

Health Information Technology **Hot Topics**

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Health Information Technology (IT) Basics

Q. What is health IT or ehealth?

A. Health information technology (IT), also known as ehealth, refers to various computer programs and tools, such as electronic health records (EHRs) and personal health records (PHRs) that enable doctors, other providers and consumers to record a patient's medical history electronically. In addition providers can use health IT tools to order tests or drugs electronically, get alerts on best practices such as avoiding harmful drug-drug interactions, and report quality and public health information. Health IT programs also enable "health information exchange" (HIE), which is the electronic movement of health-related information among individuals and organizations in a standardized way, as discussed in more detail below. New York State has been a national leader in promoting the adoption and use of health IT and HIE.

Q. What are the benefits of health IT?

A. In today's health care system patients' medical information very often gets recorded in paper format and typically only resides at those providers' sites where it is initially recorded. Information kept in this form is not easily accessible to the patient, his or her providers, nor to providers in any other health care settings who might be treating the same patient or fulfilling a patient's test or prescription orders. These obstacles impact providers' ability to work together to coordinate patients' care, monitor patient safety and deliver health care efficiently. The appropriate use of health IT helps to remedy some of the situations described above and in doing so improves the quality and efficiency of health care. By providing providers and patients with the right information at the right time through health IT tools they are in a better position to make more informed medical decisions.

Some specific benefits include the following:

- **Improved quality and safety:** Health IT tools enable doctors and other providers to access key medical information about their patients and have a more complete understanding about a patient's condition and treatments which can improve care coordination and results. It has been shown that providers using EHRs score higher on quality measures than providers without the technology.
- **Reduced cost:** The health care system can realize various efficiencies through improved health IT adoption and use. Studies have shown that health IT tools can be effective in reducing duplicative or repetitive clinical laboratory tests. The removal of paper from the system also results in administrative cost savings and improved efficiencies.
- **Improved provider and patient convenience:** With better health IT tools doctors and other providers will be able to access more complete medical information at the

point of care thus saving time in retrieving that information about their patients from a variety of other sources such as other providers, the pharmacy, the hospital, nursing homes, etc. Patients would not need to fill out the same forms at every doctor's office, hospital, and other medical facilities they visit.

- **Access to patient information in an emergency or natural disaster:** The value of health IT systems is especially important in an emergency or disaster situation. In emergencies, time is of the essence and it is critical that doctors and other providers have quick access to their patients' medical history. In disaster situations records might not be accessible at the institution where they were first recorded. Health IT tools would enable providers to retrieve that information at the point of care and in doing so save lives.
- **Improved public health information on disease outbreaks:** Health IT tools can provide government health agencies with aggregated health information from across the population in a timely manner that helps them identify disease outbreaks. For example if a government agency learns from electronic records that multiple people in a region have just been diagnosed with flu, it can take steps to alert the public and providers of a flu outbreak. If an agency finds that there are high levels of asthma or cancer in an area, it can investigate the reasons and if necessary alert the public. More timely information can help save lives.

Q. What is health information exchange (HIE)?

A. Health information exchange (HIE) refers to the exchange of patient health information among providers, patients and other authorized persons and entities in real time while ensuring security, privacy and other protections. HIE is necessary for compiling the complete experience of a patient's care and ensuring it is accessible to providers as the patient moves through various health care settings. This will support providers in making informed decisions so medical errors and redundant tests can be reduced and care coordination improved. HIE is also needed for patients to have access to their own personal health information which can be portable between health plans or providers.

Various "regional health information organizations" (RHIOs), across New York, have received grant funding from the Department of Health (DOH) to implement HIE projects in their communities. These RHIOs are responsible for governing HIE projects to ensure that the electronic exchange of health care information via computers among providers and consumers results in clinical value and improves the care provided to patients. Together the RHIOs are helping to build a statewide HIE network called the Statewide Health Information Network for New York (SHIN-NY). For more information see the "New York State Strategy and Activities" section.

Q. Why do we need health information exchange?

A. Patients typically visit several providers and sites for their care – including doctors, nurses, hospitals, nursing homes, community health centers, clinical laboratories, pharmacies and many others. While each provider site keeps its own medical records on its patients, its providers often cannot readily access records and important information about their patients’ care from other sites. Doctors and other providers can give patients better care and avoid mistakes if they have access to their complete medical history – such as lab tests, medication history, problem list, allergies, and other health reports. By having access to a more complete medical history, providers and patients can make more informed decisions about the patient’s care plan, thus improving the quality of that care and avoiding medical errors.

Q. Will patient health information be kept private and secure?

A. RHIOs and their participating providers are required to obey federal and state laws to protect the privacy and security of personal health information. Working with NYeC and DOH, the RHIOs have developed other strong policies that will protect patient privacy. For example, current policies do not allow providers to exchange a patient’s health information unless the patient has given his or her prior consent (except in an emergency situation where a patient is not physically able to provide consent). Patient information must be stored and shared in a secure way, and only those providers actively involved in the care of the patient are authorized to access his/her information. Special technology keeps unauthorized users from seeing any personal and private information, thus protecting consumers from security breaches. For more information see the “Privacy and Security” section.

