the best available connection, whether that's WiFi in a community office or 3G elsewhere. Kirklees recently switched all its 3G cards from BT to the Orange network as it gave better coverage.

The big question now is whether the results from the pilot sites will lead to a greater uptake of this "no brainer" solution. The DH expects to make a more detailed analysis available this month which it hopes will persuade more community services to modernise.

For Andy Kinnear and others, though, the future is not clear. "We'd love to roll it out more widely," he says. "But whether we will get the money to do it is not sure." ●

Many community nurses must return to base to type up notes

GOING MOBILE: KEY FINDINGS FROM PILOTS

Productivity increased Contacts up by 5 per cent in just three months
Unnecessary referrals avoided Referrals fell by 16 per cent
Unnecessary admissions avoided Admissions reduced by 39 per cent
No access visits avoided Seventeen per cent reduced across all pilot sites
Source: Transforming Community Services programme, Department of Health, March 2011

INSIDE PRISON HEALTHCARE

An IT system used by GPs has been adapted by the prison service to allow the medical history of its inmates to be easily shared between facilities, while also identifying healthcare trends in their populations

When Trevor arrived in Durham Prison he was not in a healthy state. He had a lifelong cardiac condition that required him to be on warfarin and other drugs, and have regular follow-ups at hospital – none too easy when you live on the street.

"Our usual approach would have been to contact his GP," says Brian Docherty, a GP who works at HMP Durham. "We did. But as Trevor had only just registered, the GP knew little or nothing about him."

Trevor arrived at Durham from another prison, where they had begun unravelling his long and complex medical history, including the names of hospital clinicians who had treated him and a blood-borne disease he had forgotten to mention.

Instead of starting again from scratch or waiting for the notes to arrive, Dr Docherty turned to the computer network now spanning the whole of the English prison service.

Here he found all the notes from Trevor's previous prison and was able to start him on the relevant drugs, line up a hospital appointment for the blood disease, and forward all the information to the new GP, ready for his release.

Since spring 2011, SystmOne Prison has been live in all 136 prisons in England. It is based on a leading GP IT system adapted for the unique needs of the prison service.

The prison population is not the healthiest and for many years prison healthcare has been poor, as highlighted in a series of studies, culminating in the damning Bradley report into mental health services in 2009.

In 2006, the NHS took over commissioning prison health services and put in train a wide set of initiatives, including the new prison IT system, in a joint effort by NHS Connecting for Health and the offender health team at the DH, strategic health authorities, primary care trusts, the National Offender Management Service and local service provider CSC and its software supplier TPP.

A series of reports has highlighted poor prison healthcare

Follow the patient

Professor Louis Appleby, national clinical director for health and criminal justice, says Trevor's story demonstrates one of the key benefits of the new system. "People do tend to move around the prison estate," he says. "We have to follow the patient and this will provide continuity of care."

The system is built on a care pathway model and Ivan Calder, head of healthcare at HMP Feltham, a remand centre for young offenders, explains why this matters.

"We are running at an 8 per cent positive rate for chlamydia and that's high," he says. "It is in the boys' best interests that they should be screened and treated where necessary."

'People tend to move around the prison estate. We have to follow the patient and provide continuity of care'

With the new IT system it is easy to see whether an individual has been screened, their test results, whether they were offered treatment and counselling and whether they refused or accepted it.

While Feltham used care pathways before the new IT system, now they are electronic rather than paper based. At the touch of a button, Mr Calder can compile reports on a whole range of health issues affecting young offenders in his care, such as their vaccination history, hepatitis B status, prescribed drugs and whether they are registered with a GP.

His healthcare team can make referrals using the system too, for example to mental health teams. "All the specialist services we would get in the community we can now make referrals to in real time. This is really important for us as our average length of stay is four to six weeks and some are with us for only a couple of days."

With just three weeks of experience of using SystmOne Prison, he adds: "In principle as boys move on from us, either to the community or another prison, we can send all the details to the next care provider. We would hope that this is foolproof."

It is early days for the new system and users say privately that it has been a long, hard slog getting it up and running properly, but that overall it is an excellent system.

"Yes, it has taken a while," says Professor Appleby. "But going round prisons and talking to GPs and others I have found that everyone is very positive about it."

