



Trends in eHealth

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INTRODUCTION:

eHealth is a relatively recent healthcare practice that leverages electronic processes and communication to manage healthcare information. eHealth involves simplifying processes related to information, communication and transactions within and between healthcare institutions and professionals by utilizing information and telecommunications technologies.

Currently in practice in countries around the globe, eHealth initiatives have myriad benefits including improving coordination and integration of healthcare delivery, empowering individuals and families to better manage their own health and participation in their healthcare plans, and facilitating public health initiatives.

eHealth originated in 2000 when the University of Toronto launched an initiative to empower people to share healthcare information with the help of technology. The main objective was to increase collaboration across the entire healthcare value chain. By 2004, eHealth initiatives were launched across Europe, designed to empower citizens to control their health information to ensure that the healthcare-related decisions they made were in their best interests. Also in 2004, President Bush signed an executive order to increase focus on eHealth in the United States. This led to the formation of the American Health Information Community (AHIC), a federal advisory body chartered in 2005 to make recommendations to the Secretary of the U.S. Department of Health and Human Services on how to accelerate the development and adoption of health information technology.

Organizations worldwide are choosing to implement eHealth to ensure better clinical outcomes and enhance the patient experience. Drivers include:

- Using technology effectively to save time and ease financial pressures;
- Providing online healthcare services for members, employers, providers and brokers;
- Saving costs;
- Reducing administrative errors;
- Speeding revenue cycle management through electronic payment technology;
- Improving customer experience;
- Containing spiraling healthcare costs;
- Decreasing the incidence of medical errors.

eHealth can effectively manage the entire healthcare continuum, including health monitoring, wellness programs, preventive health measures like smoking cessation, chronic disease management, post-acute care management and patient safety management.

Outsourcing Center and Wipro recently performed a survey that examined current trends and approaches to eHealth initiatives of organizations worldwide. The survey results do not paint a full picture of the state of current eHealth initiatives but do point to some general trends in this area.

Survey respondents are from five continents and various regions, with the highest percentage of participants from the U.S. (35.6%), Asia (30%), and Europe (17.6%). Individuals are from organizations that include IT service enablers,



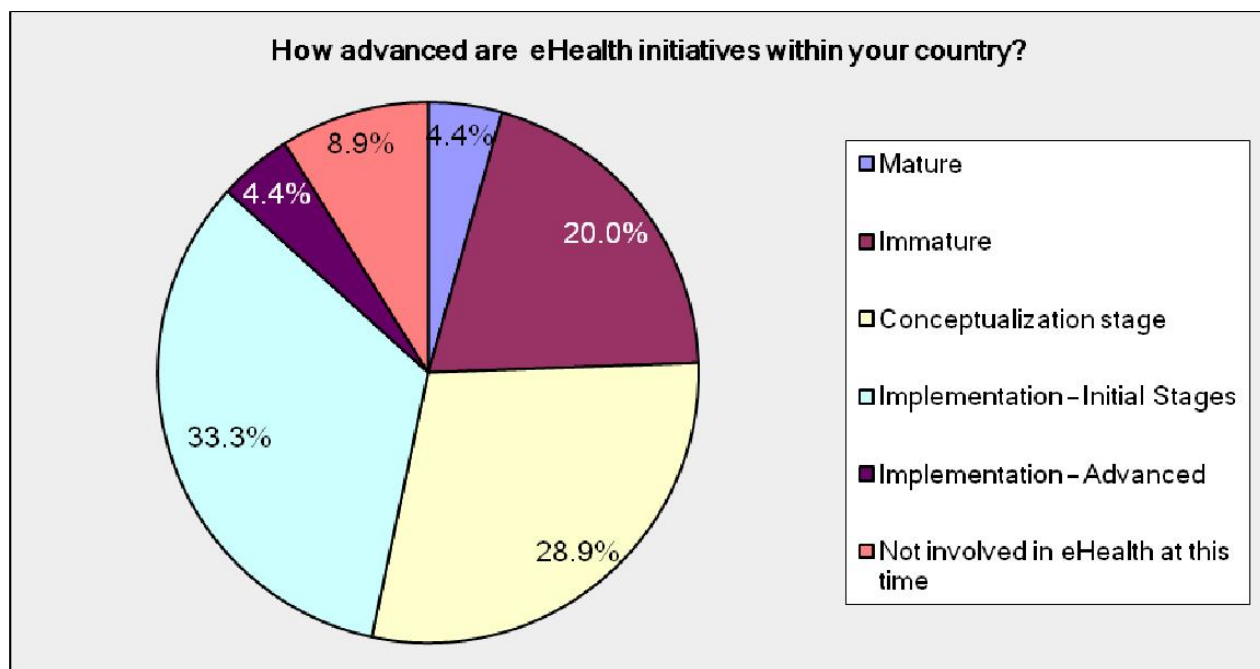
consulting firms, government agencies, hospitals, community health providers, public health specialists and health departments/Ministries of Health. More than one-third of respondents (38.6%) are from small organizations with fewer than 1,000 employees, and about a third (34%) are from very large organizations with more than 10,000 employees. Nearly 20 percent (17.7%) of respondents hold senior-level IT positions, 24.4 percent are consultants, and 7.7 percent are physicians or administrators.

