

## Development of Risk-Adjusted Outcome Measures in the EHR Environment

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**Summary:** One way to evaluate performance in health care is to examine health outcomes, which can indicate changes in health status. However, in order to reflect the performance of a health care system or provider accurately, outcome measures require risk adjustment for patient factors such as comorbidities, severity of illness, and physiological status to compare performance across providers and over time.

The quality and usefulness of an outcome measure depends on the quality of its accompanying risk-adjustment model. Widespread electronic health record (EHR) implementation promises to supply more and better data upon which to base outcome measures and construct these models. Risk-adjusted outcome measures will be useful for quality improvement efforts, public reporting, pay-for-performance, oversight, and consumer decisionmaking.

For this project, the Joint Commission held an invitational conference to examine methodological issues related to the identification and development of outcome measures and their accompanying risk-adjustment models in the EHR environment. The conference explored several questions, including: How can EHR data be used to develop risk models for existing mortality and readmission outcome measures? What new risk-adjusted outcome measures beyond mortality and readmission rates can be generated through EHR data? What are the challenges and barriers to using EHR data in the development of risk-adjusted outcome measures, and how can they be overcome?

This conference was the first step in developing valid risk-adjusted outcome measures using data from the EHR to better understand the effectiveness of health care services.

### Specific Aims:

- Identify ways that the EHR can be used to develop new risk-adjusted outcome measures across health care settings. **(Achieved)**
- Identify ways that the EHR can be used to enhance current risk models that have been developed for existing outcomes measures. **(Achieved)**
- Use the results of the conference to form the basis of a demonstration project during which risk-adjusted outcome measures will be developed and tested using EHR data. **(Achieved)**
- Widely disseminate the knowledge and information gathered from the conference through a white paper. **(Ongoing)**

**2012 Activities:** Sixteen experts in outcome measures, EHRs, and risk adjustment convened on March

13-14, 2012, at the Joint Commission headquarters in Oakbrook Terrace, Illinois. Dr. Paul Schyve, Senior Advisor for Healthcare Improvement, moderated the conference. The conference involved a series of five brief presentations by various experts on: 1) outcome measures; 2) EHR technology; 3) EHR standards; 4) EHR implementation; and 5) risk adjustment. These presentations informed the discussion and brainstorming sessions on developing a framework for EHR outcome measures and risk adjustment in the hospital setting that followed. Specifically, the participants identified barriers and facilitators to using outcome data and outcome measures from the EHR and adjusting measures according to risk. Although the group learned over the course of their discussion that they are further away from identifying ways in which the EHR can be used to develop these measures than originally anticipated, the conference was productive and yielded recommendations that will be disseminated in a future white paper.

**Impact and Findings:** Findings from the conference will be reported in a white paper to be released in June 2013.

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**Target Population:** General

**Strategic Goal:** Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management.

**Business Goal:** Synthesis and Dissemination

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