



Mount Sinai Medical Center Personal Health Card

One of the country's oldest and largest voluntary teaching hospitals, New York's Mount Sinai Hospital is a 1,171-bed tertiary-care teaching hospital, with a medical staff of nearly 1,800, treating patients in Manhattan's Upper East Side and Harlem. It is internationally acclaimed for excellence in clinical care, education and scientific research in nearly every aspect of medicine.

Officials at Mount Sinai, recognizing the need for more effective ways to verify patient identity and facilitate clinical data exchange, partnered with Siemens, a leading healthcare technology vendor, to create the Personal Health Card (PHC) initiative.

Recognizing that a truly effective solution to the problems of identity verification and information exchange had to work across multiple organizations, Mount Sinai partnered with nine other participating institutions in the greater New York City area to create a regional HealthSmart Network. Mount Sinai began issuing patient photo identification smart cards with embedded microprocessor chips that can store patient information and can be routinely updated by health care professionals throughout the network. Healthcare providers in the network are Mount Sinai Hospital of Queens, Cabrini Medical Center, Elmhurst Hospital, Atlantic Health, North General Hospital, Queens Hospital, St. John's Riverside Hospital, Jersey City Medical Center and Settlement Health, a clinic in the East Harlem/El Barrio area.

The cards can store vital patient information such as demographics, allergies, current medications and laboratory results, and uses a patient photograph to aid in the verification process. On the administrative side, the PHC provides a singular, snapshot view of the patient's medical and personal information, which can be shared across the network among physicians and admission staff. The PHC cards can be read and updated at any institution in the network.

Problems Solved by the Mount Sinai Personal Health Card

Identity and Registration

Accurate registration and identity verification can be extremely challenging in a large urban hospital like Mount Sinai. With its large ethnic population, there are many common names. For example, if hospital officials searched their records for Juan Gonzalez, there might be 100 patients with that name in the database. Making sure they have the right Mr. Gonzales in front of them is the problem.

The PHC provides institutions in the network with positive visual identification of the patient, through comparison of the patient who is presenting the card with the photograph on the card. The card also provides a direct link to the patient's medical record number printed on the face of the card as both a number and a barcode. The card includes the patient's full name, which improves registration efficiency and accuracy.

Immediate Access to Accurate Medical Information

From EMTs to emergency room personnel to specialists and other physicians, everyone in the continuum of care needs immediate access to accurate information such as the patient's medical history, allergies to medications, and prescription and over-the-counter drugs taken. According to a recent study conducted by the Boston Consulting Group, as much as 40% of patient information is missing when it is needed by a medical professional for proper care. Also, a 2006 report published in the Journal of the American Medical Association found that adverse drug interaction along with medical errors result in an estimated 225,000 deaths per year.

The PHC solves the issue of medical information accuracy by providing accurate, up-to-date information that can be accessed immediately at the point of care, a huge benefit for both patients and healthcare providers.

Cost Savings and Payment

The registration process is also critical for proper billing and revenue capture. Two of the most common reasons for claims denials are incomplete demographic and insurance information, costing a healthcare institution millions of dollars in lost or delayed revenue. The process of reviewing and resubmitting old claims can also be an expensive process since it often requires detailed chart reviews and outreach to patients and physicians for additional information. The revenue cycle at Mount Sinai is highly dependent on the front-end registration process, which drives much of the downstream claims process. As much as 70% of the errors that contribute to pending and denied claims are attributable to issues with the registration process.

The PHC can greatly reduce medical record maintenance costs associated with errors from duplicate or commingled patient records. These errors occur when a new record is created for an existing patient, or the wrong patient record is selected. Reducing identity errors during patient registration can also greatly improve billing and collection processes and enhance revenue capture.

Medicare/Medicaid and Fraud

Mount Sinai has a large Medicaid/Medicare population that makes heavy use of its ambulatory clinics and emergency room. When registering for the first time, patients receiving clinic care must go through a financial screening process that documents their insurance coverage and verifies identity. Patients are then given a clinic card and are required to re-certify annually.

Unfortunately, clinic cards and most Medicaid/Medicare cards do not have photographs. This has made it difficult for Mount Sinai employees to ensure that the patient named on the card is the actual patient in front of them. Patient fraud and abuse does exist, and it can be difficult to detect and harder to prevent with the clinic card process.

With the PHC, however, it becomes much more difficult to obtain healthcare services through fraudulent means, since the card includes a photo of the cardholder and requires use of a password and personal identification number known only by the cardholder.

Information Sharing, Confidentiality and Privacy

At Mount Sinai, all credentialed physicians have access to an array of clinical systems that house patient medical information, with systems able to be remotely accessed via a secured physician portal. However, other health care organizations in the network, as well as community-based clinics and private practice groups, do not have direct access to the clinical data. Data sharing among these groups can be uneven, commonly involving photocopied charts, faxed results and consultations and communication by telephone.

This critical problem is compounded by the fact that patients themselves can be unreliable sources of information, often forgetting or omitting important medical facts such as serious allergies, current medications, past procedures and chronic illnesses. Not having a good medical history can be serious and potentially life threatening.

Mount Sinai also needs to maintain the privacy of health information as directed in the Health Insurance Portability and Accountability Act (HIPAA) of 1996.

Mount Sinai officials believe that the PHC will significantly lessen many of these issues with identity and information sharing, increase privacy protection for patients, and help the organization to comply with HIPAA regulations. The ability to quickly and correctly identify patients and link them to complete medical records will benefit all stakeholders – patients, institutions, providers and payers. And the security features of the PHC will provide the highest levels of privacy protection.

Unlike normal ID cards that have no built-in security to protect the information printed on them, smart cards use the on-board computer chip and sophisticated cryptographic techniques to allow

access to the information only to those authorized to see it. All patient data is stored on the chip in an encrypted format, and can only be accessed through the chip operating system with special software. Access privileges are set based on an individual's permission to see a specific type of information; for example, someone who is permitted to access identification and insurance information will not necessarily have access to medical information. Other built-in safeguards protect against tampering or creating counterfeit cards. Thus, the PHC helps network members comply with HIPAA regulations for keeping patient records and sharing patient data among physicians and emergency personnel. Privacy is also supported by limiting access to specific patient information, and by safeguarding its integrity and confidentiality.

Language Issues and Electronic Health Records

Language barriers can also hinder information gathering. Although Mount Sinai has staff who can provide translation services in many different languages, there is not always time for this in an emergency situation. There are also times when the patient is unconscious or unable to speak. As a result, healthcare providers can be forced to make critical decisions with little or no information.

The PHC helps to solve this issue because healthcare providers can access the medical information stored on the card, regardless of the patient's language or ability to speak.

In addition, the PHC itself speaks the emerging standard "medical" language. Data storage protocols are compliant with the HL7 and the XML-based Continuity of Care Record (CCR) standards for electronic health records. HL7, a nonprofit organization, has developed widely recognized standards for the interoperability of electronic health care information, so it can be shared among various IT systems and applications. CCR is a related standard that allows physicians to easily create a sharable electronic health record containing the most relevant and timely core health information about a patient.

Mount Sinai's PHC implementation leverages smart card technology as a practical enabler that enhances the privacy and confidentiality of patient information and that provides easier access to patient information that is critical for both patient care and for healthcare administration. Only smart card technology puts the patient in control of their information and provides a robust solution that addresses the privacy and security concerns associated with personal healthcare information.

This profile was developed with input from Paul Contino, Vice President for Information Technology, Mount Sinai Medical Center.

For more information about how smart cards are used for secure identity and other applications, please visit the Alliance web site at <http://www.smartcardalliance.org>.