Respondents have various interpretations of what constitutes a eHealth initiative. More than two-thirds (68.6%) defined eHealth as “The electronic management of health information to deliver safe, efficient, and quality healthcare.” Another 11.6 percent defined this practice as “One-Citizen-One Record.” And approximately one in ten (10.5%) said that eHealth is an “Internet-based healthcare practice.” Other definitions provided by survey respondents include, “The sustainable electronic management of health information to deliver safe, high-quality, efficient, and low cost healthcare,” and “Health Information Exchange (HIE): the mobilization of healthcare information electronically across organizations within a region or community.”

How does your organization approach eHealth?



FINDING #1: eHEALTH INITIATIVES ARE CURRENTLY IN THE EARLY STAGES IN COUNTRIES AROUND THE WORLD.

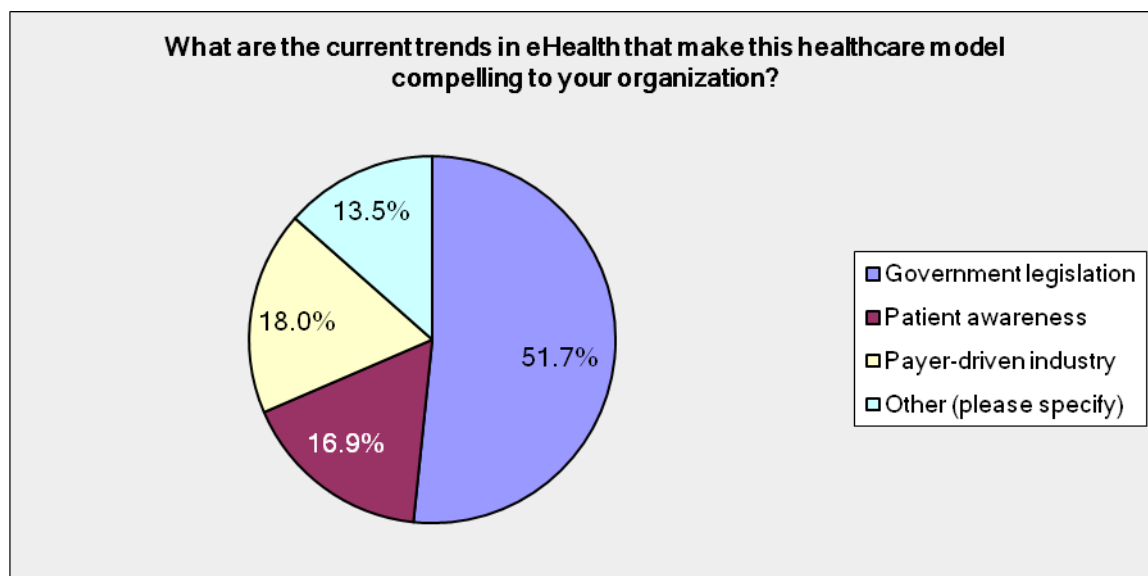


No matter how one defines eHealth, it's clear from the Outsourcing Center-Wipro survey results that eHealth initiatives are still in the early stages at organizations worldwide. While a full third (33.3%) of respondents said their country's eHealth initiatives were just getting started, only 4.4 percent said their eHealth implementation is "Advanced," and only 4.4 percent responded that their country's implementation is "Mature." Just more than