



# The TIGER Initiative



Consumer Empowerment and Personal Health Records:  
*Recommendations from the TIGER Consumer Collaborative Team*



# Overview

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The TIGER Initiative, an acronym for Technology Informatics Guiding Education Reform, was formed in 2004 to bring together nursing stakeholders to develop a shared vision, strategies, and specific actions for improving nursing practice, education, and the delivery of patient care through the use of health information technology (IT). In 2006, the TIGER Initiative convened a summit of nursing stakeholders to develop, publish, and commit to carrying out the action steps defined within this plan. The Summary Report titled *Evidence and Informatics Transforming Nursing: 3-Year Action Steps toward a 10-Year Vision* is available on the website at [www.thetigerinitiative.org](http://www.thetigerinitiative.org).

## A COLLABORATIVE APPROACH

Since 2007, hundreds of volunteers have joined the TIGER Initiative to continue the action steps defined at the Summit. The TIGER Initiative is focused on using informatics tools, principles, theories and practices to enable nurses to make healthcare safer, more effective, efficient, patient-centered, timely and equitable. This goal can only be achieved if such technologies are integrated transparently

into nursing practice and education. In order to meet the demands of an increasingly electronic and rapidly changing healthcare environment, it is essential to address the educational needs of the nursing workforce.

Collaborative teams were formed to accelerate the action plan within nine key topic areas. All teams worked on identifying best practices from both education and practice related to their topic, so that this knowledge can be shared with others interested in enhancing the use of information technology capabilities for nurses. Each collaborative team researched their subject with the perspective of "What does every practicing need to know about this topic?" The teams identified resources, references, gaps, and areas that need further development, and provide recommendations for the industry to accelerate the adoption of IT for nursing. The TIGER Initiative builds upon and recognizes the work of organizations, programs, research, and related initiatives in the academic, practice, and government working together towards a common goal.

## THE COLLABORATIVE REPORT

This report provides the detailed findings and recommendations from the TIGER Consumer Empowerment and Personal Health Records Team. For a summary of the work of all nine TIGER Collaborative Teams, please review "*Collaborating to Integrate Evidence and Informatics into Nursing Practice and Education*" available on the website at [www.thetigerinitiative.org](http://www.thetigerinitiative.org)

The TIGER Consumer Empowerment and Personal Health Records Team analyzed the importance of electronic personal health records (ePHRs) and the need for the knowledge and usage of this technology by nurses. This report describes the background, findings, and recommendations for future work in this area.

# Executive Summary

The personal health record contains information of an individual's health over a course of time. The electronic health records are an empowering technology as they can be used to provide customized information about one's diagnoses or medications, or personalized reminders for preventive tests and treatments. They are beneficial as they help improve patient safety, provide better education and decision support and communication and support services with their physicians. The PHR attributes are that they capture lifelong health record from all sources and is accessible from any place. PHR also enables information to be exchanged among providers.

Since patients find the electronic personal health record to be empowering it becomes necessary for nurses to understand how to interact with them and promote its use. When nurses are familiar with the usage of the PHR, it can provide means for improving health and managing illness. The TIGER's collaborative Consumer Empowerment and Personal Health Records emphasized adding the usage of PHR to the nurse's curricula. Through this nurses can contribute to the development of consumer health informatics and PHR through

their deep expertise in patient education, strong ethic of cultural sensitivity, extensive background in both individual and community-focused assessment, treatment and research and their long heritage of patient advocacy.

There are new types and offerings of the PHR available which vary in cost. Even though the ePHR's are beneficial, there are barriers to their adoption. People lack awareness and they are worried about its privacy and security. The lack of interoperability and portability also acts as a barrier.

To improve the usability of the electronic personal health record, there are usability principles that have to be adopted while building the record. The concerns of privacy and security that act as a barrier to the use of the records can be mitigated by the use of standards. Several government and private organizations are developing guidelines and standards for ePHRs that are intended both to guide the consumer in selecting a product, and to spur developers to create products that meet minimum criteria. The PHR is indeed a boon that will assist in efficient and effective healthcare delivery.