Q. Why is consumer engagement and general outreach important?

A. Many HIE projects have started operating in New York in recent months. Their success relies on the full awareness and support of all stakeholders who are involved and impacted – consumers, providers, insurers, employers, legislators, government officials and many more. By engaging various constituencies, these projects can address and resolve their issues and concerns. This feedback will allow projects to improve operations to ensure that HIE benefits all stakeholders. Consumer engagement is especially important. Consumers have the most at stake in ensuring that a health system that is reformed through the use of health IT is truly patient-centered. To that end a Consumer Advisory Council, comprised of various consumer advocacy organizations, has been created to bring the consumer’s voice into policy discussions.

New York State Strategy and Activities

Q: What are the goals of New York State's health IT strategy?

A: New York State has become a national leader in promoting and funding a comprehensive health IT strategy. To date it has provided more than \$260 million in grants to health IT and HIE projects. The funding is part of the Administration's efforts to transform NY's health care delivery from a paper-based system to an electronic interconnected system. New York's goals include:

- **Improvements in efficiency and effectiveness of care:** Provide the *right* information to the *right* provider at the *right* time regardless of the setting where the patient receives care.
- **Improvements in quality of care:** Harness the power of clinical information to support improvement in care coordination and disease management, help re-orient the delivery of care around the patient and support quality-based reimbursement reform initiatives.
- **Reduction in costs of care:** Reduce health care costs over time by reducing the costs associated with medical errors, duplicative tests and therapies, uncoordinated care, and preparing and transmitting data for public health and hospital reporting.
- **Improvements in outcomes of care:** Evaluate the effectiveness of various interventions and monitor quality outcomes.
- **Engaging New Yorkers in their care:** Lay the groundwork for New Yorkers to have greater access to their personal health information and communicate electronically with their providers to improve quality, affordability and outcomes.

Q: How will New York realize these benefits through health IT?

A: New York State's strategy is focusing on the development and use of various health IT and HIE tools in different settings to accomplish the goals listed above. These different tools are described in more detail below.

1. A statewide network that connects providers and consumers and allows them to share health information in a secure way: "The Statewide Health Information Network for New York (SHIN-NY)"

The SHIN-NY is akin to the development of some of the other great public goods infrastructure projects – telephone networks, electric grids or development of the inter-state highways. The SHIN-NY is a computer network that enables doctors, other providers and their patients to access the patient's health information from various sources (with the patient's consent) and exchange important information with one another to coordinate the patient's care. It will connect all the regional networks developed by the RHIOs (see below) and allow them to efficiently share services.

2. Increased adoption and use of health IT tools for providers and consumers

New York is using various programs and funding means to promote the adoption and use of EHRs by doctors and other providers and PHRs by consumers that will enable both groups to capture and share health information electronically.

3. Tools to support quality reporting and public health reporting

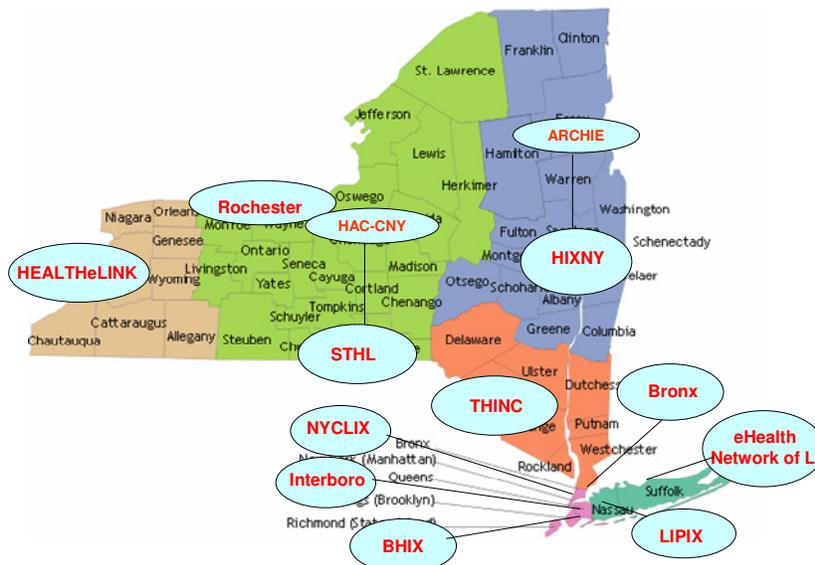
New York is funding the development of health IT tools that will enable doctors and other providers to send data electronically from their EHRs to outside agencies and organizations that measure the quality of their care and monitor public health information such as disease outbreaks.

4. New more effective models for the delivery of health care in a more coordinated way supported by health IT

New York is funding various community projects throughout the state that are implementing “patient-centered medical homes (PCMH).” The PCMH is a new model of care through which a patient and his or her various providers use health IT tools to coordinate the patient’s care.