one-fourth (28.9%) of survey participants said their country is still in the conceptualization stage, and one in five (20%) said eHealth initiatives are still "immature" in their country. Nearly one in ten (8.9%) said their country currently isn't involved in eHealth at all.

Aside from Europe, where many countries have implemented an eHealth model for healthcare, most continents are just becoming familiar with eHealth and are just beginning to understand the full implications of setting up an initiative.



FINDING #2: GOVERNMENT LEGISLATION IS DRIVING ORGANIZATIONS TO LOOK TO eHEALTH AS A HEALTHCARE MODEL.

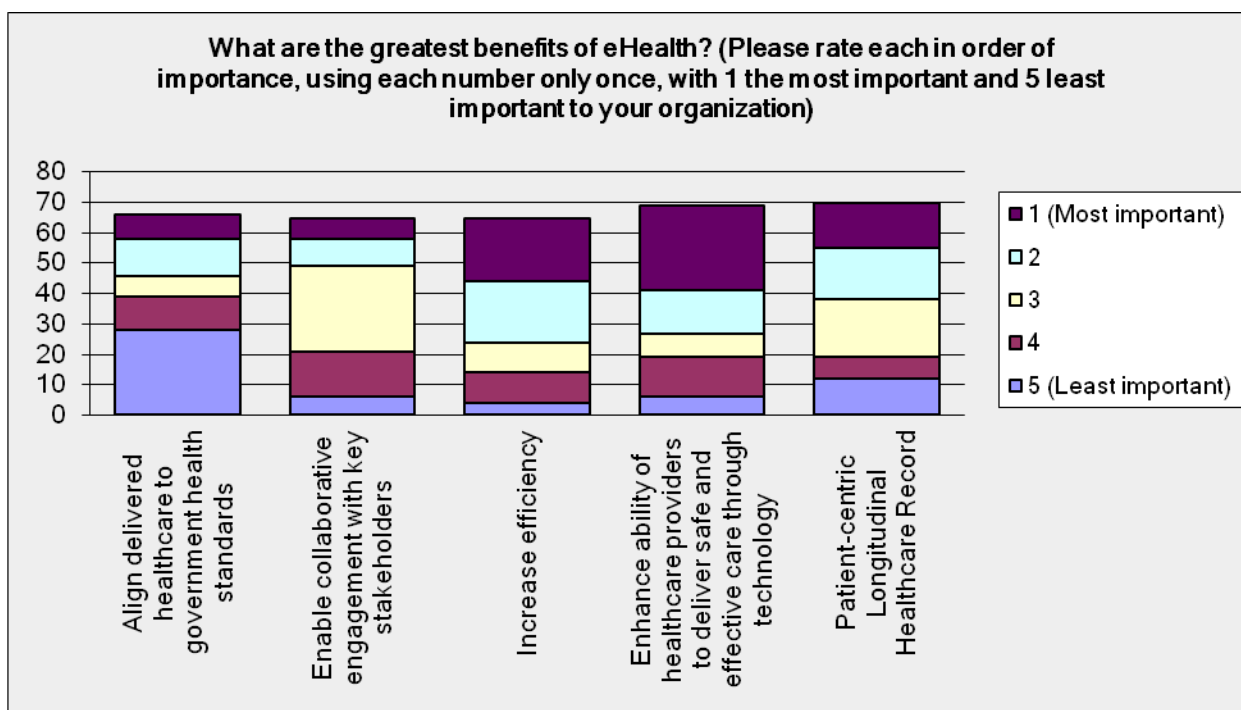


In a day and age where governments are increasingly adopting healthy citizen initiatives, it comes as no surprise that government legislation is the number one trend prompting organizations to look at the eHealth model. More than half (51.7%) of respondents to the Wipro-Outsourcing Center survey said that government legislations makes eHealth a compelling healthcare model for their organization. In contrast, fewer than one in five (18%) of respondents said that the fact that healthcare is a payer-driven industry makes eHealth a compelling option for their organization. Another 16.9 percent of respondents indicated that increasing patient awareness was a big reason their organization would consider this option.