# Background

## What is an Electronic Personal Health Record (ePHR)?

The American Health Information Management Association (AHIMA) defines the personal health record as the following:

*The personal health record (PHR) is an electronic, lifelong resource of health information needed by individuals to make health decisions. Individuals own and manage the information in the PHR, which comes from healthcare providers and the individual. The PHR is maintained in a secure and private environment, with the individual determining rights of access. The PHR does not replace the legal record of any provider (AHIMA, 2005).*

At the simplest level, a personal health record is simply an aggregation of one's health-related information obtained from many sources over the course of one's life and its content varies from person to person.

A survey by Forrester found that the five most common types of information that people kept in a PHR were as follows:

- Insurance information, such as policy numbers
- Physician/specialist contact information
- Personal information such as contact information, social security number
- Current prescribed medications
- History of insurance claims, payments, and health expenses.

The next three categories were the list of illnesses and surgeries, followed by immunization records and past lab results (Bishop, 2006).

According to the AHIMA working group, the major attributes of a PHR are:

- The individual person controls the PHR and access to it.
- The PHR captures a lifelong health record from all sources.
- The PHR is private and secure.
- The PHR is accessible from any place.
- The PHR enables information to be exchanged among providers.
- The PHR is transparent and contains an audit trail (AHIMA, 2005)

## The Emergence of Personal Health Records as an Important Topic in Healthcare

Although software products to support electronic personal health records have been in existence for over a decade, this topic has seen a surge of interest in the past few years. Now, hardly a day goes by that doesn't see an announcement, article, or other publication whose major topic is personal health records. Our group found ample evidence of this from references to the following events:

- On July 1, 2003, The Markle Foundation's Connecting for Health: A Public-Private Collaborative published the Final Report of The Personal Health Working Group. In that report, they presented their definition and vision of the PHR. Many subsequent developments have been based on their definition of personal health records:

*The Personal Health Record (PHR) is an Internet-based set of tools that allows people to access and coordinate their lifelong health information and make appropriate parts of it available to those who need it. (Markle Foundation, 2003).*

- In 2003 the Department of Veterans Affairs announced its intent to develop a PHR as part of My Health-eVet. After successful pilots in several regions, implementation is

now available nationally, and has over 500,000 registrants (U.S. Department of Veterans Affairs, 2003; Office of the National Coordinator, 2008).

- In 2004, President Bush expressed his vision for an electronic health network linking doctors, hospitals, and patients. One element of his plan included the creation and adoption of electronic personal health records for patients.
- In the aftermath of the 2005 hurricanes, a program called KatrinaHealth was created to rapidly develop electronic health records for those displaced by the hurricane. Through collaboration between AAFP, Intel and others, every New Orleans resident was offered a free electronic PHR (Mosquera, 2005).
- On October 11, 2005, the Markle Foundation published the results of a large national survey on Personal Health Records, reporting that a large majority of Americans favor having interoperable health records that they themselves control (Markle Foundation, 2005).
- In 2005 the Centers for Medicare & Medicaid Services released a report on its Request for Information regarding its role with PHR's. In June 2006, it awarded contracts to two vendors to pilot user-friendly PHR's to be generated from its claims data. In its third pilot series, it will select four vendors to test downloading Medicare claims data into commercial PHR's (Ferris, 2008).
- In October, 2005, the Commission on Systemic Interoperability published "*Ending the Document Game*," a report that reflects the intention for every consumer to have an interoperable electronic personal health record within a decade (Commission on Systemic Interoperability, 2005).
- In April 2006, the AARP Public Policy Institute published a report describing personal health record applications available to the public (Cronin, 2006).
- In 2006, the National Health Council, as part of its "*Putting Patients First*" initiative announced a project for "*Engaging Communities to Promote Electronic Personal Health Records (EPHRs)*." It will pilot initiatives in three states to educate the public about the benefits of personal health records, in the belief that greater adoption of PHR's would ultimately benefit the health and safety of those who use them (National Health Council, 2006).
- In May 2006, America's Health Insurance Plans (AHIP) and Blue Cross Blue Shield Association announced a coalition to develop standards for an interoperable personal health record for its members, potentially representing 200 million Americans (America's Health Insurance Plans, 2006)
- In June 2006, a group of technology, healthcare and fitness companies formed the Continua Health Alliance, an open industry group that will establish an ecosystem of connected personal health and fitness products and services, making it possible for patients, caregivers and healthcare providers to more proactively address ongoing healthcare needs (Continua Health Alliance, 2007, 2008).
- In late 2006, the Robert Wood Johnson Foundation's Project Health Design awarded 18-month grants to nine interdisciplinary teams to develop prototype systems with advanced functionality for specific populations of users (Project Health Design, 2007c)
- In 2006, the National Library of Medicine released its Long Range Plan for 2006-2016 which included a strategic vision of patient health records as evolving toward "multimedia personal health knowledge bases" (National Library of Medicine, 2006)