Q: What organizations are responsible for providing health IT and HIE services in New York?

A: Regional Health Information Organizations (RHIOs): A RHIO is a non-profit corporation that brings together health care stakeholders within a defined geographic area and facilitates and governs HIE among participating stakeholders such as hospitals, providers, pharmacies, and clinical laboratories. It does this with the purpose of improving health care and access to care in that community. RHIOs’ networks will connect together as part of the SHIN-NY. Below is a map showing the RHIOs in New York State.



RHIOs
Adirondack Health Information Exchange (ARCHIE)
Bronx RHIO
Brooklyn Health Information Exchange (BHIX)
eHealth Network of Long Island
Greater Rochester RHIO (GrRHIO)
Health Advancement Collaborative of Central New York (HAC-CNY)
Health Information eXchange of New York (HIXNY)
HEALTHeLINK
Interboro RHIO
Long Island Patient Information Exchange (LIPIX)
New York Clinical Information Exchange (NYCLIX)
Southern Tier HealthLink of New York (STHL)
Taconic Health Information Network and Community RHIO (THINC)

To locate a RHIO in your region, go to: <http://www.nyehealth.org/nys-hit-projects>

A: Community Health Information Technology Adoption Collaboratives (CHITAs): A CHITA is an organization that provides services to doctors and other providers to support their implementation, adoption, training and effective use of EHRs and other health IT tools. CHITAs are also responsible for coordinating the support necessary for practice transformation, reimbursement changes and patient engagement, to significantly improve the availability and use of health information and to ensure that the expected quality and efficiency goals are realized from health IT.

CHITAs
Adirondack Regional Community Health Information Exchange (ARCHIE)
Columbia Memorial Hospital
Continuum of Care Improvement Through Information Exchange NY
Dr Moore & Associates
Four County Management
Greater Rochester IPA
Health Information Alliance of Syracuse
Hudson Information Technology for Community Health (HITCH)
New York Care Connect
New York Community Home Health Interoperability Project
Primary Care Health Information Consortium (PCHIC)
Primary Care Information Project (PCIP)
Samaritan Physicians Community HIT Collaborative
Taconic IPA
Trudeau Health Systems

To locate a CHITA in your region, go to: <http://www.nyhealth.org/nys-hit-projects>

Q: What entities are responsible for ensuring the public's interest is served by New York State's health IT strategy and policies?

A: Office of Health IT Transformation (OHITT): OHITT is an office within the Department of Health, led by the Deputy Commissioner for Health IT Transformation, which defines the overall state health IT strategy and provides leadership for the state's health IT governance and regulatory structure. Visit OHITT's website here:

<http://www.health.state.ny.us/technology/>

A: New York eHealth Collaborative (NYeC): NYeC is a non-profit, public-private partnership that works closely with OHITT, the RHIOs, CHITAs and other health IT projects in defining and implementing the state's health IT strategy and its overall health IT governance and regulatory structure. It also facilitates the "Statewide Collaboration Process" (described below), which is an open, transparent, multi-stakeholder process for developing statewide policies.

Q: How is policy developed and how does New York State ensure that it represents the interests of the consumers and other stakeholders?

A: To ensure that policies are developed in the public's interest, New York has a process that brings together all stakeholders – consumers, providers, health plans, policy makers – in collaborative work groups to develop common policies and rules for the use of health IT and HIE. This process is called the Statewide Collaboration Process. All New York providers participating in RHIOs are required to comply with these policies. These include policies to protect consumers' health records and ensure they are kept secure and confidential, as well as other policies related to the EHR functionality and HIE technical standards.

Q: What sources are funding the health IT initiatives in New York State?

A: New York has been able to build its health IT program through various means. Below are some examples:

- **HEAL NY grants program:** The HEAL NY grants program has been New York State's primary vehicle for funding health IT and HIE projects. To date it has provided more than \$260 million in grant funding through four different rounds of funding. More information is available here: http://www.nyhealth.gov/technology/efficiency_and_affordability_law/
- **Medicaid e-prescribing incentives:** NYS Medicaid is planning a program that would give incentives to eligible prescribers and pharmacies that use e-prescribing. The program is scheduled to go into effect in early 2010.
- **Medical Society for the State of New York (MSSNY) health IT grants:** MSSNY is running a program that has provided State grant funding to six projects that are implementing EHRs in medical practices.

- **NYeC Nationwide Health Information Network (NHIN) project:** NYeC is participating in the federal NHIN project, run by the Office of the National Coordinator, to develop a national network that can enable HIE across state lines.
- **New York State/New York City Centers for Disease Control and Prevention (CDC) HIE project:** DOH collaborated with the New York City Department of Health and Mental Hygiene and several New York RHIOs to develop the technical designs for the electronic reporting of public health-related data to public health agencies using the SHIN-NY.
- **New York Health Information Security and Privacy Collaboration (HISPC) project:** As part of this federal project, DOH convened various stakeholders to develop standard policies related to how RHIOs and their providers collect consent from patients to exchange their records. In subsequent phases HISPC funded the development of patient and provider education materials.