Additional trends that make eHealth an attractive healthcare model to organizations include efficiency, better outcomes at lower cost and cost reduction. One respondent said that this model was becoming a necessity due to the high cost of healthcare. "Realization on part of government and health industry that eHealth is necessary to transform care delivery if we are to avoid economic problems if health costs are not constrained," said the respondent. Another survey participant said that it was important for his or her organization to have the ability to access and analyze data to support patient needs. "Data collection and analysis are key challenges in African countries at this time," according to the survey participant.



FINDING #3: ORGANIZATIONS BELIEVE eHEALTH'S GREATEST BENEFITS INVOLVED INCREASED EFFICIENCY AND ENHANCED ABILITY OF HEALTHCARE PROVIDERS TO DELIVER SAFE AND EFFECTIVE CARE.



There are myriad benefits to the eHealth model, but for today's organizations, the ones that stand out the most have to do with delivering excellent patient care and increasing efficiency.

The eHealth benefit most-often cited by survey participants was "enhanced ability of healthcare providers to deliver safe and effective care," with many of respondents indicating this option as either "most important" or "very important." Nearly as many people cited "increased efficiency" as the most important or very important benefit of this model. Not as important was eHealth's ability to enable collaborative engagement with key stakeholders and align delivered healthcare to government health standards.



It's essential that hospitals and healthcare providers deliver safe and excellent care. eHealth projects in the public sector can bring significant potential benefits at the level of individual health tasks and in overall healthcare processes, such as health policymaking or healthcare delivery.

That eHealth can enable healthcare providers to deliver safer and better care is a given. But the efficiencies organizations can see with an eHealth model are more complex. eHealth can also increase efficiency in a variety of ways. For example, eHealth can enable organizations to reduce the utilization of healthcare services and allow more effective information sharing through rapid electronic delivery of hospital discharge reports, or the use of Computerized Physician Order Entry (CPOE) that delivers decision support at the point of care, reducing the uptake of laboratory and radiology tests.

Hospitals are constantly striving to improve efficiency to contain costs while maintaining quality patient care. Some measures to improve efficiency within hospitals are:

Reducing inappropriate use. A big-picture efficiency question hospitals must ask themselves is if they are treating the types of patients the facility was designed for. In other words, is a regional hospital seeing patients who could be adequately served at a clinic or a specialist referral unit performing normal deliveries and simpler operations? The issue here is the efficient use of services. It is not efficient to use expensive and limited hospital facilities and staff if a less costly but adequate clinic service is available; it's much more efficient if the larger facility provides other, more complex services.

Changing staffing levels and mix. A hospital will only see overall efficiency improvements if a review leads to either a reduction in the number of staff relative to patient throughput, or if the hospital uses a better mix and deployment so that lower-cost staff can work on simpler tasks while more highly-qualified, higher-paid employees can concentrate on tasks that require more skill.

