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AN HSJ SUPPLEMENT/5 FEBRUARY 2009

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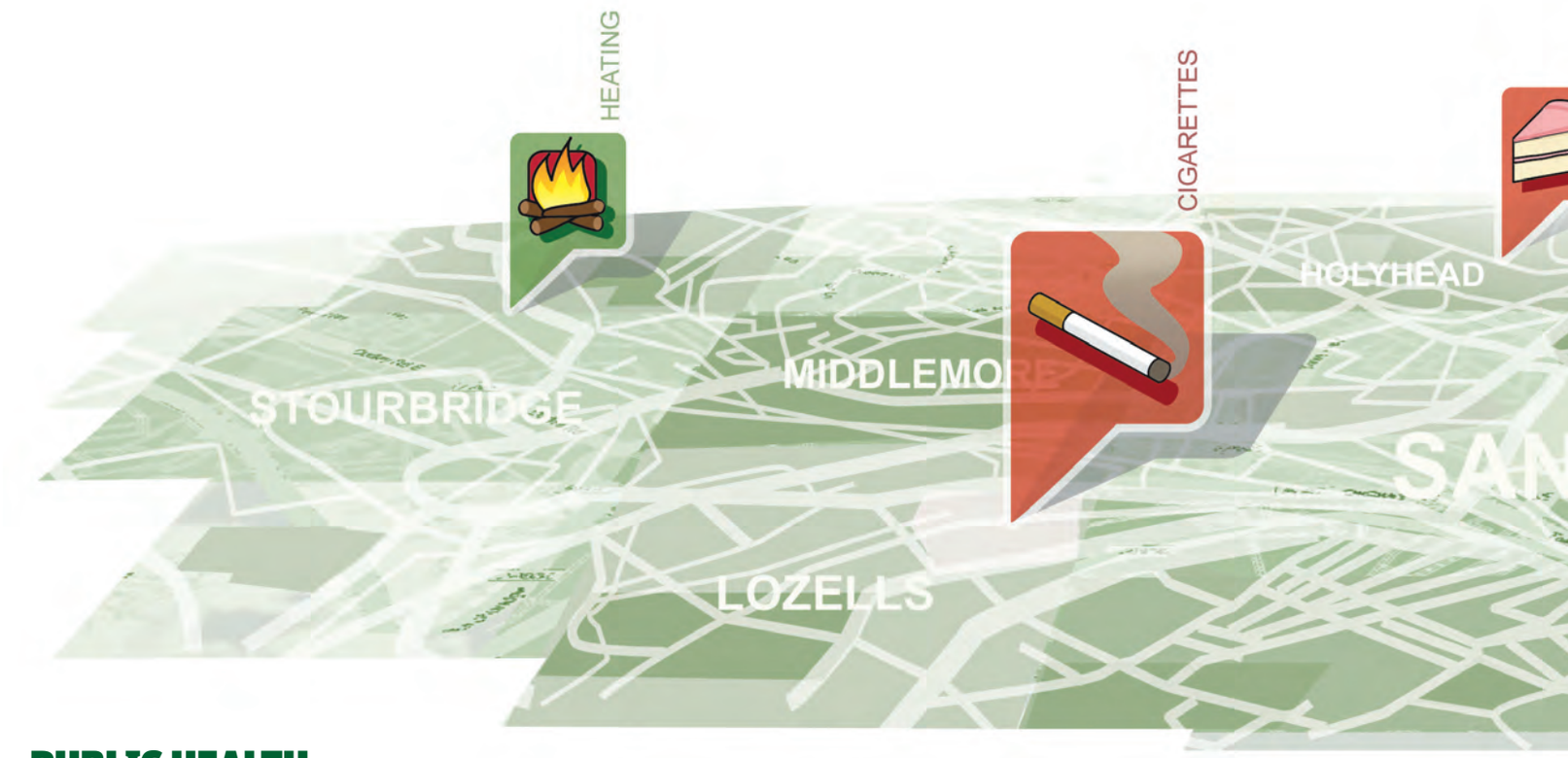

PUBLIC HEALTH

Groundbreaking digital maps will support all kinds of healthcare planning, analysis and activity from identifying "fresh food deserts" to deciding where to put polyclinics, says Benjamin Allan

ALL MAPPED UP

More than 40 shops in the West Midlands borough of Sandwell have begun stocking more fruit and vegetables after analysis with digital maps pinpointed areas at risk of becoming "fresh food deserts".

The local primary care trust has also used digital maps to help decide which neighbourhoods most need cold weather care for the elderly and whether homes in some places should be fitted with remotely monitored thermometers.

Such innovative public health work shows what is now possible using the technology, obtained via a four-year agreement between the NHS Information Centre for Health and Social Care and mapping technologists Dotted Eyes.

The aim is to help managers at primary care trusts and other health organisations, who have long wanted easier access to mapping to help planning, reporting and decision making.

"Access to geographic information on the desktop is very important for PCTs and all other health bodies who analyse data in their work," says Sandwell PCT's senior public health information specialist Ralph Smith. "The new agreement will support public health activity across the country on such issues as reducing obesity, encouraging healthier lifestyles and deciding where to site healthcare facilities."