Federal Stimulus Legislation
The American Recovery and Reinvestment Act (ARRA)

Q: What are the key health IT provisions in the federal economic stimulus law of the American Recovery and Reinvestment Act of 2009 (ARRA)?

A: Health IT has a critical role to play in reforming the U.S. health care system. For this reason Congress included it as an important component of the American Recovery and Reinvestment Act of 2009 (ARRA), also known as the federal stimulus legislation. ARRA includes the Health Information Technology for Economic and Clinical Health (HITECH) Act which provides approximately \$36 billion in new funding for health IT projects. Notable were the following provisions:

- **Medicare and Medicaid Health IT Incentives:** The legislation includes \$34 billion in the way of incentives through the Medicare and Medicaid programs designed to encourage doctors and hospitals to acquire and use electronic health record (EHR) technology in “meaningful” ways.
- **State-Level Health Information Exchange Grants:** The legislation includes money for investment in planning and implementation of state-level health information exchange (HIE) activities, which can be directed to “State-Designated Entities,” such as NYeC, to ensure coordination with existing efforts.
- **Regional Health IT Extension Centers Grants:** The legislation includes funding of “regional health IT extension centers” which are intended to provide critical technical assistance to doctors and other providers implementing health IT systems.

Q: Why is the federal government interested in funding health IT?

A: The federal government supports several goals for health care IT delivery, which are outlined by the Office of the National Coordinator (ONC), a division of the Department of Health and Human Services:

- Ensuring that each patient’s health information is secure and protected
- Improving health care quality, reducing medical errors, reducing health disparities and advancing the delivery of patient-centered medical care
- Reducing health care costs resulting from inefficiency, medical errors, inappropriate care, duplicative care and incomplete information
- Facilitating health and clinical research and health care quality
- The HITECH Act makes ONC a formal office in the federal government. ONC provides an administrative process to coordinate health IT policy and standards

Q: Who is eligible for the Medicare and Medicaid incentives?

A: Under the HITECH Act, for Medicare incentives an eligible professional is defined as, “a physician, as defined in section 1861(r)” of the Social Security Act. This includes doctors, osteopaths, dentists, podiatrists, optometrists, and chiropractors. For Medicaid

incentives, an eligible professional means 1) a physician, 2) dentist, 3) certified nurse-midwife, 4) nurse practitioner, or 5) physician assistant practicing in a rural health clinic led by a physician assistant or practicing in a Federally qualified health center led by a physician assistant.

The Medicare and Medicaid incentive programs will be administered separately (Medicare by the federal government, Medicaid by state government). Both require that a provider demonstrate “meaningful use” of a “certified” EHR product to be eligible for the incentives. Providers can only participate in *one* of these incentive programs and so will need to analyze their organization’s public payer mix to determine where they stand to benefit the most.

Q: What does "meaningful use" mean?

A: The final definition of “meaningful use” for the Medicare program is expected in early 2010. The legislation defines some foundational components for the definition of “meaningful use”:

- Electronic prescribing
- Use of certified EHR technology that provides for the electronic exchange of patient health information and reporting on clinical quality measures
- Other measures and/or requirements as determined appropriate by the Secretary of Health and Human Services (HHS)

Further details about what reporting will be needed, what level of connectivity will be required and the final criteria for standards will be determined by the Secretary of HHS before the utilization incentives begin. The Secretary may also develop more stringent measures of “meaningful use” over time. States may include additional “meaningful use” requirements for the Medicaid incentives program.

The current draft federal description of “meaningful use” can be found here:

<http://healthit.hhs.gov/portal/server.pt?open=512&objID=1325&parentname=CommunityPage&parentid=1&mode=2>

Q: What are the details of the Medicare Incentives?

A: Commencing in 2011 and for the first five years, doctors and other providers who are “meaningful EHR users” will be compensated in an amount equal to an *additional* 75 percent of the allowed charge for professional services provided (Medicare Part B). The payments are capped, with amounts decreasing each year (see table below). No incentive payments will be made after 2016 and those for whom the first payment year is after 2014 will receive no incentive payment. Doctors and other providers who practice in an area that is designated as a health professional shortage area shall receive an additional 10 percent incentive. Hospital-based providers are not eligible for these incentives.

Payment Schedule for Eligible Professionals through Medicare

The following table¹ details the Medicare incentives totals that eligible professionals can receive through 2016 for demonstrating “meaningful use” of certified EHR technology. Incentives are not available to eligible professionals after 2016.

	2011	2012	2013	2014	2015	2016	Total
Period							
1st	\$18,000	\$12,000	\$8,000	\$4,000	\$2,000	\$0	\$44,000
2nd	-	\$18,000	\$12,000	\$8,000	\$4,000	\$2,000	\$44,000
3rd	-	-	\$15,000	\$12,000	\$8,000	\$4,000	\$39,000
4th	-	-	-	\$12,000	\$8,000	\$4,000	\$24,000

Q: What about practices that have already implemented an EHR?