# Advantage of PHR

## Why ePHRs are an Empowering Technology?

Our work focused on electronic PHRs (or ePHRs). While it is certainly not necessary to use technology to record and store one's personal health record, there are many benefits to using technology for this task. For example, software applications that support the gathering of data for one's PHR can also use that information to provide customized information about one's diagnoses or medications, or personalized reminders for preventive tests and treatments such as flu shots. Indeed, the Robert Wood Johnson's Project Health Design sees the record and its associated tools as a PHR "system" that enables consumers to "help people lead healthy lives and become engaged participants in their care" (Project Health Design 2007a, 2007b). Specifically, PHRs help to empower consumers in the following ways:

- **Patient Safety:** Consumers are only too aware of the fragmentation of the current health care system. According to a 2007 Wall Street Journal/Harris Interactive poll, "only one third (33%) of adults are very confident in their physicians and other healthcare providers having a complete and accurate picture of their medical history" (Harris Interactive 2007). In fact, many errors occur because individual professionals are not fully aware of all the therapies that the patient is receiving or has received (Ghandi et al 2003). A comprehensive personal health record maintained and made accessible by the patient is one defense in a fragmented health care system (Cain and Clancy, 2005; Tang et al 2006). In addition, in an emergency situation where the patient is unable to communicate, a personally carried PHR abstract that describes allergies, current diagnoses and medications can make the difference

between life and death (Wolter and Friedman, 2005).

- **Education and Decision Support:** Many PHR systems offer vetted educational information about diagnoses, medications, drug interactions, tests and procedures written in language that is appropriate for non-medical consumers and linked to the user's own record. Some also provide access to health-related news services, often tailored to the consumer's stated interests. *The Harris Poll shows that over 80% of people who are online use the internet for retrieving health information, and on average, they do so almost 5 times per month (The Harris Poll, 2008).* When a PHR system offers vetted information in consumer-oriented language, tailored to the consumer's health interests, improvements in health literacy and personal engagement in one's health may result. Other educational and decision-support features that may be provided in a PHR system include:
  - Decision support tools such as smoking cessation, decisions trees for when to see doctor for a problem, etc.
  - Ability to enroll in on-line educational programs based on medical history/current conditions
  - Information about local healthcare providers or insurers
  - Health risk assessments and personalized suggestions for lifestyle changes
  - Health tips for foreign countries and diplomatic contacts
  - Medical glossary (with translation to vernacular)
  - Clinical trials information with eligibility information and links to contacts for enrollment

- **Calls to Action:** Some PHR systems allow the user to specify reminder times for medications or for recording findings such as blood pressure or spirometry. These reminders can be routed to the user's pager or cell phone. Some systems remind users when it is time to get a flu shot or other appropriate preventive tests and procedures such as mammogram, colonoscopy, etc. *If such calls to action result in greater compliance, they could theoretically lead to prevention or earlier detection of disease and improved personal and population health.*
- **Communication and Support Services:** A Harris Interactive Poll found that the majority of patients (74%) would like to be able to communicate directly with their physician, and similar majorities would like to have access to other communication services such as test results via email, ability to schedule appointments, and ability to upload home-based medical information (such as blood pressure, blood sugar, etc.) (The Wall Street Journal Online/ Harris Interactive Health-Care Poll, 2006). A survey conducted by Deloitte found very similar results (Deloitte, 2008). Yet these polls and others show consistently that fewer than 25% of physicians offer such services to their patients. In some instances, support services that might be offered (particularly in an HMO environment) include access to a 24-hour nursing line or access to a health coach to set personal health goals.
- **Integration with the Electronic Health Record:** *Many believe that the most benefit of a personal health record is gained when the PHR is "tethered," or integrated with physician's electronic health record (EHR) (Tang et al, 2006).* The reason for this is that while the patient is the best source for history, symptoms and data recorded in the home, information generated by professionals is best recorded by professionals, and more likely to be accepted by other professionals. In this integrated model, one additional benefit is that the patient can view the information recorded by his or her professional caregivers, and can correct information when that is necessary.