The agreement will also provide map data for strategic health authorities, trusts, cancer registries and all 11 English ambulance trusts, as well as PCTs. It follows the success of a pilot scheme with Ordnance Survey, the national mapping agency.

The potential for digital geographic information to help the NHS has grown enormously with the internet and new database technology. Its history in the NHS can be traced back to the Cold War days of 1989, when the local

public health directorate covering West Bromwich used a map scan to analyse the potential impact on the town centre of a fictitious nuclear bomb. The emergency planning scenario was mapped to show what the extent of radiation, burns and other injuries might be, based on distance from the blast.

Developments in technology mean mapping can now help with a wide range of health management functions. Much map data is viewed, annotated and shared using software tools called geographic information systems, or more commonly GIS. These provide the underlying geography to analyse data on factors such as health needs, deprivation indicators, existing service provision and patient uptake. This can help managers to check trends and patterns and review or restructure services.

The case for fluoridation

Viewing information in a detailed geographic context can help people interpret statistics, present the findings of research and form action plans. For example, plotting the prevalence of an illness against indices of deprivation can support decisions on where best to target awareness campaigns. Identifying exactly where inpatient referrals originate can help a hospital gauge its catchment area for different medical demands. Such information can help in choosing where to locate active case management teams.

Health managers in the West Midlands have used this software to look at the impact of fluoridation on tooth decay. Their mapping compared areas where fluoride has been added to household water supplies with the results of an annual survey of dental decay in five-year-olds. The outcome helped to strengthen public health advice about the effectiveness of fluoride.

The extent to which GP practices in Birmingham diagnose heart disease in areas with relatively high coronary mortality rates has also been mapped. This prompted a project to improve case identification and chronic disease management in GP-based primary care.

‘Mapping compared areas where fluoride was added to household water supplies with the results of a survey of dental decay’

To support the healthy eating initiative in Sandwell, known as Eatwell, the PCT’s food policy team first used maps to show properties within 10 minutes of a supermarket either by public transport or on foot.

A combination of geographical information and transport planning software helped identify the spaces that fell outside the 10-minute perimeter. The Eatwell partnership then looked at the shops there were in these spaces and encouraged them to stock fresh fruit and vegetables at affordable prices if they were not already doing so. Forty-three retailers joined the initiative.

If Eatwell had not existed, these spaces could have ended up as “fresh food deserts”, fuelling health inequality.

With its cold weather care activity, Sandwell PCT has taken census data and looked at instances where elderly people live alone in large homes. Such “under-occupation” can create a risk of fuel poverty, raising the possibility of winter mortality for people vulnerable to low indoor temperatures. Geographic analysis can help managers seeking to target these sole occupiers to discuss subsidies for central heating and double glazing. Measures such as telecare packs [domestic hazard sensors, fall alarms etc], panic buttons and remotely monitored thermometers can also be introduced.

In a separate strategy with local partners, Sandwell PCT has plotted the locations of home accidents that result in hospital admissions. This can help in assessing reported incidents of elderly people falling at home and guide decisions on targeting care and repair, such as replacing worn carpets with non-slip flooring. In line with ➔4

3← public health policy, such work can help maintain independence for those with long term conditions.

Software enables users to compress the traditionally large file sizes of digital maps into bitesized chunks. It is also now easier to annotate map files and share them, along with other content, in presentations. Maps are more intuitive and can be a sound basis for communications with target audiences, whether these are fellow managers, NHS partners or the general public.

The health service has much to do to reduce health inequalities and improve health for all, so the new agreement is designed to support joint working between different parts of the service and with partners such as local authorities and central government. It also enables emergency data sharing between NHS organisations in situations such as major incident response and hospital bed shortages.

Where should polyclinics be?

The agreement gives the NHS products from several providers, including postal and geographic address data, street level and road network maps, and boundary datasets. Users can tailor the portfolio to their own geographies so they can analyse and

present information by ward, parish, PCT, service boundary or other statistical area.

For example, PCTs looking at where to site polyclinics will typically need to identify the general context of health need within a particular area. This will include analysis of GP-to-patient ratios to establish the extent of under-doctoring. They will then have to carry out more analysis to inform service specification. Mapping from the agreement can be used to reference practices by postcode and show health outcome data by administrative areas such as wards, districts or super-output areas.

Geographic analysis of data will also help with the move towards world class commissioning as the locally led NHS seeks to align regional plans and local priorities with commissioning strategies. The agreement can help to answer such questions as "where are the areas of risk?" and "where are there too many people in relation to services?"

By using the system to develop their location based health intelligence, NHS organisations will have an excellent, highly detailed basis for assessing trends, health inequalities, investment priorities and resource allocation. There will be easier access to a large number of geographic datasets on the desktop offering greater ability to analyse the data in different ways. ●

Benjamin Allan is managing director of the GIS solution provider Dotted Eyes.

LYN WHITFIELD ON CYBERCHONDRIA

A little flurry of stories about "cyberchondria" hit the press recently, with the BBC, *The Times* and others running items about people overdiagnosing themselves on the web.