A: Current practices that conform to “meaningful use” criteria by 2011/2012 will be eligible to receive up to \$44,000. There is no guarantee that any EHR system bought today will meet the expected certification criteria under “meaningful use,” so it is advisable for providers to get commitments from their EHR vendors that the EHRs will get certified for compliance with “meaningful use” standards.

Q: What about practices that decide NOT to implement an EHR?

A: Beginning in 2015, unless the Secretary exempts a provider due to a significant hardship, doctors and other providers who are not meaningful EHR users will find their Medicare reimbursements reduced by 1 to 3 percent each year, with authority granted to HHS to further reduce the reimbursement rate beginning in 2018 if the proportion of eligible professionals who are meaningful EHR users is less than 75 percent.

Medicare reimbursements to providers without EHRs meeting “meaningful use” criteria will be cut by 1 percent in 2015, 2 percent in 2016, and 3 percent in 2017.

Q: Does purchasing a hospital-based discounted EHR program affect eligibility for Medicare incentive payments?

A: At this time, it appears that practices may accept financial contributions towards the expenses of EHR software (and certain other related expenses) from hospitals without running afoul of Stark law limitations or losing eligibility for the health IT stimulus incentives. There are rules about how large those contributions can be and what expenses they can cover, so doctors should consult legal counsel before accepting discounted programs.

¹ [HIMSS Legislative Overview & Policy, 3/24/09](#)

Q: What about practices that are owned by a hospital?

A: Doctors and other providers whose practice is solely hospital-based (such as ER providers, anesthesiologists, and pathologists) are not eligible for incentive funds, as the hospital incurs the EHR system expense. The law also contains incentives for hospital adoption of health IT. However, if a hospital-owned practice provides a significant number of services outside of the hospital setting, it may be eligible for incentive payments. These practices should check with their hospital administration for more information.

Q: Is there an advantage to waiting until all the details of “meaningful use” are finalized before implementing an EHR?

A: It is not recommended that eligible providers wait for the final determination on “meaningful use” before initiating EHR implementation. It takes many months to implement an EHR successfully: steps include practice readiness assessment, EHR vendor selection, hardware selection and implementation, network selection and implementation (internet, wireless, etc.), EHR implementation and training, connectivity to an HIE, implementation of e-prescribing, quality measures, system optimization, etc.

Q: What are the details of Medicaid incentives?

A: States may make payments to Medicaid providers to encourage adoption and use of certified EHR technology. Those doctors, other providers and institutions eligible for Medicaid incentives include:

- Eligible professionals (Physicians, dentists, certified nurse midwives, nurse practitioners, and physician assistants as described above) who are not hospital-based and whose patient base includes a minimum of 30% who are insured by Medicaid
- Pediatricians who are not hospital-based and whose patient base includes a minimum of 20% who are insured by Medicaid
- Any of the above professionals who practice predominantly in a Federally qualified health center or rural health clinic whose patient base includes a minimum 30 percent who are insured by Medicaid or are “needy individuals” (as defined by Medicaid)
- All children's hospitals
- Acute-care hospitals whose patient base includes a minimum 10 percent who are insured by Medicaid

Details of the states’ Medicaid incentive programs are still being developed. New York Medicaid will require that eligible professionals be enrolled as Medicaid providers to receive incentive payments. Under HITECH’s provisions, the federal government will reimburse state payments of Medicaid incentives to eligible professionals up to the following limits:

- 85% of \$25,000 or \$21,250 for the purchase of initial implementation of EHR technology, which must occur by 2016, plus

- 85% of \$10,000 or \$8,500, per year for a maximum of five years for operation and maintenance of the technology, with no payment made after 2021
- Therefore the total possible payment for a provider is (\$21,250 + \$8,500/year for five years) \$63,750.²

Q: What provisions related to patient privacy are included in the HITECH Act?

A: The HITECH Act includes provisions affecting the exchange of data, including:

- Extension of Important Privacy and Security Rules: The bill requires RHIOs, health IT vendors and other organizations that contract with providers to comply with the same security rules that apply to providers, including adherence to similar physical and technical safeguards and restricting use and disclosure of patient' health information to authorized reasons.
- Security Breach Notification Mandate: The bill establishes the first national data security breach notification law. The law requires providers, health plans and other entities as well as personal health record vendors to notify affected individuals, government agencies and the media of the unauthorized acquisition of electronic, unencrypted protected health information.
- New Restrictions on the Use and Disclosure of Protected Health Information: The bill restricts certain uses and disclosures of patients' health information. For example, providers are prohibited from receiving or paying money for the disclosure of patients' health records, except for disclosures for limited purposes such as treatment, research and fraud prevention.
- Additional Patient Rights: Doctors and other providers maintaining electronic health records are required to give patients copies of such records in electronic form. They are also obligated, at a patient's request, to provide an audit trail of all disclosures of the patient's protected health information made for treatment, payment and health care operations during the prior three years. This obligation is phased in over the five years following the date an electronic health record system is acquired by the entity.