These and a variety of other services combine to provide the user with a customized environment for managing their health and becoming a more active, engaged, and empowered consumer.

# Nurses and PHR

If the ePHR is a tool that promotes patient empowerment and supports the patient's engagement in their own health care, then *nurses as healthcare professionals and patient advocates are obligated to become familiar with the technology and to promote its use when the technology is available and the patient is amenable.* Tang and colleagues assert that education in the health professions for all disciplines should include information about ePHRs as well as methods for teaching patients how to use them (Tang et al 2006). Certainly it is a major objective of TIGER's Collaborative 9 to make information available to nurses about ePHRs and to encourage inclusion of this content into nursing curricula.

*Nurses who specialize in informatics should have advanced education about ePHRs, including elements of design, usability, interoperability, available tools and products, implementation, maintenance, integration with EHRs, privacy, security and authentication (Tang et al, 2006).*

The Scope and Standards of Nursing Informatics Practice were augmented by the American Nurses Association to include patient use of technology for decision making [American Nurses Association, 2008]. The revised Scope and Standards make several explicit references to patients' use of technology for managing their health, and the role of nursing informatics specialists in supporting that function. For example, the patient is now included as a focus of education about effective and ethical uses of technology, and the patient's use of information tools and resources for health information is included as a focus for nursing informatics research.

Nurses who enjoy using the technology to support nursing care can find new niche roles for themselves in tele health, home care, case management and population health using ePHR and communication technologies.

When nurses are familiar with the usage of the PHR, it can provide means for promoting health and managing illness. They can also encourage and enable patients to use this technology.

Nurses can contribute to the development of consumer health informatics and PHR through their deep expertise in patient education, strong ethic of cultural sensitivity, extensive background in both individual and community-focused assessment, treatment and research and their long heritage of patient advocacy and patient empowerment.

Thus it becomes essential for nurses to be trained to use the PHR.

# Currently Available ePHR Products

## Types of Offerings

Just as there are many definitions of ePHRs, there are many types of products available to the consumer. One common way of characterizing ePHRs is by describing whether it is “tethered,” “interconnected,” or “standalone.” (Tang et al, 2006). *A tethered PHR is one that is offered by the consumer’s healthcare provider, insurer, or employer. Information may be pre-populated with data generated by the sponsor (such as lab test results, claims, etc.), and supplemented by the consumer. An interconnected PHR is one where a service provider gathers data (with permission of the subscriber) from all various sources and stores it in a central location, with the subscriber granting access as appropriate to family and healthcare providers (Jossi 2006). The standalone PHR is one where only the subscriber enters information. Privileges can be extended to others to see the record, or the record can be printed at will.*

Kaelber and colleagues envision a “hub and spoke” system where the patient-controlled record is the hub, with information exchanged as appropriate between the PHR and the records of healthcare providers, payers, laboratories, pharmacies, radiology services and personal devices (Kaelber et al, 2008). Such a system does not yet exist, due to many issues including interoperability of automated systems, lack of a clear business case, cost, and security and privacy concerns.

## Costs to the Consumer

Costs also vary widely, ranging from nothing (for most tethered applications) to several hundred dollars per year for subscription services that gather information from various sources to populate the central record. Some offerings charge only for certain services, such as “online visits” with the physician.

## Use and Usage

Though hundreds of thousands of consumers have access to an ePHR through their physician, health system, insurer or payer (Jossi, 2006), and most polls reveal that when asked, consumers think that the idea of a personally-controlled, longitudinal PHR is a good thing (Markle, 2005; Deloitte, 2008), actual usage of ePHRs is very low. *A 2007 poll by Harris Interactive showed that only 3% of respondents said they use an ePHR either on their own computer or on the internet (Harris Interactive, 2007).*

The Markle Foundation’s Connecting For Health survey of June 2008 found that only 2.7% of respondents said they had a personal health record, though nearly half expressed interest in using one, and the majority agreed with each of several benefits cited (Connecting for Health, 2008a). Even with aggressive marketing, some health systems and HMOs report a usage rate of their sponsored ePHR only in the vicinity of 15% or so (Jossi 2006).