Most of the stories presented "cyberchondria" as a new issue, which is odd for two reasons. First, the top result from a Google search on the term is a BBC report from 2001 about doctors being faced with "internet print-out disease".

Second, the Microsoft Research paper that triggered these latest stories stated that the term had been around since 2000, and set out to explore its extent and effects, in so far as these could be determined from search results and behaviours.

One reason for this may have been the nature of the paper – a long and theoretical study that was rather less exciting than the headlines it generated. The paper found general search engines were more likely to link common symptoms – such as "headache" – with rare and exotic conditions than with specialist, medical ones.

It also found that a small proportion of searchers "escalated" their queries – moving from "headache" to "brain tumour", for example, or adding words such as "fatal". The paper suggested behaviour was likely to skew search results – by promoting commonly viewed pages holding information about relatively uncommon conditions.

Most intriguingly, the paper also found that even people who work for Microsoft appear not to understand the web and how it works (no cheap gags). A survey of 500 staff found many assumed that search engines ranked results according to relevance to their condition – rather than by algorithms that judge pages by keywords, click rates, dwell times and similar factors.

The research by Ryen White, a specialist in information retrieval, and Eric Horvitz, an artificial intelligence expert, will be used by Microsoft to improve its search tools. But other companies have already moved in this direction. Type "headache" into Google in the UK, for example, and you will not only be offered a set of results, but options to "refine" them. These include a "for patients" option that puts near the top the BBC's health pages and NHS Direct (neither of which frets unduly about brain tumours) and a "treatment" option that promotes the BBC and NHS Choices (which advises painkillers and hot flannels).

For all its popularity with journalists on a quiet news day, there seems little reason to worry about "cyberchondria". Google offers easy routes to "reliable" information – and the people who build sites like NHS Direct make sure it can identify them as such. Elsewhere, wikis and comment functions allow information to be corrected or loaded with caveats.

At the same time, most people are not as uninformed or credulous as some researchers assume. Internet pages may well carry information about strange conditions and stranger remedies. But most people will balance these against their own experience of illness and what has worked before.

Even White and Horvitz found most people who "escalated" searches stopped after a page or two: suggesting they were intrigued rather than terrified by what they found.

Most people are not as credulous as some researchers assume

The same applies to web information about healthcare. When star ratings were first published, some excitable commentators predicted they would cause patients to stampede to the highest rated hospitals.

This did not happen. The research on choice suggests patients weigh the limited amount of quality information available to them against other factors, such as the views of their GP, waiting times and what the car park is like.

I have yet to see research on the impact of patient comments. But in reality, people already get comments from family, neighbours and contacts (at least 100 people must have heard how my local hospital left a scalpel in my hairdresser's mother during a minor operation and then let the wound get infected).

Meanwhile, another uncomfortable thought. How many "cyberchondriacs" have their lives saved because they tell their pooh-poohing doctor that their cough could be lung cancer – and it is?

STAFFING

The professionals

Heavy investment in its IT systems means that the NHS Professionals staffing agency can respond when trusts need workers urgently

Over the past two years NHS Professionals, the special health authority that provides flexible medical and nursing staff to around a quarter of NHS trusts, has invested heavily in its IT systems.

As a result it is now able to respond quickly to the needs of employers and flexible workers, adapt to changes in the labour market, ensure that legislative changes are adopted promptly and drive down associated costs.

Elements of the new IT platform include recruitment, document management, booking, clinical governance, workforce planning and e-learning for flexible staff.

Early evidence indicates that trusts are benefiting from the new system. Approximately 85 per cent of shift demand is now being shown on the NHS Professionals web based booking system. This allows flexible workers and trust staff to book shifts directly onto the database with better security and access. It has also supported NHS Professionals' efforts to standardise processes while ensuring its call centre staff devote more of their time to hard-to-fill areas.

'Monthly trust level forecasts of flexible worker demand have been introduced. These help to identify shortfalls of flexible workers and target recruitment campaigns at specific workers and skills'

A new online verification system allows nominated individuals in a trust to authorise the recruitment to NHS Professionals of full time staff seeking extra hours. This speeds up the application process for trust staff and gives employers more control over who works on their wards. It has also made the process simpler and ensures compliance with counter fraud and data protection requirements.

Monthly trust level forecasts of flexible worker demand, based on historic usage patterns and understandings of current and future circumstances, have been introduced. These are helping to identify shortfalls of flexible workers and target recruitment campaigns at specific workers and skill mixes. At the same time, NHS Professionals' web based management information system is providing organisations with timely and accurate information for effective workforce planning.

An e-learning platform provides flexible nursing staff with round-the-clock access to interactive online mandatory training and continuous professional development opportunities. Links with online recruitment and placement booking systems also ensure compliance with annual mandatory training such as patient handling and resuscitation. If flexible staff fail to keep up to date they are not offered shifts.

The training system, which went live in December 2007, has nearly 6,500 active users. More than 30,000 modules have been accessed with total study time exceeding 26,000 hours.

