Improving the Quality of HIV Care via a Partnership between an EHR Company and a Medical Education Company

OBJECTIVE
The project required the ability to measure performance using technology that did not already exist. Measurement needed to align with the quality reporting requirements.

CHALLENGE
- Customers operate disparate databases, making data aggregation for research purposes typically very challenging without a controlled data repository, data de-identification and data normalization. To gain richer data, information needed to be pulled and aggregated from 8 different EHR databases.
- To create consistent measurements and CDS interventions, narrative guidelines needed to be converted into standardized, machine-readable technical specifications.

APPROACH
- Obtained leadership-level support for the project from the EHR client locations.
- Collaborated with clinical experts to develop technical specifications for 4 research measures and 8 non-research measures including a national, standardized code for denominators and numerators using International Classification of Diseases (ICD-9, ICD-10), Standardized Nomenclature of Medicine Clinical Terminology (SNOMED-CT), and Logical Observation Identifiers Names and Codes (LOINC).

DATA COLLECTION
- Write the data queries using international code sets to allow for long-term, global comparative effectiveness.
- POC: Long-term, global comparative effectiveness; measurement standardization; universal technical specifications that can be used with any Office of the National Coordinator for Health Information Technology (ONC)-certified EHR technology alignment with emerging federal performance measures, specifically HIN, Centers for Medicare & Medicaid Services (CMS) Clinical Quality Measures, and the Physician Quality Reporting System (PQRS).
- Cons: Requires consistent, structured data documentation for data capture.

CONCLUSIONS AND CLINICAL IMPLICATIONS
- Created SQL data queries using technical specifications for federal, de-identified patient-level health data retrieval across disparate databases; automated merging of results into a single aggregated report.
- Collaborated and developed HIV-specific patient questionnaires known as a “Care Survey” to capture patient-reported data on patient engagement effectiveness.
- Implemented Health IT solutions into client databases and clinical workflows.
- Created CME activities to educate providers on evidence-based guidelines supporting the research measures.
- Harvested baseline data and validated data for accuracy.

METHODS
- The National Quality Strategy calls for the transformation of healthcare delivery within medical practices with more stringent adherence to quality performance. A pilot quality improvement project was initiated between a national electronic health record (EHR) company and a medical education company to determine if more consistent delivery of care could be achieved and measured when aligned with clinical decision support technologies for point-of-care implementation, patient health management, provider engagement strategies, and online education modules. Under the American Recovery and Reinvestment Act of 2009, EHRs will begin experiencing Medicare reimbursement penalties in 2012 for non-adoption of these technologies. This pilot project leverages and enables participating providers to align CME with federal mandates to use EHR technologies and report quality performance.

The three-pronged, innovative intervention set included:
- Multidisciplinary HIV healthcare team online education—EHR-delivered CDS and population management tools such as patient reminders, alerts, and patient outreach solutions;
- Point-of-care patient activation questionnaires.

A performance-level assessment plan (Figure 1) will determine the impact of the interventions. Results are expected in late 2014.

The primary outcome measure is change in performance against evidence-based HIV quality standards. Secondary measures received change in performance for primary care for the subset of women with HIV and overall viral suppression.

Figure 1- Assessment study design

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<th>Measure</th>
<th>Sample Measure Specification Codes</th>
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| • The study population was pulled from EHR company Greenway Health’s network of community health centers and HIV clinics opting to participate and includes:
  - 34 clinics treating HIV/AIDS patients
  - 24 physicians and 4 non-physician providers
  - 308335008, 390906007, 406547006, 439708006, 4525004, 90526000 OR SNOMED Codes: 12843005, 18170008, 185349003, 185463005, 185465003, 19681004, 207195004, 270427003, 270430005, 308335008, 390906007, 406547006, 439708006, 4525004, 90526000 |
| | • Physician and patient inclusion and exclusion criteria were set based on two HRSA/HAB measures and recommendations from a panel of expert clinicians. |

The over-arching objectives of this project were to blend continuing education with health information technology in the form of EHRs, clinical decision support (CDS), and population health management and patient questionnaires to develop and test HIV research data algorithms; and to increase provider performance and guideline adherence.

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