

Medicaid's HIE Initiative: Emergency Department (ED) Linking

The ED Linking Project is designing and implementing a secure, rapid-response HIE system. This system will be accessible through workstations at Milwaukee County's hospital EDs, local and state public health departments, and initially one Federally Qualified Health Center (FQHC). The project is funded by a \$3 million Medicaid Transformation Grant (MTG) and dollars and/or resources from the five Milwaukee Health Care Systems and Microsoft, Inc. The Wisconsin Health Information Exchange (WHIE, www.whie.org), a regional health information organization, is responsible for implementing and managing the exchange.

The primary goal of the ED Linking project is to provide patient health information where currently there often is none or very little available to help ED and Community Health Center clinicians in Milwaukee County provide patients quality, safe, and cost-effective health care.

The exchange system will provide clinicians on-site, on-demand patient medical history for use in treatment. When fully operational, this system will positively impact over 200,000 Medicaid members as well as other patients receiving health care in Milwaukee. To understand the impact of the ED Linking project on the Medicaid program and assess the value it is providing to the health care community overall, Dr. Patricia Brennan and her team from the University of Wisconsin (UW)-Madison are evaluating the project outcomes, including the effects on health care outcomes and costs for the Medicaid population of patients in particular.

The ED Linking HIE system will aggregate a patient's clinically relevant medical claims and HMO encounter history data from Medicaid and the real-time admission, discharge, and transfer (ADT) data from the five hospital systems of Milwaukee County. The hospitals and their associated clinics transmit the ADT information to the exchange upon a patient's registration in the ED or FQHC. Medicaid is providing pharmacy and medical services data to the exchange. This data will be updated weekly and monthly.

The main stakeholders participating in the ED Linking project include the Department of Health Services (DHS), the WHIE, the Wisconsin Hospital Association (WHA), the Milwaukee Health Department, the UW—Madison, the five Milwaukee Health Care systems (Aurora Health Care, Children's Hospital of Wisconsin, Columbia-St. Mary's, Froedtert, and Wheaton Franciscan) and their hospital EDs, Health Care for the Homeless, and Microsoft, Inc.

In 2008, 13 Milwaukee-area hospitals and over 100 hospital clinics or service areas provided real-time ADT data to the exchange through system interfaces implemented by the ED Linking project. The project went live with an initial operational capability in the spring of 2008, providing ED clinicians with an aggregated view of ADT history and clinician treatment messages sent to the exchange for patients presenting at the ED. By the end of 2008, five hospital EDs were using this initial capability. Planning and implementation activities were underway for additional hospitals EDs and the FQHC to

begin using the exchange in 2009. An industrial engineer on the UW evaluation team completed three rounds of observations and an evaluation of clinicians' use of the ED Linking system and its integration into the ED workflow in three of the hospitals. The engineer observed the actors, activities, and start and stop times of activities beginning with the time a patient registered in the ED and ending when the physicians sent out the first order for treatment. The evaluation team reported its findings which resulted in some ED workflow and system configuration adjustments, as well as additional training for ED staff. The evaluation team will complete additional observations in 2009 after Medicaid data is fully operational in the ED Linking system.

Also in 2008, WHIE provided three public health authorities, including DHS' Division of Public Health, access to the ED Linking system for bio-surveillance purposes. In the latter part of 2008, DHS and WHIE completed the requirements and specifications for the Medicaid data elements and a new version of the ED Linking user interface to incorporate the Medicaid data into the ED Linking system user view. The project team began testing the new user interface with a 9-month extract of Medicaid data.

In February 2009, WHIE made a limited Medicaid pharmacy data extract available through the ED Linking system. A fully operational Medicaid pharmacy data feed to the ED Linking system was completed the end of April and the exchange is receiving weekly pharmacy data updates. Medicaid medical encounter (visit) data will be included in the exchange by late summer 2009.