As part of a range of new developments in the pipeline NHS Professionals is currently piloting electronic timesheets, as well as a staff performance feedback mode that will allow trusts to report on good or poor performance at the time of timesheet authorisation. ●

➔ **www.nhsprofessionals.nhs.uk**

FRANK BURNS ON IT, PCTS AND THE DEAD PARROT

Amid the speculation about the status and future of the national programme for IT, I can't get out of my mind *Monty Python*'s dead parrot sketch, where the owner of a pet shop vehemently denies to a customer that an obviously dead parrot is actually dead.

Anybody who doubts the passing of the national programme either hasn't read or fully understood the implications of the advice in the Darzi informatics review and the informatics planning guidance attached to the 2009-10 operational framework.

In effect, this guidance revives the local health community approach advocated in the 1998 strategy with such emphasis on local action to deliver systems and system integration that it is hard to see how the "regionalised" IT programme model fits in.

While a genuine switch in emphasis from a national to a local approach will be cheered to the rafters by those on the front line it is also thoroughly depressing and potentially bad news for a number of reasons:

- **It raises the question of how much further on we might have been if we had stuck with a local approach back in 2001.**
- **Residual contractual commitments to the IT programme model may yet inhibit a truly local approach.**
- **Money not paid to local service providers for what they haven't delivered may not be released to finance local solutions.**
- **Performance management of local delivery may be deliberately "light touch" given the budget squeeze.**
- **There may not be enough local chief executive commitment to championing clinical IT priorities ahead of "bean counting" IT requirements.**

The biggest worry is the last point. While it is always nice to get nationally earmarked funds, they never turn out to be enough to cover more than a narrow core offering. A typical primary care trust allocation these days is £500m annually and if there was a genuine will to deliver integrated clinical IT, the money could be found over a span of a few years – but will it?

The future of locally integrated electronic records now seems to have been put in the hands of PCT chief executives. This is as it should be. PCTs have a clear responsibility to ensure continuity of care and safety for local populations, by establishing robust mechanisms for the timely exchange of up-to-date and reliable information about care between the multiple providers that they commission from.

It is also true that patients will be more ready to accept information sharing between the professionals actually looking after them (as compared with their information populating a national database).

Doubtless some PCT chief executives will cling desperately to the remnants of the national programme but hopefully many will recognise that to be a world class commissioner they need to know what is happening to their patients – and that the best source of this information is clinical IT systems that support clinicians in the care of patients, and which can feed an integrated patient record that all providers can access.

Successive national strategies have failed over two decades to deliver the basic requirement of a locally integrated patient record to support seamless care. Local health communities can now stop waiting for the "centre" to deliver something shown to be impossible to deliver on a national or regional scale. It can be done but it will only be achieved if all local stakeholders share the vision and commit to it. World class commissioning will never be achieved as long as patients are killed, harmed and inconvenienced because professionals delivering different parts of the pathway don't have a common view of the overall patient journey.

How much further on might we be if we had stuck with a local approach?

Time will tell if the PCTs are up to the challenge or if, as in the *Python* sketch, the dead parrot is not resuscitated.

Frank Burns is a former NHS chief executive and was the author of the 1998 strategy* Information for Health. *He is now an independent healthcare consultant and a senior associate with MECHealth IT consulting, fgburns@yahoo.co.uk

SEEN FROM ALL SIDES

A social care organisation is pioneering a single record that allows services from housing to health to co-ordinate support for a patient

Imagine 45-year-old Alison: she has lower back pain, for which she goes to the GP. She also has housing problems, debt issues and a drug problem. Behind everything is a high level of anxiety. What Alison needs is "360 degree" support, and that is what social care organisation Turning Point is offering with a new computer system. The software records the entire client journey from referral to discharge on a single electronic record. It enables all professionals who come into contact with a client to work together fully to support that person's mental health, employment and social care needs.

The system has been designed for Turning Point as it starts it RightSteps services for anxiety and depression. RightSteps is Turning Point's response to the government's improving access to psychological therapies programme. The organisation advocates a more preventative approach to mental health, helping people like Alison with both therapy and social care support.

Sue Harris is business lead for talking therapies at Turning Point. She says: "The system really is a pioneering attempt to integrate people's care, by offering assessments that all professionals contribute to. The computer system tracks people's progress and gets them access to support that they would not have had a chance of getting in the past, so that the idea is based on need, not solely on clinical diagnosis."

She adds that what she wants to see for someone like Alison is a group of professionals looking at her "whole needs".

"GPs will use the software to see that Alison's had a housing referral; Turning Point will access the files to see what psychological interventions have occurred; and therapists will be able to monitor trips to the doctor," she says.

Unlike people who pay for therapy, who will have accepted that they need it, the new generation receiving government funded support for anxiety and depression may need some convincing. They may fear the stigma of being labelled "depressed" or "anxious" or they may not even realise that they have a mental health problem. So frontline staff will ensure that the "entry point" is often the GP surgery, accident and emergency, or places such as job centres where people's problems can be identified.

According to Ms Harris it is people's physical health that forces them to see a doctor. Yet in the case of something like lower back pain, that appointment often reveals wider mental health problems: "The vast majority of people have associated depression, with the massive likelihood that both conditions will keep them off work." She believes it is vital professionals get to see what other partners are doing for the same client so that their care can be integrated.