² Center for Practice Improvement and Innovation, American College of Physicians "Health Information Technology Incentives in the American Recovery and Reinvestment Act of 2009—FAQ—3/22/09"

Introduction to Electronic Health Records (EHRs)

Q: What is the typical functionality of an EHR?

A: The Institute of Medicine³ has identified eight core capabilities that EHRs should possess. They are as follows:

- Health information and data: Immediate access to key information, such as patients' diagnoses, allergies, lab test results, and medications, improves the ability for doctors and other health care providers to make sound clinical decisions in a timely manner.
- Result management: The ability for all doctors and other providers participating in the care of a patient in multiple settings to quickly access new and past test results would increase patient safety and the effectiveness of care.
- Order management: The ability to enter and store orders for prescriptions, tests, and other services in a computer-based system will enhance legibility, reduce duplication, and improve the speed with which orders are executed.
- Clinical decision support (CDS): Using reminders, prompts, and alerts, CDS would improve compliance with best clinical practices, ensure regular screenings and other preventive practices, identify possible drug interactions, facilitate diagnoses and treatments, and reduce the frequency of adverse events.
- Electronic Communication and Connectivity: Improved communication among doctors, providers and other partners, such as laboratory, pharmacy, and radiology professionals, can enhance patient safety and quality of care. Electronic communication tools, such as e-mail and web messaging, have been shown to be effective in facilitating communication both among providers and with patients, thus allowing for greater continuity of care.
- Patient support: Tools that give patients access to their personal health records and provide interactive patient education, will encourage greater involvement of patients in their own health care.
- Administrative processes: Computerized administrative tools, such as scheduling systems, would greatly improve practices' efficiency and provide more timely service to patients.
- Reporting: Electronic data storage that employs discreet data will enable health care organizations to respond more quickly to federal, state, and private reporting requirements, including those that support patient safety and monitor public health.

Q: Why should providers invest in an EHR?

A: Many medical practices and hospitals are making the move to EHRs. Storing health records electronically allows for quick retrieval of patient information by doctors, other providers and staff whenever and wherever necessary. EHRs are also an efficient tool for

³ "Key Capabilities of an Electronic Health Record System," Institute of Medicine Committee on Data Standards for Patient Safety: http://www.providersedge.com/ehdocs/ehr_articles/Key_Capabilities_of_an_EHR_System.pdf

searching, tracking and analyzing information. This is especially important in today's health care system, where care guidelines are multiplying, and patients are often on an ever-more complex care regimen. Furthermore, unlike paper records, EHRs are not bulky, do not take up costly space, and do not require labor-intensive methods to maintain, retrieve and file.

According to the [Medical Records Institute's Sixth Annual Survey of Electronic Health Record Trends and Usage](#), the following factors, in priority order, are driving the need for Electronic Health Records in medical practices:

1. Improve clinical processes or workflow efficiency
2. Improve quality of care
3. Improve clinical documentation to support appropriate billing service levels
4. Share patient information among health care practitioners and professionals
5. Reduce medical errors (improve patient safety)
6. Provide access to patient records at remote locations
7. Improve clinical data capture
8. Establish a more efficient and effective information infrastructure as a competitive advantage
9. Contain or reduce health care delivery costs
10. Meet the requirements of legal, regulatory, or accreditation standards
11. Facilitate clinical decision support

A survey in the *New England Journal of Medicine* found that a large majority of physicians using electronic records reported benefits to the quality of care:⁴

- 82% said they improved the quality of clinical decisions
- 86% said they helped in avoiding medication errors
- 85% said they improved the delivery of preventative care

Q: How many providers are using EHRs and other health IT tools in New York?

A: State-specific information is being gathered. National surveys indicate that only 4% of doctors have an extensive, fully functional electronic-records system, and 13% have a basic system. Only 1.5% of hospitals have a comprehensive electronic-records system, and 7.6% have a basic system.¹

⁴ Sources: DesRoches, CM, Campbell, EG, Rao, SR et al., "Electronic Health Records in Ambulatory Care — A National Survey of Physicians," *New England Journal of Medicine*, Volume 359:50-60, July 3, 2008.
Jha, AK, DesRoches, CM, Campbell, EG et al., "Use of Electronic Health Records in U.S. Hospitals," *New England Journal of Medicine*, Volume 360:1628-1638, July 3, 2009

Privacy and Security

The privacy and security of patient's health records is of utmost importance. New York State and NYeC are doing everything in their power to make sure that the privacy and security of patient's health records are maintained when health IT tools are used:

- Federal and state laws strictly protect the privacy and confidentiality of health information about patients. New York State is requiring health IT networks and everyone who uses them to follow the same rules to protect the privacy and security of records shared through this system.
- Only the people (such as doctors, nurses, and their staff) who are involved in a patient's health care are allowed to access his or her health records using health IT, and only if the patient signs a consent form. Others, such as employers and immigration agencies, will not have access to patient information.
- Safeguards like passwords and other protections keep patients' records from being accessed without proper permission.
- Patients can request a list of everyone who has accessed their records using health IT.
- If improper access does occur, patients will be told, and New York State will make sure steps are taken to correct the problem so it does not happen again.