## Innovations

A number of innovations, real, planned and envisioned, show the promise of how personal health records can evolve to become a more valuable tool for consumer activation in their own health:

- In late 2006, the Robert Wood Johnson Foundation’s Project Health Design awarded 18-month grants to nine interdisciplinary teams to develop prototype systems with advanced functionality for specific populations of users. One of the requirements was that the prototype must be interoperable with the other grantees’ applications. Among the innovations: a “conversational assistant” that *engages patients with heart disease to record symptoms in natural*

language and to interpret the findings; a child-focused personal medication management system with customizable, age-appropriate “skins;” and a system that uses biosensors to monitor physical activity of sedentary adults and generates a customized plan that increases activity levels consistent with their lifestyle (Project Health Design, 2007c).

- **Yasnoff (2008) has described a concept that is gaining traction: the “health record bank.”** In this system, each person would be provided with an “electronic account” where all providers of health services to an individual would “deposit” copies of their transactions with that person into a central repository. Account holders would grant access to appropriate people to make “withdrawals,” as the consumer sees fit. **At this time, a few states are experimenting with the concept, including Louisiana, Washington State, and Oregon (Robinson, 2008).**
- **In Washington State, patients themselves designed a personal health record called the “Shared Care Plan” that enables them to engage fully with their care providers in managing chronic illness for themselves and for their family members (Pierson, 2007). Readers who are interested in touring the application can visit: [www.sharedcareplan.org](http://www.sharedcareplan.org).**

**The system supports a conceptual model of delivering care that is patient-centered. The Chronic Care Model was first developed by Wagner (2001) with funding from the Robert Wood Johnson Foundation. Its major elements are the**

**community, the health system, self-management support, delivery system design, decision support and, importantly, clinical information systems (Wagner, 2001; Improving Chronic Illness Care, 2008).**

- **Continua Health Alliance, after two years of developing guidelines for interoperability of home-care devices, personal health records and electronic health records, demonstrated the sharing of data among a variety of pre-certified products and solutions at a conference in October, 2008. With dozens of companies spanning the spectrum of health care, the Alliance claims as its mission to “establish an ecosystem of connected personal health products and services.” (Continua Health Alliance, 2008).**

# Barriers to the Use and Acceptance of PHR

Since the majority of persons believe that a personally controlled PHR is a good idea, and a very large number of people have access to an ePHR, why is actual usage so low? Many reasons have been proposed (Tang et al, 2006), including:

- **Lack of awareness:** Many people are not aware that they have access to an ePHR, and even if they are aware, they do not see the benefit of using it. *Often, the most motivated users of a PHR are those who have a chronic condition, or have multiple conditions and complex regimens (Carrell and Ralston, 2006; Forrester, 2006).* This may be because people who fall into this category have greater need for information and for communication and coordination with their family and their health care providers. Noting that lack of awareness is a significant barrier to adoption, the National Health Council began an initiative in 2006 to develop messages educating consumers about the benefits of ePHRs and promoting use of the technology (National Health Council, 2006).
- **Privacy and security concerns:** As was the case early in the use of online banking, consumer wariness over privacy and security are significant barriers to adoption. Connecting for Health found that of the people who said they were not interested in having a PHR, over half cited concerns over privacy (Connecting for Health 2008a). *Harris Interactive polls show similar results, with 40% saying that privacy risks outweigh the benefits of using an ePHR (Harris Interactive 2007).* Recognizing the need to address the issue, many public and private organizations

have promulgated policy statements and guidelines.

The Markle Foundation's Connecting for Health recently released its Common Framework for Networked Personal Health Information, proposing policy and technology principles that enhance the protection of privacy of information contained in ePHRs (Connecting for Health, 2008b). The framework was officially endorsed by a large number of prominent organizations, including very large healthcare systems, technology developers, consumer advocacy groups and payers (Connecting for Health 2008).

The Office of the National Coordinator of Health Information Technology released its own Nationwide Privacy and Security Framework for Electronic Exchange of Individually Identifiable Health Information, outlines principles that "are expected to guide the actions of all health care-related persons and entities that participate in a network for the purpose of electronic exchange of individually identifiable health information" (Office of the National Coordinator, 2008a). The Certification Commission for Healthcare Information Technology (2008) is developing standards for certification of ePHRs which will include criteria for safeguarding privacy of information stored in ePHR products.

- **Lack of Interoperability and Portability:** *For many, a major disincentive to use a personal health record is the amount of time needed to enter detailed information about diagnoses, medications and test results, especially when the language is technical and difficult to comprehend (Tang et al, 2006).* Interoperability, that is, the ability for disparate systems to convey

information to each other in computer-recognizable format, would greatly increase the convenience and efficiency of a personally-controlled record. However, very few physicians use an electronic record to begin with, and even when they do, they rarely are able to convey information to a patient's separate (i.e., "untethered") record system.

