

Matching Patients and their Data Background Paper

A key component for information exchange in health care is the ability to correctly match patients to their data. In the financial services industry, common rules for exchange of electronic data have enabled automated teller machine transactions. The same approach can be applied to health care transactions. Patient identification and matching is necessary for healthcare operations such as administration, care delivery, record keeping, information management and health information exchange among providers participating in a network. Complicating the matching process is the fact that patients are mobile, visit multiple providers and are treated by multiple organizations. The challenge is to uniquely identify patients across multiple providers and match them to information from multiple locations.

At present, patient matching often involves the use of a medical record number, issued and maintained by a provider. This number is based on the organization's master patient index (MPI) and the numbering system is specific to the issuing organization. A patient can have multiple medical record numbers, each issued by the organization that provided them care and such numbers uniquely identify the patient only within the issuing organization. A patient identifier that is unique only within one organization or enterprise does not address the issues of matching patients and their data between organizations. In order to uniquely identify an individual across multiple organizations, other processes need to be considered..

The four functions that a unique patient identification¹ should support are:

- Positive identification of the individual for delivery of care
- Identification and matching of patient information
- Support the protection of privacy and confidentiality through accurate identification
- Reduce healthcare operational costs and enhance the health status of the patients by supporting patient record management

The Council for Affordable Quality Healthcare (CAQH), which is composed of health plans, providers and vendors, has established the Committee on Operating Rules for Information Exchange (CORE.) CORE has examined the issues surrounding patient identification through extensive work with health care providers and payers involving a health care industry electronic data interchange standard transaction known as the 270 Eligibility Inquiry. According to the HIPAA 270 Implementation Guide, the maximum data elements that can be required by an information source to identify a patient are patient's member identification, patient's first name, patient's last name and patient's

¹ *Analysis of Unique Patient Identifier Options*, Final Report, November 24, 1997, by Soloman I. Appavu, prepared for the U.S. Department of Health and Human Services

date of birth. Health plans hold varying interpretations of this document, some require the four data elements, and others require less.

The challenge for providers is that patients often do not have their health plan card with unique patient identifier at the time of receiving health care services and provider numbers are not associated with all health care data transactions. Until recently, the patient social security number was often used as the patient identifier by health plans. At present most health plans issue each subscriber a unique identifier distinct from the subscriber's social security number. The result is that providers do not always have an easy way to search for a patient in a health plan, particularly in urgent patient care situations.

Parts of the health industry have developed “workarounds” to the patient identification challenge and are successfully exchanging electronic patient health information. In testimony to the NCHVS in September 2005, Dr. John Halamka described a functioning identification methodology currently in use in the absence of a universal identifier. A probabilistic statistical match of an individual based on demographics is created and used to link all the places of care that an individual has been. According to Dr. Halamka's testimony, various systems typically have a standard transaction (i.e., HL7 segment) at the point of registration or admission that accurately describes the patient. That transaction has the core data elements of name, gender, date of birth and zip code that are all stored in almost every system in the country. Testimony was also heard from Teri Byrne, Vice President of Standards and Product Management at RxHub. RxHub uses a master patient index (MPI) with limited demographic information (i.e., last name, first name, middle name, suffix, date of birth, zip code and gender) to match the patient. Essentially it is a patient information locator, because neither medication history nor clinical data are stored, rather the location of the data is found.

To more fully examine the subject of matching patients to their data from different organizations, the next steps the Consumer Empowerment Workgroup might consider are:

- Evaluate the accuracy and utility of patient – data matching methods that rely on a number of demographic data elements and a probabilistic matching process.
- If probabilistic approaches are considered adequate, ask that the Nationwide Health Information Network and the Health Information Technology Standards Panel develop and standardize the necessary architecture and standards for a probabilistic matching process.
- If probabilistic matching is viewed as inadequate, make recommendations for necessary policy advances (such as standardizing and requiring the use of health plan numbers) to have reliable patient identification that will protect patients' needs to access, manage and control their medical data.