Q: Are electronic health records more secure than paper records?

A: While no records (paper or electronic) are 100-percent secure, electronic health records are capable of providing added security measures such as an audit log, which identifies anyone accessing the records and encryption that encodes the data to provide an even higher level of security.

Q: Can patients access their medical records?

A: New York State Law gives patients and other qualified individuals the right to access their medical records. There are some restrictions on what information may be obtained and fees may be charged by doctors, other providers and facilities for providing copies.

An individual can request his or her own medical records, and the law also permits access by other "qualified persons," which includes parents or guardians when they approved the care or when it was provided on an emergency basis. Attorneys representing patients and committees appointed to represent the needs of incompetent patients may also request records.

Q: What rights do patients have under HIPAA privacy standards?

A: HIPAA is a law that requires providers, health plans and other similar entities to observe certain rules for maintaining the privacy and security of patient information. The HIPAA Privacy Rule gives patients the right to access their health information, restrict

access by others, request changes, and learn how their health information has been accessed.

For additional information, see the HIPAA Basic: Privacy and Security Issues at www.dhhs.gov/ocr/privacysummary.pdf

Q: How are privacy laws different in New York?

A: New York law is more stringent than HIPAA for patient treatment, payment and health care operations. New York law requires providers to obtain patient consent for treatment. A patient centered affirmative consent policy was developed for the exchange of personal health information in New York through RHIOs. A state approved consent form was also developed to allow patients to choose who has access to their health information. The full set of New York's privacy and security policies and procedures can be found here: <http://www.nyehealth.org/SCP-policies>

Health IT Tools

Q: What is e-prescribing?

A: E-prescribing is the use of electronic tools to prescribe drugs. E-prescribing tools can include both software and hardware programs like personal computers, handheld and wireless devices, and touch screens. E-prescribing is one of the integral first steps to achieving the improvements in care that will result from the broad deployment of the EHR. Other issues related to this topic area include, but are not limited to, pharmacy automation, medication compliance, pharmacy databases, computerized provider order entry (CPOE), and adverse drug events (ADE).

Today, prescribers make their drug-prescribing decisions based on sometimes limited available patient information. Typically, they give a handwritten paper prescription to the patient, fax it to the dispenser or pharmacy; or have their staff call-in the prescription on behalf of the patient. With e-prescribing, the provider can electronically send prescriptions directly to a pharmacy from the point-of-care. The pharmacist may use electronic claims, eligibility, and benefits submission, which provides alerts about contraindications, the need for prior authorization, recently filled prescriptions of the same drug/medication and/or lower cost alternatives. E-prescribing also allows the dispenser to electronically contact the prescriber for approval of changes, refills, or renewals. The benefits of e-prescribing include:

- Legible prescriptions
- Alerts to help patients remember to take their medications properly
- Better management of medication costs
- Streamlining the refill processes
- Providing greater convenience for patients
- Reducing medication errors/injuries

Q: What is clinical decision support (CDS)?

A: Clinical decision support (CDS) is defined broadly as a clinical system, application or process that helps health professionals make medical decisions to enhance and help manage patient care. The clinical knowledge of interest could range from simple facts and condition relationships to best practices for managing patients with specific disease states, new medical knowledge from clinical research and other helpful functions such as reminders and alerts.

Q: What are registries?

A: A patient registry is a comprehensive list of patients that share a common characteristic, such as the same illness and offers the ability to analyze a specific patient population. Registries are used to search items in the EHR that allow doctors and other providers to:

- Determine patients with a specific medical condition.
- List patients taking a specific drug by class or name
- Generate alerts to a specific list of patients
- Generate letters (next visit, immunizations required)
- Query patients based on encounter / visit dates
- Report patient demographics by age, gender, location, etc...

Q: What are personal health records (PHRs) and patient portals?

A: A personal health record (PHR) is an electronic, universally available, lifelong resource of health information maintained and owned by an individual. The PHR is different from an EHR system maintained by a health care provider organization in that the PHR is maintained by the patient. These individuals own and manage the information in the PHR, which comes from both multiple health care providers and the individuals themselves.

PHRs can contain a diverse range of data but usually include information about:

- Allergies and adverse drug reactions
- Medications (including dose and how often taken) including over the counter medications and dietary supplements
- Illnesses and hospitalizations
- Surgeries and other procedures
- Vaccinations
- Laboratory test results
- Dietary and physical fitness activity
- Family history

A patient portal is a health care-related online application that allows patients to interact and communicate with their providers. Typically, portal services are available on the Internet. Patient portals can be separate web sites linked to a provider's web site or can be integrated into the existing web site of the provider.

Q: What is the difference between PHRs and patient portals?

A: PHRs reside with the patient/individual who can add information a provider would not usually have access to. Patient portals are primarily communication tools between the doctors and patients and may have service enhancements like e-prescriptions and online appointment scheduling.

Q: How would these tools benefit patients? How would they benefit quality of care?

