

Beyond Medicare Claims: Performance Measures from Electronic Health Records

Jinnet Briggs Fowles PhD
Park Nicollet Institute

Mining Medicare Claims: Searching for Value in the Medicare Program

University of Minnesota, School of Public Health

October 31, 2006

Report on a Current Research Project

E-indicators of Health Care Provider Performance: developing, evaluating and implementing electronic health record-based quality indicators for ambulatory and integrated health care systems

- Co-principal Investigators:
 - Jinnet Briggs Fowles PhD, Park Nicollet Institute
 - Jonathan P Weiner DrPH, Johns Hopkins Bloomberg School of Public Health
- Funded by The Commonwealth Fund and the Robert Wood Johnson Foundation, with additional support from the Agency for Healthcare Research and Quality
- December 2006 - May 2007

E-indicator Project Goals

- Identify performance measures based on electronic health records
- Reflect empirical experience of early adopters of electronic records
- Accelerate conceptualization of what 21st century performance measures might look like
- Build a community of people interested in this issue (providers, researchers, national experts, vendors)

E-indicator Project Approaches

- Build consortium of integrated delivery systems
 - Billings Clinic, Geisinger, HealthPartners, Kaiser Portland, Park Nicollet
- Assemble national advisory panel
 - ABIM, AMA, NCQA, NQF, CWF, RWJ, AHRQ
- Conduct literature review
- Survey early adopters
- Formulate case studies

Relationship of EHRs and Performance Measures (the How)

- EHRs may make measurement
 - Cheaper (programming rather than abstracting)
 - More comprehensive (population, not sample)
 - Faster (provide more current feedback)
 - More efficient (select few from a large array)

Relationship of EHRs and Performance Measures (the What)

- EHRs may make different types of measures possible
 - Produce better measures (more clinical information)
 - Measure over time
 - Identify low frequency-high risk problems
 - Encourage patient-centered measures
 - Measure care coordination

Five Case Studies

- Billings Clinic
 - Antibiotics and warfarin (beyond alerts)
- Geisinger Health System
 - Diagnoses in problem list (data in coded fields)
- HealthPartners
 - High blood pressure measurement (translation efficiency)
- Kaiser of the Northwest, Portland
 - Tobacco cessation counseling (natural language)
- Park Nicollet Health Services
 - Perfect care for people with diabetes (summary)
 - Assessing EHR use (implementation monitoring)

Antibiotics and Warfarin

- Disband all the alerts
- Process:
 - pop-up if high-risk antibiotic ordered for patient on warfarin
 - Provider can access alternative antibiotics ordered by risk
 - If ordered, alert automatically sent to pharmacist at anticoagulation clinic
- Measure:
 - % INR excursions caused by warfarin-antibiotic interactions

Diagnoses in the Problem List

- Need
 - Information must be in structured field to be accessed
 - Incomplete problem lists
- Approach
 - Reconciliation of encounter diagnoses with problem list

High Blood Pressure Measurement

- Need
 - Public reporting, pay-for-performance
- Approach
 - Replace claims/medical record measure with e-measure
- Measure
 - % patients 46-85 with dx of hypertension whose BP was adequately controlled in measurement year
- Gain
 - \$ savings for medical record review

Tobacco Cessation Counseling

- Need
 - Desired information is in free text field
- Approach
 - Developed “MediClass” a general-purpose, knowledge based system to detect clinical events in either coded or free-text portions of EMR
- Validation

Perfect Care for People with Diabetes

- Need
 - Bundled measurement to accelerate improvement
- Measure
 - % those with diabetes compliant with hgbA1c, LDL, BP, daily ASA use, and no tobacco

More Options

- Mortality
- Measures that report “time to...” e.g., follow-up of abnormal lab results
- Measures provided by patients
 - Patient-reported outcomes from item banks
 - Patients’ preferences, needs and values

Other Issues

- EHRs may introduce new sources of bias
- EHRs may introduce new quality problems “e-iatrogenesis”
- Transitional issues
 - Data warehouse constraints
 - Vendor constraints
 - Implementation measures

The Future

“It would be unfortunate, however, if , as the number of practices with EHRs grew, the country was tethered to a measurement system that lagged behind the deployment of clinical information systems.”

Paul Tang

JAMIA preprint Oct 26, 2006

Doi:10.1197/jamia.M2198

Questions?

jinnnet.fowles@parknicollet.com