The software for Turning Point, RightSteps, was developed by IMS Maxims. It means that staff can access the information securely via the internet. Turning Point workers then do an assessment, based on risk and need, not on diagnosis. This way, professionals capture vital clinical information to track and manage case loads. The client can then get the most appropriate support. The RightSteps system will then report on the clinical outcomes as well as providing a summary assessment document to be sent back to the referring GP.

The wellbeing co-ordinator

Monitoring the client's progress centrally will be a Turning Point "wellbeing co-ordinator". They are trained staff who guide people through the complex system of care. They will make sure that someone's care, whether it comes from statutory or third sector services, is joined up. The computer system is vital to the success of this.

"Our co-ordinators can monitor a person like Alison's history, whether it's self-help sessions for anxiety, a meeting with housing agencies or treatment for her drug use," continues Ms Harris. "The initial GP visit is primarily a way of capturing mental health problems to open the door for someone so that they access a range of agencies that provide a more tailored package."

Even more crucial is what professionals then do with that information about the person.

‘Ours is a sophisticated response. We offer a preventative approach to assess the risk of someone falling into crisis, for instance, when debt problems are mounting up’

Wellbeing co-ordinators can mentor that person appropriately, so it is not just about mental health. Traditionally, says Ms Harris, clients have had to wait for things to go wrong, to become depressed or anxious and only then have they been referred to get the support they need.

She says: “Ours is a sophisticated response. We want to work with people sooner: we offer a preventative approach so we can assess the risk of someone falling into crisis, for instance, when their debt problems are mounting up.”

This tactic is certainly one that they are pioneering with RightSteps, starting with their new service in Kingston upon Thames, which was commissioned by the local primary care trust and opened in December. A new RightSteps service is also starting in Bristol.

One of the advantages of lower level interventions for conditions such as depression and anxiety is that people can keep support services at “arm’s length” and do not have a professional breathing down their neck.

Ms Harris explains: “The computer system tracks this activity, from introducing self-help literature through to gentle telephone reminders about appointments. For those people who may see mental health as a stigma and are difficult to engage with, this is a way of making sure that their problems are not escalating.”

In Kingston, the new RightSteps service sees Turning Point providing social care, tackling issues such as debt, alongside South West London and St George’s Mental Health trust, which is delivering psychological therapy. The London Borough of Kingston also offers specialist support for employment. All agree the software is vital to capture important information about the client from all participating partners.

Economic gloom

Depression and anxiety should be key concerns, especially at a time of economic downturn. “There are so many people, perhaps even a third of those in GP waiting rooms, who haven’t been getting the appropriate support,” says Ms Harris.

She says that traditional treatment is often haphazard: it does not matter whether you have anxiety, depression or severe mental health issues; you tend to get referred in the same way. “If someone is on the verge of going into crisis because they are about to lose their house, maybe it’s sensible to see them in a more timely fashion than their current place on a long waiting list.”

Turning Point hopes that its pioneering RightSteps schemes in Kingston and Bristol will encourage others to adopt a preventative, co-ordinated approach. The mixture of therapy, social care and, of course, the computer system to bind it all together is a model that they say is making a difference. ●

CATH ELLIOTT

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DATA BRIEFING

PAUL ROBINSON

Depression, ethnicity and talking therapy

There are so many sources of information for commissioners that it is sometimes difficult to source reliable and timely data. However, colleagues may find the recently published online world class commissioning data pack useful as it covers a wide spectrum.

For instance, when CHKS researchers looked at the mental health data we found variations across primary care trusts. This sparked off a further, more detailed, analysis to look at what might be causing these variations.

One initial finding relates to the volume of antidepressant medication prescribed. The measure used is average daily quantities (ADQ) – a comparative measure of prescribing volume based on a typical daily dose in England of each specific drug group. Graph 1 shows each PCT and prescribed volume on this measure for Q3 2007-08. The range is very high, going from just below 0.4 to above 1.1 – a threefold variation.

Studies have shown London has a high incidence of mental health problems and this can be seen in the data. Yet NHS London was the lowest prescriber of antidepressants. Conversely, the data showed NHS North East to be the highest – over double that for London.

One potential influencing factor is ethnicity. Studies suggest genetic disposition, cultural differences, preparedness to see a GP, and language barriers all affect prescribing. So we plotted volume prescribed against proportion of the population described as "white". A clear correlation is obvious.

