What Happened to the Medical Smart Card?
Richard Krohn, MA, MAS

For several years now, we’ve been hearing about the imminent deployment of a portable, multifunctional, accurate, read/write credit card-shaped personal medical record. Using chip and web technologies, the card can authenticate users, enable better clinical decisions, accelerate workflows and transactions, collapse the receivables cycle, features multimedia storage capabilities, and, most important, is cheap to produce and operate on a broadcast basis.

Smart card technology has been trumpeted as a natural fit with healthcare, particularly as card features continue to expand and the technology matures. This includes sophisticated security features such as digital tokens, biometric identification, and public key infrastructure encryption, which meet HIPAA standards for data security and patient privacy. Multi-application cards can, it is claimed, capture, store, and retrieve sensitive patient information, patient demographics, and insurance information, and can support multiple transactions, including insurance verification and claims submission. A complete, up-to-date patient medical record can be accessed from any web-enabled location by using the digital “key” feature of the card.

That’s understandable, because, to date, the economic rationality of the card is still unproven, and a compelling ROI remains elusive. Several pilots in both the public and commercial sectors have been well received, but most have quietly expired without striking sparks. The direct-to-consumer marketing angle is even more uncertain — witness the American Express track record with its Blue card — millions of dollars in advertising, giveaways, and incentives spent to prime the pump of consumer demand, and still the card is struggling to gain acceptance.

Sounds great, as long as it’s easy to implement, easy to maintain — and somebody else is going to pay for it. And there’s the rub.

Smart card applications in healthcare are the subject of debate, as critics ask what can be done with a smart card and its associated infrastructure that cannot be done more cheaply in a network environment. In most cases, card features and capabilities can be duplicated by more cost-effective means — and there is no “killer app” to drive user demand. Standards and interoperability have also been obstacles. Competing operating systems like JAVA and MULTOS, as well as competing card architectures like chips, laser imprint, bar code, and biometrics have fueled industry concern about investing too early in the technology.

Still, the smart card concept makes sense, particularly if it can mature into the type of clinical and business transaction tool that will finally attract a paying customer. But to gain widespread acceptance, the card and wraparound infrastructure must be vendor neutral and must support multiple applications. Recognizing this, the smart card industry is moving towards open systems architecture, and this interoperability capability removes a key barrier and could serve as a catalyst of fresh interest in the medical applications of smart card technology.

So where, if anywhere, are smart cards gaining traction in healthcare? There have been a number of state and federal pilots targeted to the uninsured and WIC programs, HMOs and the Blues have expressed polite interest, and some entrepreneurial ventures have established tentative footholds in the provider space, but the real commercial success of smart cards in the healthcare industry has been limited to cooperative ventures with state judicial and behavioral health agencies. California, for example, has instituted a program that requires nonviolent drug offenders, as an alternative to incarceration, to enroll in drug treatment programs. In this program the card serves as the monitoring device to ensure that the terms of probation are being met, and that a coordinated program of rehabilitation between law enforcement, social workers, and healthcare providers can be brought to bear for each offender.

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Throughout the industry to deploy a practical commercial device. Common standards, widespread adoption of card readers and card-centric processing, resolution of privacy concerns, economic rationality, and the active cooperation of payers, providers, and patients are all criteria that must be satisfied — more or less simultaneously — for the medical smart card to gain a sustainable foothold in the commercial space. There is another possibility: the government could deploy smart card technology to serve a pressing need — a national driver’s license or Medicare drug card, for instance. In fact, it’s already happened: the U.S. military has taken the lead in distributing smart cards among its ranks, which will place the smart card in the hands of four million servicemen and servicewomen by next year.

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The California and DOD programs provide a glimpse at how smart cards might crack the code of the healthcare industry. But, for now, the medical smart card remains a curious example of technology on the launch pad in search of a customer. The industry-wide preoccupation with HIPAA and general industry skittishness about cost and value will keep smart cards at the fringe of healthcare operations for the next year or two. But if stakeholders cooperate and price, standards, and functional hurdles can be overcome, the medical smart card may yet catch fire in U.S. healthcare.

About the Author
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