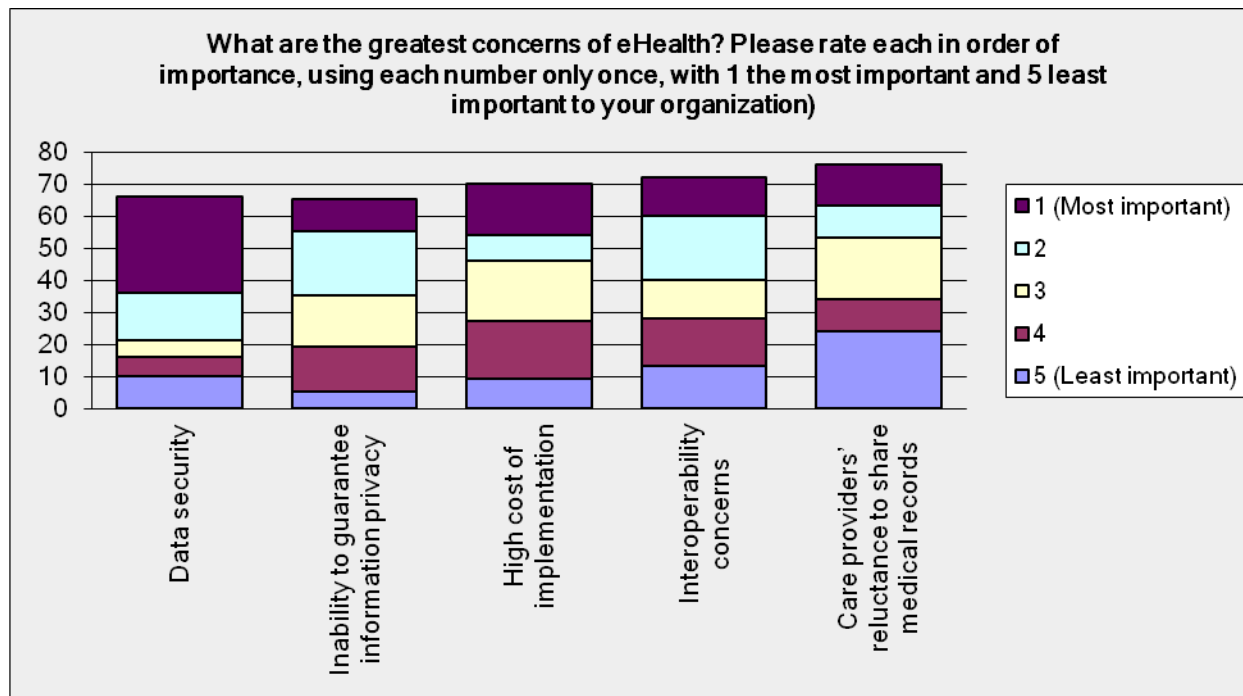
Managing performance. Improved efficiency generates more outputs for the same or fewer inputs. Measuring outputs and inputs enables efficiency to be monitored and opportunities for improvement sought.

Studying comparisons and value-for-money across hospitals. Comparisons and value-for-money studies are sometimes carried out by a unit within a country's Ministry of Health and are possibly linked with the inspection or quality assurance function of the organization. Suitable IT tools like Business Intelligence (BI) would help hospitals perform these studies.

Improving procurement/management of drugs, supplies and equipment. Hospital pharmacies can gain efficiencies by optimizing their purchase and supply chain functions. Integrating the various units in the supply chain can deliver better inventory control, improve patient satisfaction by ensuring immediate availability of critical medications, and smooth inventory management by providing accurate estimation of demand, timely procurement and distribution. Radio Frequency Identification (RFID) can drive operational efficiencies, and integrating this technology with back-end applications can enable asset and equipment management.



FINDING #4: DATA SECURITY IS THE NUMBER ONE eHEALTH ISSUE CONCERNING ORGANIZATIONS.



According to a recent study by Ponemon Institute, nearly 1.5 million Americans have been victims of medical identity theft. Individuals whose medical information has been stolen often deal with erroneous medical expenses, insurance issues and incorrect data on medical records that can lead to fatal medical errors. And data security issues compromise more than patient privacy and personal data. Data breaches can also damage a hospital's reputation and brand and jeopardize a hospital's ability to meet tightening regulatory requirements.

It's become absolutely essential that hospitals and healthcare providers control access to patient information, adequately protect all personal data and keep all data safe from corruption. Therefore, it's not surprising that more than half of survey respondents cited data security as a major concern of eHealth.

Other eHealth-related issues related to organizations include interoperability concerns, inability to guarantee information privacy, high cost of implementation and care providers' reluctance to share medical records.