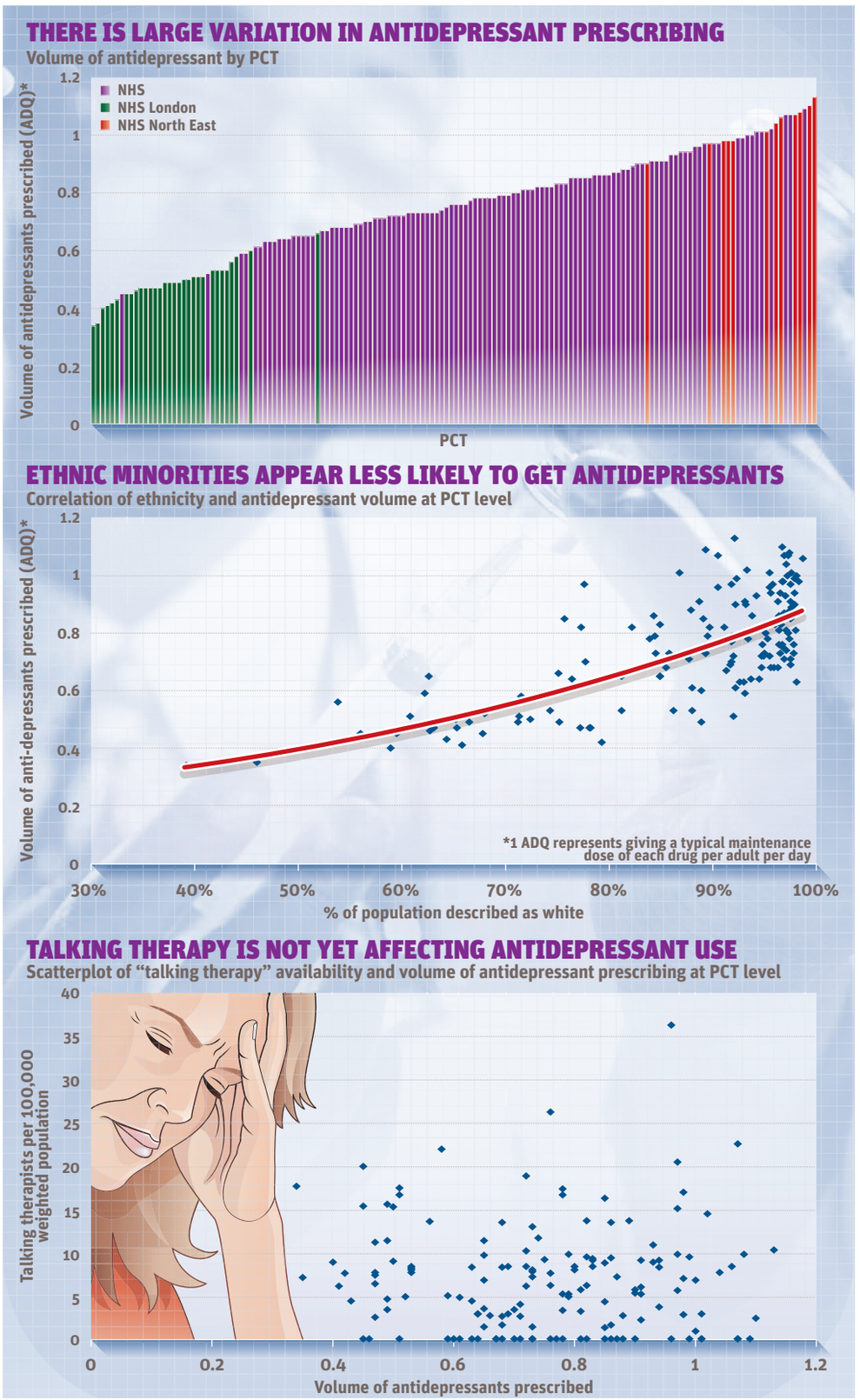
Another factor could be the availability of psychological or "talking" therapies –known to be effective for depression and recently given a major boost by the government.

An indicator in the data pack gives the number of whole-time equivalent therapists per 100,000 people. This time, though, a scatter plot of talking therapy availability against prescribed volume of antidepressant shows a remarkably random scatter with no correlation whatsoever.

Yet psychological therapy is probably the most significant tool commissioners can use to impact on the mental health of their population. Clearly when the data was collected it was not being well used as a targeted tool.

To access the online tool go to www.institute.nhs.uk/wccdatapack. All English PCTs should have a password but if you need one, email commissioning@institute.nhs.uk ●

Paul Robinson is CHKS's head of market intelligence.



AL GRANT

THE AMERICAN DREAM

What is the future of health informatics in the US? Stuart Shepherd talks to a potential key player

Senator Tom Daschle, Barack Obama's secretary of health and human services and director of health reform, knows he has a significant challenge ahead of him. The author of *Critical: what we can do about the health-care crisis* spoke, shortly before his nomination to his senior posting, about the need to build "a high performance healthcare system providing every American with higher quality, greater access, and lower costs".

A key part of the solution has been identified: it is some time now since Mr Obama emphasised the central role for technology and informatics in US health reform.

The agenda pages of his transition team website spoke of the use of technology to lower the cost of healthcare and proposed an annual investment of $10bn over the next five years towards a broad adoption of a standardised electronic health information system that includes electronic health records.

As one of the companies likely to be assisting in the delivery of any such system, Computer Sciences Corporation, or CSC as it is more widely known, will look to build on its large scale design, development and operating experience. The lessons it can draw on – as well as a prototype health information network in the US that connected cities as far apart as California and Massachusetts – include a national electronic patient record for the Netherlands, regional e-healthcare data systems in Denmark and being the local service provider for the NHS North, Midlands and East IT programmes.