Even when insurers, employers or health systems do populate the user's tethered record with information generated from within (such as claims data and laboratory test results), the information is constrained to only what is generated by that system, making the record incomplete. Furthermore, it is usually not then portable when the user moves to another health system, insurer or employer. America's Health Insurance Plans has announced an initiative to develop standards for portability of insurer-generated claims data, a positive step for users of insurer-tethered PHRs (America's Health Insurance Plans, 2006).

- **Lack of Required Features:** In 2007 the National Health Council sponsored several meetings of representatives of patient organizations, health plan representatives

and patients. In those meetings, it became clear that the functionality described by the providers of ePHRs did not match the requirements of patients, many of whom had chronic diseases.

*Five major deficiencies were identified: disease-management tools that cover multiple co-morbidities; ability to track medication dosage in greater detail; ability to create end-of-life directives; ability to offer personal data for research; and ability to grant access to family members and professional caregivers (National Health Council, 2007).*

Yet, research has shown that persons with chronic diseases are among the most motivated to use an ePHR (Carrell and Ralston, 2006; Forrester, 2006).

The Robert Wood Johnson Foundation's Project Health Design asserts that today's ePHRs are only in their first generation, and that in order to truly assist people to manage their health, second-generation systems must evolve to meet the diverse needs of a population with varying levels of self-efficacy, health literacy, technical capability, and family and social supports (Project Health Design, 2007a).

# Usability Principles and Standards and Certification Requirements of the PHR

## Usability

According to Forrester, “*Usability and design drive customer satisfaction, word of mouth, and ultimately, growth*” (Bernoff, 2006). One complaint made by people who are unenthusiastic about ePHRs is that they can be difficult to use. Applications developed by technical experts, and even those designed by healthcare professionals, do not always take into account the needs and sensibilities of consumers, who may suffer from disabilities, lack of computer expertise, and poor health literacy. According to Forrester, technical products will be adopted when consumers “*can identify the benefits of those products and believe those benefits are worth the effort and cost*” (Bernoff, 2006).

Tang and colleagues assert that in order to achieve adoption, “*the developers and users of EHRs and PHRs must understand individuals’ and clinicians’ mental models of health care processes, and the related workflows.*” (Tang et al, 2006). There is a rich literature in usability principles for information systems, and some research has been done specifically on usability principles of patient-focused applications.

## STANDARDS and CERTIFICATION for PHR

Earlier we discussed that some of the barriers to greater adoption of ePHRs are concerns over privacy and security, lack of interoperability and portability, and lack of needed features. Several government, quasi-government and private organizations are

addressing these concerns by developing guidelines and standards for ePHRs that are intended both to guide the consumer in selecting a product, and to spur developers to create products that meet minimum criteria. For examples of these standards and criteria, the reader is referred to these entities and their publications:

- Office of the National Coordinator for Health Information Technology, 2008. Nationwide Privacy and Security Framework for Electronic Exchange of Individually Identifiable Health Information. [http://www.hhs.gov/healthit/documents/NationwidePS\\_Framework.pdf](http://www.hhs.gov/healthit/documents/NationwidePS_Framework.pdf).
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## Health Policy Trends Related to ePHR

The reader will already have discerned that a plethora of public and private entities are actively engaged in all aspects of electronic personal health records, from policy statements to guidelines to standards to active development of applications for consumer use. Many of the references already cited in the report provide evidence of this (Certification Commission for Healthcare Information Technology, 2008; Connecting for Health, 2008b; Ferris 2008; Health Level Seven, 2008; National Library of Medicine, 2006; Project Health Design, 2007b; U.S. Department of Veterans Affairs, 2003). In addition, the report from the Office of the National Coordinator for HIT not only describes an approach to HIT planning, but includes a wide-ranging description across all government agencies of current initiatives dealing with health information technology (Office of the National Coordinator, 2008b). That President-Elect Obama has also declared his intention to promote greater use of technology in health care only bodes well for the field (Brewin, 2008). The environment has never been more promising for the prospect of achieving electronic personal health records that are complete, accessible, affordable, easy to use, feature-rich, interoperable and secure.

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