Automated Clinical Data Collection for National Quality Measurement Reporting

Song Wang, MBA, Laura A. Noirot, BS, Richard M. Reichley, RPh, Patricia Storey, MHA, Patrick Traynor, MA, Wm. Claiborne Dunagan, MD, and Thomas C. Bailey, MD

ABSTRACT
Collecting data for the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) ORYX Core Measurement Reporting can be automated using an object-oriented, client-developed program that extracts data from a clinical data repository and utilizes an MHA vendor upload process. The process eliminated 39% of the manual data collection efforts.

INTRODUCTION
Prior to automation, BJC would upload patient demographic and diagnosis information (termed UB92) to define the populations involved in the ORYX measures. Hospital abstractors would then enter all clinical data associated with the JCAHO ORYX Core measures using a WEB site supported and operated by Quantros, Inc., a Missouri Hospital Association (MHA) certified vendor. In October 2005, Quantros offered the ability to update clinical data as well as the UB92 information. After constructing an automated BJC process to extract the required laboratory and pharmacy information from a clinical data repository, we used this upload process and evaluated the ease and effectiveness of this method.

METHODS
We conducted a retrospective validation with a pool of 40 acute myocardial infarction (AMI) patients by comparing data gathered by the abstractors prior to automation with data upload using the new automated process. We also evaluated the number of fields that could be populated from the clinical data repository in order to quantify the benefit to the abstraction process.

RESULTS
In the retrospective analysis, 82 of the 86 pre-populated fields for the 40 AMI patients were correctly populated. The 4 fields with discrepancies were due to changes in the data between the time of abstraction and upload verification. Currently the automated process is populating 99 of 114 fields for AMI ORYX measurement following JCAHO’s quarterly data dictionary update, and some fields are not part of the original validation. Table 1 shows the number of pre-populated data fields before and after the clinical data upload process, describing a 39% savings in manual data entry.

Table 1: Description of the number of fields before and after the clinical upload process.

<table>
<thead>
<tr>
<th></th>
<th>Total Fields</th>
<th>Before clinical uploads</th>
<th>After clinical uploads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient UB92 Data</td>
<td>63</td>
<td>58 (92%)</td>
<td>63 (100%)</td>
</tr>
<tr>
<td>AMI Clinical Data</td>
<td>51</td>
<td>0</td>
<td>36 (71%)</td>
</tr>
<tr>
<td>CHF Clinical Data</td>
<td>45</td>
<td>0</td>
<td>21 (47%)</td>
</tr>
<tr>
<td>Total</td>
<td>159</td>
<td>58 (37%)</td>
<td>120 (76%)</td>
</tr>
</tbody>
</table>

CONCLUSIONS
Automated data collection for JCAHO ORYX Core Measures can be realized with implementation of institution-based object-oriented programs that extracts data from a clinical data repository to be used by the Quantros upload process. Implementation of the automated process simplified the manual data collection process, while maintaining data quality.

REFERENCES