In the long run, he hopes it will be possible to extend links to the system to the wider NHS. ●

ALAMY

LOOKING AHEAD

An older society with more people having long term illnesses means predicting how individuals will need to use health and social care services is ever more important, says Geraint Lewis

The costs of caring for people with complex health and social care needs are set to rise steeply. This is due to a range of factors including the ageing population, more people living with long term illnesses, and societal changes.

But the financial squeeze facing the NHS and local authorities is making this issue even more pressing. So it will now be particularly important to offer preventive care to those individuals at highest risk of needing support so that they can remain healthy and independent and at home.

Since the costs of health and social care are both highly skewed across the population, investing in preventive care for high risk people could lead to large net savings downstream. However, a number of evaluations have shown how difficult it can be to achieve these would-be savings.

Clearly, a preventive intervention can only be successful if it is offered to people who are truly at risk of the adverse outcome it is trying to avoid. So, attention is turning towards the "case finding" process. Researchers are trying to find more accurate ways of identifying which people are at risk of future adverse outcomes, so that these high risk people can be offered targeted preventive care.

In healthcare, NHS organisations are now using a range of predictive tools to help identify which individuals in a population are at high risk of unplanned hospital admission in the next 12 months (see box).

AVOIDING ADMISSIONS: PREDICTIVE MODELS

Proprietary predictive models

Models include:

- ACG System (Johns Hopkins University)
- Bespoke predictive models (Bupa Health Dialog)
- DxCG RiskSmart Global Edition (Verisk)
- HealthNumerics-RISC model (UnitedHealth)
- High-impact User Manager (Dr Foster Intelligence)

NHS predictive models

- Combined Predictive Model (England)
- PARR++ (England)
- PEONY (Scotland)
- PRISM (Wales)
- SPARRA (Scotland)
- SPARRA-Mental Health

'Attention is turning towards the case finding process'

But what about using these same predictive techniques for social care? An unplanned hospital admission is analogous to the start of intensive social care in several ways. Both events are often undesirable for the person concerned; they are costly to the state; are recorded in routine administrative data; and are sometimes potentially avoidable.

Guessing game

In 2008, the Department of Health commissioned the Nuffield Trust to explore the feasibility of developing predictive models for social care (see box). Researchers analysed the routine data of about 180,000 people aged 75 and over, and in February 2011, the Nuffield Trust published what are thought to be the world's first predictive models of their kind for social care.

These new models use patterns in linked routine health and social care data to predict which individuals in a population are at risk of starting intensive social care in the coming 12 months. This was defined as either being admitted to a care home (nursing or residential), or starting intensive home care, or experiencing a steep increase in social care costs.

To protect confidentiality, the models are designed to run using pseudonymous data. They assign a "risk score" to each member of the population, ranging from 0-100. These scores should help councils and NHS organisations to select which people are offered preventive care – and also to gauge the intensity of care that should be offered to different individuals.

How accurate are these new predictive models for social care? Broadly speaking, they are comparable to the combined model, which many NHS organisations in England use for identifying people at risk of unplanned hospital admission. As with any model, however, the accuracy of the predictions depends on what risk score threshold is chosen.

Besides, the high costs of intensive social care and the potential negative impact that institutionalisation can have on an older person could mean that even relatively inaccurate predictions have value.

Having shown that predictive models for social care are statistically possible, the next step will be to test them in real life, using them to design new preventive services or select from a range of evidence based interventions such as multidimensional geriatric assessment. People could then be offered different types of preventive care, the intensity of which is proportionate to their level of predicted risk. This will first require clarification of the information governance rules that would allow providers to identify people deemed at risk by the model and some further research.

A number of local authorities and primary care trusts have already expressed an interest in piloting the model and anyone interested in hearing more can contact the Nuffield Trust. ●

Dr Geraint Lewis is a senior fellow at the Nuffield Trust.

Find out more

Predicting who will need costly care: how best to target preventive health, housing and social programmes
➔**www.kingsfund.org.uk**
Predicting who will use intensive social care: case finding tools based on linked health and social care data
➔**http://ageing.oxfordjournals.org**
Predicting social care costs: a feasibility study
➔**www.nuffieldtrust.org.uk**

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