Three out of five survey respondents (60.2%) indicated that these concerns were enough to dissuade them from implementing an eHealth initiative within their organization. However, currently-available and evolving technology solutions exist that may make some of these issues less of a concern.

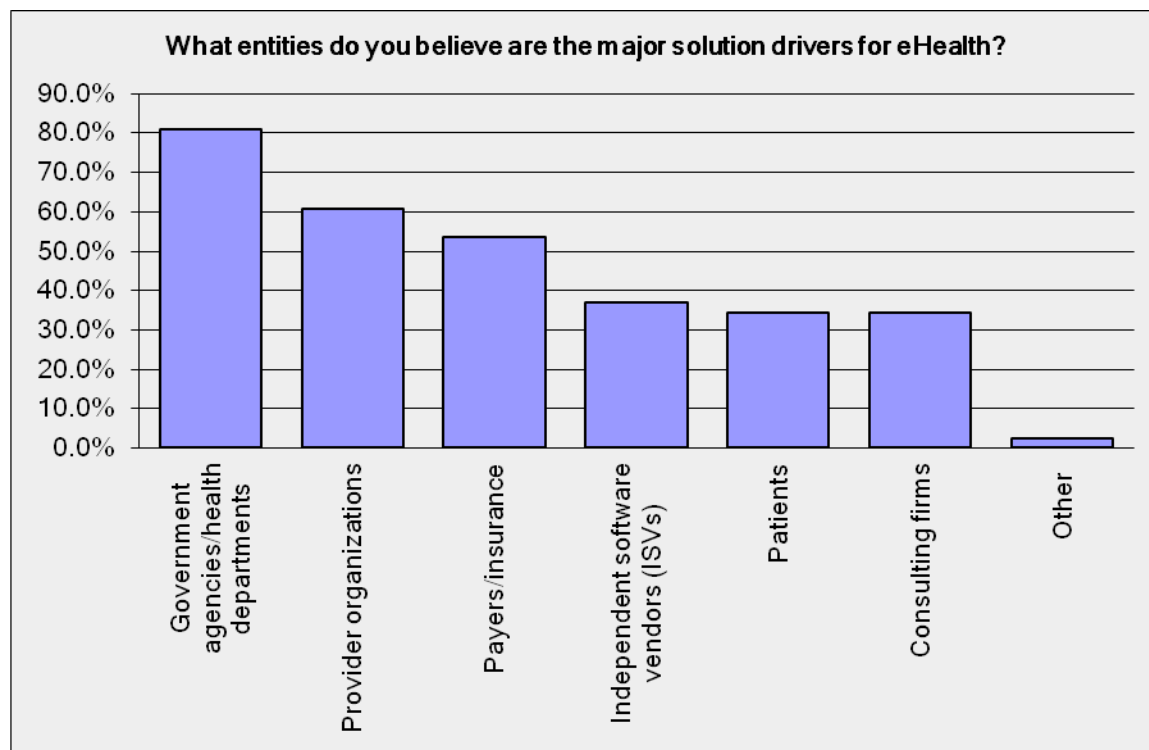


To ensure security, organizations and healthcare providers can take advantage of pseudo anonymization, security frameworks, digital signatures and release of information standards, audit trails and edit trails. However, technology solutions aren't enough on their own. Each hospital, facility and healthcare provider must implement strong security management practices as well, making data security a cultural issue throughout the institution or organization.

Organizations and providers simply must assure data privacy. They must take measures similar to those used to guarantee data security, especially when it comes to exposing data to patients' next of kin. Every patient must be able to control his or her data and have the ability to grant or deny access to personal medical information. Privacy and data protection technologies exist in the form of governance solutions, preventative solutions and monitoring solutions.

Interoperability is a big concern for the entire healthcare industry – and eHealth initiatives are no exception. While interoperability concerns are certainly valid, they will be mitigated as stakeholders evolve to a common standard.