"Clearly what the NHS has undertaken is an ambitious and large scale effort to provide connectivity across an entire country," says CSC chief medical officer Robert Wah.

"When I was the deputy national co-ordinator for health information technology at the [US] department of health and human services we often exchanged information about the challenges and issues that come with trying to do such a thing. It is a testament to the leadership in the UK that they have recognised the value of a connected healthcare system."

Robert Wah says the US will move towards standard electronic records

'These projects are similar to what the NHS is doing but not yet on the same scale. The issues are the same, though'

The executive order from former president George Bush that guided Dr Wah at the US national health information technology office was to have electronic medical records for the majority of Americans by 2014. To Dr Wah's thinking that is a bold but still obtainable target.

"Over the last few years we have been moving towards that, using market based solutions," he says. "The president has talked about how he sees healthcare improvement and economic stimuli as two linked issues, so I think the current administration will probably look to bring more government presence to achieving the ambition than previously.

"As I interpret it there will be increased government involvement in building a new healthcare infrastructure," Dr Wah continues. "That won't all be about [health information technology] but there will be similarities to the way the NHS has gone about bringing a system online to support other improvements."

The US has already seen movement towards a more connected healthcare system, what Dr Wah calls "connecting data islands", as hospital groups and some state and local government health providers make the switch from paper to electrons. The US government, he believes, can see great value in that and many feel that the government should be facilitating an increase in the rate of this networking at policy level. This would entail standardising and harmonising regulations across the 50 states for, among other things, data security and privacy, to ensure that the information can actually flow.

Dr Wah and his CSC colleagues have their finger on the US pulse. They were recent technology partners in the second phase of the nationwide health information network.

"These projects are similar to what the NHS is doing but not yet on the same scale as Connecting for Health," he says. "The issues are the same, though, and there is always the question of adoption, making sure that we can encourage optimum uptake on the part of the participating doctors, nurses, pharmacists etc."

Dr Wah continues: "What I have learned is that you cannot develop IT solutions without a great deal of clinical input. It is critical that you have empowered and informed representatives from the various specialties giving their input at the ground floor to the creation of systems that they can recognise as being beneficial to them." ●

LOOK, NO WIRES

SERVICE REDESIGN

Wireless technology is transforming a foundation trust's admissions process, reports Stuart Shepherd

COLOURBOX

At one time, when a patient referred by a GP arrived on the ward at York Hospitals foundation trust nobody could be sure how long it would be before an appropriate member of the medical team reviewed the patient. Doctors relied primarily on a pager system for information about admissions to hospital.

Equally frustrating for bed managers were the difficulties that came with keeping track of just when new patients had been seen. Also, when a flurry of admissions came in, they struggled to find out how many patients were still to be admitted and where the priority cases were.

Since early 2008, however, a Cisco unified communications system that incorporates wireless phones and a wireless network, and technology that makes it possible to send messages between the trust's patient administration system and the wireless system, have been used to remove many of these inefficiencies and frustrations.

"The bed managers can now take the call from the GPs to say that they are sending in a patient with a set of symptoms and relay that information, as well as age and gender, to the appropriate on-call doctor," says associate director of IT Sue Rushbrook.

Keeping track of times

"Previously, unless there was an exception and the GP called to tell them about the forthcoming admission, the doctor wouldn't hear of the new patient until they were on the ward," she continues. "Now they get a text telling them to expect a new patient and another text once the patient arrives at the ward."

With the pending admissions now posted and arrival times recorded on the system, it is supporting improvements to both the clinical and administrative processes. Because information about the decision to admit, arrival times and symptoms are readily to hand, medical staff are much better able to schedule their work and respond more promptly.

The tie-in between the wireless network and patient administration system also allows the hospital doctors to look at any past medical history and gives them access, via a community of interest network, to the summary care records of patients from York and Selby.

Under the former arrangements, while no records were kept of how long new patients waited, some of the more extreme and worrying cases were running beyond a matter of just a few hours.

'Now doctors on call get a text telling them to expect a new patient and another text once the patient arrives at the ward'

"Anecdotally we know that patients on average were waiting longer before," says Ms Rushbrook. "There were also concerns that patients were not handed over as well as they could have been."

The trust has set itself four hours as the longest a patient should have to wait between admission to the ward and being medically reviewed. With data on screen the bed manager is able to plot and follow the time of a number of events, starting with the call from the GP, then the doctor's acknowledgement that their patient is waiting to be seen and ending with medical review.

Where the system also makes a difference is in its ability to assist with sudden peaks in demand and the resulting increased complexities of bed management.

Ms Rushbrook says: "We now have a relatively robust monitoring and escalation policy in place. We have been able to develop this because we can see centrally if numbers of admissions are starting to grow, while the registrars – who have the same wireless phones as the other doctors – can also maintain a watchful eye as a change in circumstances emerges. During those periods when we may become especially busy and patients are starting to be kept waiting the bed manager has recourse to escalate it up to the consultant firms."

