serve as a platform for broadened coverage of the low-income population, but achieving this goal will require new policies that establish a minimum eligibility threshold for adults (including those without dependent children), promote greater access to primary care and equity in payment rates across payers, provide more automatic countercyclical federal financing during economic downturns, and restructure federal and state responsibilities to ensure that financing for coverage remains secure. These changes can help to alleviate the crisis in health care coverage and financing that we're now facing.

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Your Doctor's Office or the Internet? Two Paths to Personal Health Records

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Mary is 68 years old, has four chronic conditions, takes seven medications, and averages 12 visits per year to her six physicians. In between visits, she spends a lot of time on the telephone with them or their staff — making appointments, requesting prescription renewals and referrals, seeking test results, and asking questions that she forgot to bring up in person. Physicians' offices are becoming overwhelmed by the tasks and time required to address the needs of patients like Mary. As the baby boomers age and develop chronic diseases, the gap between patients' desire for information and physicians' ability to provide it is likely to increase. How will this gap be filled?

Two related but distinct options are emerging. One is a stand-alone personal health record (PHR), such as the Internet-based tools for patients developed by Google, Microsoft, WebMD, health insurance plans, and others.[1] Our bet, however, is that the other option, the "integrated PHR" that is an extension of physicians' electronic health records (EHRs), will go further in facilitating the type of physician–patient relationship that will improve health and health care, at a lower cost.

What if Mary could view her test results within hours after her blood was drawn? What if she could upload her home glucometer and blood-pressure readings so she could graph them and see how changes in her behavior affect them? What if her health care team received copies of her readings and could recommend dose adjustments for her medications? And what if it all happened without an office visit?

This scenario is no longer futuristic. Integrated PHRs are already used by millions of patients, and their adoption is reaching a tipping point in some regions of the country. For example, among the 250,000 patients in the San Francisco Bay area who receive primary care at a region of the Palo Alto Medical Foundation, 50% of adults use the group's PHR. Although most U.S. patients and their physicians still live in the world of paper medical records, the Obama administration has set a goal of computerizing all of America's medical records within 5 years as a means of improving efficiency, quality, and safety and ultimately saving money. The economic recovery package recently signed into law by President Obama will provide bonus payments of $44,000 to $64,000 to physicians who adopt and effectively use EHRs from 2011 through 2015, and it is likely that penalties will then be introduced for physicians who do not adopt the technology. These incentives will probably make the use of EHRs common among all but the most resistant physicians during the next several years. Among the many questions likely to arise during this transformation will be how the information in health records will reach patients.

There are several similarities between integrated PHRs and the stand-alone versions developed by Microsoft and Google. Stand-alone PHRs often start with data imported from sources such as administrative claims and pharmacy records, but some can also accept information from physicians' EHRs. In both types of PHRs, some information can be input directly by patients — either uploaded from home monitoring equipment or entered manually in nutrition, exercise, or other logs of daily observations.

But unlike the stand-alone models, integrated PHRs are essentially portals into the EHRs of patients' health care providers.[2] They can offer patients as much access to data, scheduling resources, and communication among members of the health care team as providers are willing to permit. Some physicians are wary of letting patients see laboratory results and book their own appointments, but provider groups around the country are pushing the envelope and giving patients access to information and the ability to share it with others.

We believe that the more access provided, the stronger the partnership that will be cultivated between patients and clinicians. For example, integrated PHRs offer a convenient way for physicians and patients to create a shared patient record and formulate a shared treatment plan.[2] PHR tools can help patients collaborate with their health care team in tracking and managing their own chronic conditions. Graphs of clinical measurements over time are particularly helpful to patients who need to correlate health-related behavior (nutritional intake, exercise, and adherence to medication) with results (glucose levels, weight, and pain assessments).

We believe that integrated PHRs — and the patient–provider partnerships they enable — will play a major role in influencing health-related behaviors that are crucial to improving U.S. health.

For patients attempting to choose between integrated and stand-alone PHRs, the advantages and disadvantages of the alternatives may be difficult to assess. Google and Microsoft are hoping that their robust technical platforms and large market presence can persuade major sources of data (such as pharmacies, laboratory operators, and health care organizations) to deposit patient information in their centralized repositories. Then they hope to attract third-party developers to provide applications that use this stored information. In the absence of widely adopted data standards for interoperability, however, even these large corporate entities are finding it challenging to import and combine the information in ways that preserve its meaning. Furthermore, the large repository companies have yet to exchange data with one another.

From a consumer's perspective, the lack of federal privacy protection for confidential health information stored by entities that are not covered by the Health Insurance Portability and Accountability Act (HIPAA), such as commercial PHRs and repositories, remains problematic. The formulation of public policy governing the reuse of patient information for purposes other than providing care lags behind the development and availability of large databases.[3]

If integrated PHRs are to have an expanded role in patient care and communication, there must be business models supporting their use. So far, the systems' costs are being underwritten by provider organizations, and the business case for their use in the fee-for-service health care environment is weak. For PHR use to be sustainable, reimbursement policies must provide rewards for "non–visit-based" care[4] that might improve health outcomes and lower costs by averting the need for visits and hospitalizations. So far, the Obama administration's focus has been on interoperable EHRs, and rightly so. However, we believe that integrated PHRs — and the patient–provider partnerships they enable — will play a major role in influencing health-related behaviors that are crucial to improving U.S. health.