FINDING #5: GOVERNMENT AGENCIES, HEALTH DEPARTMENTS AND PROVIDER ORGANIZATIONS ARE THE MAJOR SOLUTION DRIVERS FOR eHEALTH.





More than 80 percent of respondents to the Wipro-Outsourcing Center survey said that government agencies and health departments are major solution drivers for eHealth, while provider organizations also drive solutions. Still important but considered not as major solution drivers are payers/insurance, independent software vendors (ISVs), patients and consulting firms.

Worldwide, eHealth is viewed as a model championed by government entities. In many countries, government typically runs the healthcare delivery mechanism, either directly or through controlled entities via not-for-profit organizations. Therefore, it's not surprising that government – as a healthcare provider – leads major healthcare-related initiatives. And in general, government involvement in healthcare initiatives lends credibility and garners public buy-in more easily than initiatives led by other entities.

In addition, governments shoulder the lion's share of responsibility for establishing and effecting health policies that determine, in large part, what other players in the healthcare field can do. Therefore, it's quite natural that private players and government health organizations follow government-driven directives and look to governments to implement initiatives like eHealth. The World Health Organization (WHO) focuses heavily on individual governments to provide eHealth through policies and by creating an eHealth-friendly environment.

CONCLUSION:

eHealth has many benefits to offer to the organizations who are major stakeholders. These advantages include:

- **Improved information availability.** eHealth initiatives provide clinicians with vital, secure information about their patients at the point of care. By enabling information sharing across disparate enterprises and systems, healthcare providers and facilities can deliver better quality of care and a more satisfying patient experience.
- **Interoperability.** eHealth provides a solid level of interoperability between physician-maintained electronic health records (EHRs) and patient-maintained personal health records (PHRs).
- **Efficient healthcare delivery.** eHealth offers a mechanism that eliminates duplication of efforts and provides operational and administrative efficiencies, reducing costs.
- **Overall health promotion.** This provides a means to improve individual and community health.
- **Technology adoption.** Adoption of the technology facilitates efficient deployment of emerging technology and healthcare services such as e-prescribing.
- **Promoting consumer-driven healthcare.** eHealth stimulates consumer-driven healthcare, encouraging patients' involvement with their own care and promoting health education.



Wipro has been involved in eHealth since its inception. The firm has been involved in a variety of eHealth initiatives and is helping its customers by following its theme of “Transformation through Innovation.”

Wipro offers consulting, implementation and integration, application and infrastructure maintenance and BPO services around each broad category.

Wipro classifies eHealth technology services in three basic categories:

Provider Services - Healthcare IT software and services used to facilitate delivery of care to the patient.

- HIEs / eHealth Networks
- Enterprise EMR adoption
- Remote Health Monitoring
- TeleHealth / mHealth

Citizen Services - Healthcare information delivered to patients via Internet

- Citizen Portals
- Patient Portals

Knowledge Services - Healthcare training and information delivery for healthcare professionals

- eJournals
- eLearning

Still in its infancy in most areas around the world, eHealth offers healthcare providers and medical facilities with a wide array of benefits. It has the potential of revolutionizing the healthcare industry as it reaches its potential in the years ahead.



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Wipro is the first PCMM Level 5 and SEI CMMi Level 5 certified IT Services Company globally. Wipro provides comprehensive IT solutions and services (including systems integration, IS outsourcing, package implementation, software application development and maintenance) and Research & Development services (hardware and software design, development and implementation) to corporations globally.

Wipro's unique value proposition is further delivered through our pioneering Offshore Outsourcing Model and stringent Quality Processes of SEI and Six Sigma.

ABOUT WIPRO Healthcare

Wipro Healthcare, ranked #15 in Healthcare Informatics Top 100 technology vendors, has over 4000 dedicated techno-functional associates. Wipro caters to Healthcare payer, Healthcare provider, Healthcare Distribution and Healthcare Services market segments.. Besides its strong IT proposition, Wipro has strong verticalised offerings for the Healthcare segment Wipro helps its clients in achieving better quality of care, patient safety, through technology enabled innovation.

For more information please visit www.wipro.com/industries/healthcare.

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