This also allows the bed manager to gauge more accurately fluctuations in capacity and instances where bed spaces may need to be freed up. Administrative burden on frontline staff is also reduced because basic personal details have already been taken and entered into the system.

The trust is now developing software that will allow them to take further advantage of the wireless network and phones.

"If we can use the technology so that we know what the doctors' workloads are, where they are currently positioned in the building, and in relation to pending priorities, we will be able to allocate further work in a more efficient and effective manner," says Ms Rushbrook. ●

ALAN MAYNARD
ON TIMES OF TROUBLE

Economics is concerned with the best allocation of scarce resources to competing activities – in health, it means choosing the investment option that gives the greatest health benefits for patients at the least cost.

The problem of choosing between competing options is pressing as the NHS faces years of parsimony. In healthcare policy making there is always a choice, including doing nothing. Sadly, managers can be narrow minded and, instead of challenging current practice, continue it by insulating roles and jobs that could be carried out differently and more efficiently.

Here is a sample of issues where the appraisal of the costs and benefits of alternatives may improve transparency, value for money and organisational solvency.

The 2004 contract for GPs introduced practice payments for achievement in the quality and outcomes framework. This was extremely expensive, much of it was delivered by nurses and the population health gains were modest if not minimal.

There are some nice options for change in primary care. First, it could largely be delivered by nurses, who, for most activities, are just as efficient as GPs and are cheaper. Instead of reducing list size, as advocated by the British Medical Association to provide unevidenced improvements in quality, list sizes could be doubled or trebled with nurse substitution.

The 2004 consultant contract was very expensive too and produced no evidenced activity and quality gains. Substitution is possible in several areas. For instance, new cancer screening activity could be provided by nurse endoscopists. Nurses could also substitute for anaesthetists and radiographers could take on more of the work of physician-radiologists. Graduates are being used to deliver cognitive behavioural therapy with little extra training – they may be efficient substitutes in hospitals.

Do health visitors have to be nurse-trained, or can briefly trained graduates provide a cost-effective service? Midwives can carry out many tasks provided by obstetricians: can we substitute again? To what extent can healthcare assistants replace nurses on wards? In all these areas there is scope for economy if decision makers appraise options rather than blindly following current practice.

Has technology appraisal become too complex? The National Institute for Health and Clinical Excellence now has roles (for example, developing an evidence base for the GP quality and outcomes framework) and increased budget. Traditionally, it has carried out sophisticated technology appraisals, on average taking two years and costing £250,000. It will now do quicker appraisals to inform primary care trusts more rapidly. Yet this duplicates the work of the Scottish Medical Consortium, which appraises new technologies within six months and offers advice (not "mandatory guidance" like NICE) to the local NHS. There appears to be little difference in the advice of NICE and SMC. Do we need both? Should the English, Welsh and Irish "freeload" on the Scottish taxpayer and use SMC guidance?

Is the purchaser-provider split efficient? Introduced by the Thatcher government and "redisorganised" by Blair-Brown, does it deliver evidenced benefits that make its costs acceptable? Government likes to assert that the management costs of the NHS are low at 3-4 per cent of the budget. This myopic measurement uses a narrow definition of management costs; the actual cost when all administration and support staff are included is nearer 15 per cent.

How much is spent on management in your organisation? How do you manage the intensity of meetings? Meetings consume large amounts of management time. Do you cost these? For example, does the board of directors meeting cost £3,000 or £5,000 per month and what benefit is produced by it and the plethora of other meetings in your organisation? "Committees talk" – what else do they produce? The efficiency of committees is a product of the quality of papers. These should focus on options for change in relation to the topic under consideration. This requires consideration of routine data. For example, national data shows some consultants have significant levels of on-the-job leisure, ie their activity levels are low. Without use of such data, how can boards determine whether a new consultant post is warranted or is mere duplication to compensate for an idle colleague?

> **"Primary care could largely be delivered by nurses, who, for most activities, are as efficient as GPs and are cheaper"**

Economists are not just interested in costs; that is the role of the finance director. Economists are not merely interested in benefits; that is the role of the doctors, although few have systematic, comparative data about whether patients get better!

The economists' role is to demand a clear definition of the issue and analyse costs and benefits of options for change. They demand to be told by managers and practitioners "what are you trying to achieve?" Answers to their simple questions are the precursor to using evidence and data to illuminate the costs and benefits of alternative ways of achieving the organisation's aims.

Most NHS activity is focused on the quality of living. But we will all die. How much resource should be invested to improve the quality of dying for the patient and the family compared with spending on objectives such as the 18 week elective target and four hour accident and emergency waiting time target? Will there be net savings if patients' wishes are met and instead of dying in hospital they die at home with supportive health and social care?

Health economists have influenced NICE appraisals and the construction of budget allocation formulas. The scope for wider application of their skills is obvious. This requires increased economic literacy among managers and a career structure for economists in the NHS. Adventurous colleagues in the North West and South Coast SHAs have seen the light and are investing while their compatriots doze in the face of increasing turbulence in NHS funding.

Collaborative application by managers and economists of economics techniques is urgently needed to protect patients. ●

Professor Alan Maynard is director of the health policy group at York University.

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