WALLET OR WEB?

Giving patients access to their medical records is generally accepted as beneficial, but as **Michael Cross** reports there is much less agreement on how this should be achieved

The debate over the electronic medium through which patients will view their health records has gained heat with a set of announcements by a private venture. Backers of the Health eCard, which stores patient records on a smart card the size of a credit card, are overtly citing public concern about the troubled programme to computerise the NHS in England as a reason for patients to pick smart cards rather than the official NHS web channel for access to their records.

Although both sides say they can coexist, the debate illustrates a worldwide battle of media for providing patients and clinicians with access to electronic patient records. The essential divide is over whether records are best stored on smart cards or similar computer memory devices carried by patients¹ or inspected online through the internet or dedicated kiosks in, for example, general practice waiting rooms.

In general, the web is favoured in the US, where software giant Google recently followed its rival Microsoft in announcing trials of an internet based health records service. But support for health cards is strong in Europe, where several governments are

issuing citizens with identity cards designed to hold medical data.

The NHS, after an early experiment with cards, has adopted the web route as part of the national programme for information technology (IT) in England. Patients of three primary care trusts in England are being offered the chance to view their summary health records through the HealthSpace website, run by the IT agency Connecting for Health. So far, only 375 people have enrolled; their experiences will be evaluated this spring as part of the slow process of winning acceptability for the shared electronic record being created under the national IT programme.

Card proponents

The Health eCard, promoted by a privately held London company Health eSystems, aims to leapfrog HealthSpace by offering patients with particular medical needs—or qualms about the NHS project—a complete electronic record that they can carry in their pocket. As with HealthSpace, it can claim only a tiny number of users; 212 people have bought cards since the service was launched last summer, says Andy Zneimer, Health eSystems' head of marketing. The eCard costs £39.50 (€52; \$80), £10 of which goes to the general practice. The system downloads and stores medical histories, including test results, referral letters, and digital images such as medical resonance imaging scans from the most widely used general practice computer systems and allows them to be displayed on any computer with a USB (universal serial bus) socket.

One early adopter, St Albans general practitioner Julian Godlee, says the system could be a boon for people with complex medical histories or frequent travellers, for whom fast access to medical records in any place and any time could be critical. "The Health eCard will undoubtedly save a life one day."

Makers of smart card systems have promoted the technology for the past 20 years as the logical repository for health records. Several European state health systems are issuing them to patients. So far, however, they serve mainly as keys to prove patients' entitlement. (The

NHS has issued clinical staff with identity smart cards.)

The longest established scheme is France's Sesam-Vitale. The card, in use since 1998, links more than 223 000 healthcare professionals with the health insurance system. The latest version of the card, Vitale 2, carries basic health data and is updated by pharmacists every time a drug is prescribed.

In Spain, Andalucia has issued electronic smart cards to enable the booking of medical appointments and do away with paper prescriptions. Bulgaria is also testing smart cards as an aid to electronic prescribing. In October last year, trials began of a system also called eCard as part of a secure communications infrastructure through which the health ministry intends to offer access to personal health records.

Smart card enthusiasts say that the technology offers a secure way for patients to view their entire record, rather than a summary, and to keep control over who sees it. In its latest promotional material, Health eSystems is capitalising on uncertainty about the NHS Care Records Service by contrasting the Health eCard with the "NHS's £12 billion portal." "The Health eCard provides patients with a non-web-based, viable and practical working alternative today."

Counterarguments

For its part, Connecting for Health is vigorously defending the web channel's merits. Gillian Braunold, a clinical lead at Connecting for Health, says that smart cards may have a role, but have inherent flaws. "A smart card is only as up to date as the last time you were in the surgery." HealthSpace's record, by contrast, will be continuously updated by any NHS organisation dealing with the patient. "It also depends on you having it with you when you fall ill." Hospitals may also be reluctant to plug cards into IT systems lest they introduce software viruses or other malicious code.

Mr Zneimer admits that the eCard, which

is being tested by 10 general practices in London and the southeast, has "not made much progress in secondary care." The system's novelty and inadequacies of NHS hospital computers—generally regarded as several years behind those used by general practitioners—may be to blame.

Data security

One debate certain to attract attention in the current climate is over the relative security of web and card systems. Mr Zneimer says that data on the card are encrypted and can be viewed only by someone with both the card and the right "pass phrase." Any web based system is "open to being abused," he says, because all that is needed is the authentication code. Dr Braunold counters that procedures for validating HealthSpace users' identities meet the highest possible security standards. Before being allowed to view their summary records, patients must present identity documents, countersigned as for a passport application, at their surgery. They then receive through the post an activation code that must be used along with a uniquely numbered card of randomly generated security codes. All attempts to access the record are logged and audited.

These procedures, Connecting for Health says, are far tougher than the norm of authenticating the identity of NHS patients. Officials are considering plans to make HealthSpace the normal gateway to all NHS services, such as booking appointments.

Another vote of confidence for web based records came last month from the US software firm Google, best known for its web search engine. In a widely predicted move, it announced it was following rival Microsoft in creating an online system for storing and retrieving electronic medical records. Up to 10 000 volunteer patients at the Cleveland Clinic will have their health profile including information about prescriptions, allergies, and medical histories stored on the web and potentially accessible by anyone with the

right password. "We believe patients should be able to easily access and manage their own health information," the not-for-profit hospital said in a statement to the press. Microsoft last year introduced a similar service called HealthVault. Both services are offered free to users, a business model which suggests the companies intend to exploit information gathered from patients commercially.

Where all parties agree is that helping patients to view and understand their records could have great benefits in engaging them in their health care. Amir Hannan is a Cheshire general practitioner and a founder of the Records Access Collaborative, a group of general practitioners promoting a system that allows patients to view their records in a kiosk or on the web. He calls for a "paradigm shift" in health care, with patients enabled to access raw data about their health and treatment and compare it with good practice so they can understand how conclusions have been drawn and what needs to happen next. "Patients can then plot their own personal care pathway for themselves."²

The outcome of the contest between card and web systems is still uncertain. All contenders are aware of the potential damage that could be done by a security leak and are proceeding cautiously. In Britain, the NHS faces a special problem because of the damage done to the government's credibility as a custodian of sensitive data by last November's loss of two CDs containing unencrypted details of the financial records of 25 million families.

The best prediction, however, is that patients will adopt a mix of all access technologies—including exercising their right to opt out of a shared NHS record entirely—according to their health circumstances and lifestyles. One certainty is that the medical profession needs to be prepared for a rise in the proportion of patients asking to see their records, perhaps an exponential one. "Patients are legally entitled to their records and somehow or another, such high tech developments will come to us all eventually," Dr Godlee says.

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- 1 Cross M. House of cards. *BMJ* 2007;334:772-3.
- 2 Hannan A. The paradigm shift in healthcare: overcoming challenges in giving patients access to their electronic records. *J Communication Healthcare* 2008;1:7-19.