A: PHRs make clinical encounters more productive, streamline patient-provider communications, and help develop more efficient patient management processes. PHR benefits can be measured by fewer phone calls, lower 'no-show' rates with online

appointment booking, lower patient turnover and higher patient satisfaction, improved health behavior outcomes such as smoking cessation and weight loss, better adherence to condition management programs, greater ability to qualify for PHR incentive programs such as Health Risk Assessments, and higher practice revenue with online co-pay and bill pay.

Q: What tools are available for patients that might help them comply with their drugs and treatments?

A: In general, PHRs promote patient interest and participation in their own health and health care decisions, which can increase medication and treatment adherence. PHR tools include:

- Data entered directly from health monitoring devices (i.e., glucometer, blood pressure gauge, etc.)
- Alerts and reminders for medication refills and treatments (by email, cell phone, or text messages)
- Up-to-date medication list is available to the patient
- Real time access to health status indicators (e.g., weight loss, nutrition, exercise, immunizations, screenings)
- Drug and health encyclopedias
- Access to test results
- Email communications with providers

Cost and Benefits of EHR Implementation

Q: What are the typical costs and benefits to a doctor of implementing and maintaining an Electronic Health Record (EHR)?

A: Costs can vary considerably according to the model of EHR, its functionality, the level of support and other factors. These can include:

- Software (annual license)
- Implementation (one-time)
- Training (upfront and ongoing)
- Support and maintenance (ongoing)
- Hardware (computers + network) (upfront and ongoing)
- Temporary productivity loss (one-time)

Other costs might include:

- Contracting and legal fees
- Strategic planning
- Post-implementation support
- Integration with a local RHIO

Q: What are the benefits of implementing an EHR?

A: There are several benefits in implementing an EHR, though they can vary according to the functionality of the EHR, the extent of a doctor's use of the EHR's tools, payor mix, and the doctor's ability to organize workflow of the office to make the best use of the EHR and other factors. Savings for a medical practice can include the following:

- Reduction in chart pulls and chart storage
- Reduction in transcription costs
- More effective allocation of staff resources
- Prevention of adverse drug events
- Drug savings
- Laboratory and radiology savings
- More efficient and accurate capture of billing information
- Potential malpractice insurance premium discounts

Typical costs have been estimated to range from \$10,000 to \$15,000 per doctor⁵, though this depends on the type of functionality of the EHR, the needs of the doctor, the market environment and other variables. An assessment of the cost of an EHR should be available from the EHR vendor.

⁵ "Information Technology Comes to Medicine," Blumenthal, D; Glaser, JP, *New England Journal of Medicine*, Volume 356:2527-2534, Number 24

Several studies in the past have investigated the costs and benefits of implementing EHRs. Below are some examples. Please note that the potential costs or benefits of EHRs might have changed since the years in which these papers were published.

Miller RH, West C, Brown TM. (2005) The Value of Electronic Health Records In Solo Or Small Group Practices, Health Affairs, 24 (5) 1127-1137	
Description	Estimated Cost
Initial Costs	
- Software training, installation	\$22,038
- Hardware	\$12,749
- Lost revenues from reduced productivity	\$7,473
- Other	\$1,145
Ongoing Costs Per Provider Per Year	
- Software maintenance and support	\$2,439
- Hardware replacement	\$3,187
- Internal IS staffing/external IS contractors	\$2,047
Benefit to Implementing	Estimated Savings/Provider/Year
Increased coding levels	\$16,929
Personnel savings	\$6,759
Transaction savings	\$5,334
Paper supplies savings	\$1,051
Efficiency revenue gains from increased visits	\$2,664
Wang et al. (2003). A Cost-Benefit Analysis of Electronic Medical Records in Primary Care. <i>The American Journal of Medicine</i> , 114, 397-403.	
Description	Estimated Cost
Software (annual license)/physician	\$1,600
Implementation/physician (one-time)	\$3,400
Support and maintenance/physician (annual)	\$1,500
Hardware (computers+network)/physician (every 3 yrs)	\$6,600
Temporary Productivity Loss/physician (one-time)	\$11,200
Benefit to Implementing	Estimated Savings/Provider/Year (Effective Year)
Improved charge capture	\$7,700 (Year 4)
Chart pull savings (efficiency)	\$3,000 (Year 1)
Transcription savings	\$2,700 (Year 1)
Prevention of adverse drug events	\$2,200 (Year 2)
Drug savings	\$16,400 (Year 2)

Laboratory savings	\$2,400 (Year 4)
Radiology savings	\$8,300 (Year 4)
Billing error decrease	\$7,600 (Year 4)

To access the entire studies, please click on the links below:

- [The Value of Electronic Health Records in Solo or Small Group Practices - Miller RH et al. \(9/1/2005\)](#)
- [A Cost-Benefit Analysis of Electronic Medical Records in Primary Care - Wang SJ et al., \(4/1/2003\)](#)
- [The Economic Effect of Implementing an EMR in an Outpatient Clinical Setting - Barlow S et al. \(1/1/2003\)](#)