Operators of stand-alone PHR repositories are counting on other ways of making money on their services. Google, for example, hopes to drive increases in its general search revenue by attracting people to its site to use Google Health. Other services, such as Microsoft HealthVault, may rely on revenue from third-party developers who use patient data in their applications. Since the American Recovery and Reinvestment Act of 2009 did not include vendors of commercial PHRs as business associates, except in very limited cir-

cumstances (such as when a vendor creates a PHR specifically for a covered entity), vendors such as Microsoft and Google are not covered by HIPAA. Microsoft says it will seek patients' consent before sharing data with third parties, but none of these application suppliers are covered by HIPAA. Whatever the business model for PHRs, lawmakers should require that the consumer user be clearly informed about the identity of the system's operator and the financial terms of any direct or indirect use of patient data.

It's difficult to predict what roles Google, Microsoft, and health plans will play in the PHR marketplace in the long run. There aren't major technical barriers to entry, but data sharing will require the development and adoption of technical and content standards — and a desire on the part of physicians and patients to contribute information to commercial repositories, with their growing contingents of third-party application developers. Since the majority of physicians still don't have electronic medical records, and patients often seek care outside their providers' delivery system, these standalone PHRs may serve as data intermediaries. However, if the Obama initiative to replace paper records with interoperable EHRs in the next 5 years succeeds, the landscape will change dramatically, and the need for intermediaries may disappear.

Users of integrated PHRs have demonstrated that creating shared records for patients and their health care team can enhance patients' ability to become active partners in their own health care.[5] This is a try-it-you'll-like-it type of innovation. As physicians increasingly adopt EHRs, we expect community interest in PHRs to grow organically. Ultimately, it will no doubt become difficult for physician groups to survive in the marketplace without them.

Dr. Tang reports serving on the Google Health advisory council. No other potential conflict of interest relevant to this article was reported.

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No Small Change for the Health Information Economy

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The economic stimulus package signed by President Barack Obama on February 17 included a $19 billion investment in health information technology. How can we best take advantage of this unprecedented opportunity to computerize health care and stimulate the health information economy while also stimulating the U.S. economy? A health care system adapting to the effects of an aging population, growing expenditures, and a diminishing primary care workforce needs the support of a flexible information infrastructure that facilitates innovation in wellness, health care, and public health.

Flexibility is critical, since the system will have to function under new policies and in the service of new health care delivery mechanisms, and it will need to incorporate emerging information technologies on an ongoing basis. As we seek to design a system that will constantly evolve and encourage innovation, we can glean lessons from large-scale information-technology successes in other fields. An essential first lesson is that ideally, system components should be not only interoperable but also substitutable.

The Apple iPhone, for example, uses a software platform with a published interface that allows software developers outside Apple to create applications; there are now nearly 10,000 applications that consumers can download and use with the common phone interface. The platform separates the system from the functional-

Two Paths to Personal Health Records | Two related but distinct options are emerging for electronic health records: the stand-alone personal health record (PHR) and the â€œintegrated | Find, read and cite all the research you need on ResearchGate.Â Two types of personal health records systems (PHR) have been implemented to provide patients access to their personal health records and enable them to actively manage their own health information [52]. One is the integrated PHR, which is an extension of physicians' EHRs or a portal to data stored in EHRs. Examining the decision to use standalone personal health record systems as a trust-enabled fair social contact. Article. Jan 2014. Abstract Personal Health Record is an emerging application of health information exchange that allows people to access and co-ordinate their lifelong health information. The patients privacy and security is important in the protection of healthcare privacy and at the same time the patient has control over access to their own PHR. However, there have been wide privacy concerns as personal health information could be exposed to those third party servers and to unauthorized parties. The important challenges are risks of privacy exposure, flexible access, and efficient user revocation.Â Your doctor's office or the Internet? Two paths to personal health records. N Engl J Med2009;360:12768. [13] Win KT, Susilo W, Mu Y. Personal health. Two paths to personal health records. N Engl J Med. 2009 Mar 26;360(13):1276-8. doi: 10.1056/NEJMp0810264.Â Patient Access to Records. Systems Integration. United States. PHR-S FM consist of three sections: personal health support of Health Security. False. A physician's office can access the data from any PHR Program if a patient Rings data to the office on a portable device. False. Patient save information about their health in personal health records PHRs. True.Â Although there is a wide range of personal health record products available, the one thing all have in common is that they are electronic - based. True. Which of the following should be the most important consideration before using an employer provided PHRÂ Some physicians office websites contain a link to a patient portal. True. Which of the following does the HL7 personal health record system function model PHR-S FM not include in a network PHR: Medication reconciliation functions.