



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care www.ahrq.gov

Preventable Hospitalization Costs: A County-Level Mapping Tool

June 16, 2008

Marybeth Farquhar
Agency for Healthcare Research and Quality


Melanie Chansky
Battelle Centers for Public Health Research and Evaluation

Webinar Overview



- Overview of Mapping Tool
- Demonstration
- Overview of Data
- Interpretation and Use of Results
- Future Plans

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Overview of Mapping Tool



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AHRQ Quality Indicators (QIs)

- Use existing hospital discharge data, based on readily available data elements
- Incorporate severity adjustment methods (APR-DRGs, comorbidity groupings and hierarchical modeling)
- Five modules: Inpatient, Patient Safety, Prevention, Pediatric, and Neonatal

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Preventable Hospitalization Costs: A County-Level Mapping Tool

The mapping tool is a new QI software application designed to help organizations to:

- better understand geographical patterns of potentially preventable hospital admission rates for selected health problems.
- allocate resources more effectively by calculating potential cost savings if admission rates are reduced.

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Main Functions of the PHC Tool

- Creation of maps that show the rates of hospital admission for selected health problems on a county-by-county basis.
- Calculation of potential cost savings that may occur if the number of hospital admissions for selected health problems in each county is reduced.
- Ability to place additional information about local populations onto maps to indicate the number of persons who are at greatest risk for those health problems in each county.

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It processes all Prevention QIs...

- PQI 1: Diabetes Short-term Complications Admission Rate
- PQI 2: Perforated Appendix Admission Rate
- PQI 3: Diabetes Long-term Complications Admission Rate
- PQI 5: Chronic Obstructive Pulmonary Disease Admission Rate
- PQI 7: Hypertension Admission Rate
- PQI 8: Congestive Heart Failure Admission Rate
- PQI 9: Low Birth Weight Rate
- PQI 10: Dehydration Admission Rate
- PQI 11: Bacterial Pneumonia Admission Rate
- PQI 12: Urinary Tract Infection Admission Rate
- PQI 13: Angina, without Procedure Admission Rate
- PQI 14: Uncontrolled Diabetes Admission Rate
- PQI 15: Adult Asthma Admission Rate
- PQI 18: Lower Extremity Amputation Rate among Diabetes Patients

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There is no longer a PQI 4 and PQI 6.

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and all area-level Pediatric QIs

- PQI 14: Asthma Admission Rate
- PQI 15: Diabetes Short-term Complications Admission Rate
- PQI 16: Gastroenteritis Admission Rate
- PQI 17: Perforated Appendix Admission Rate
- PQI 18: Urinary Tract Infection Admission Rate

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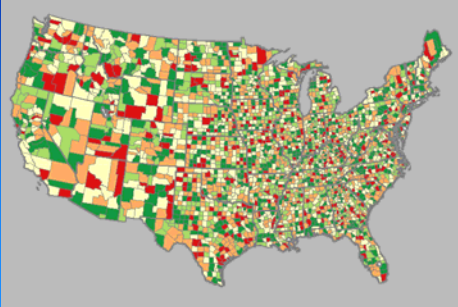
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Tool Demonstration

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Questions?



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Overview of Data


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Underlying Data Used by the Tool

- Current indicator specifications
- Cost-to-charge ratios
- Census data


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User-provided data

- Most tool functions require data provided by the user
- Certain data elements are *required* for creating maps and calculating county-level QI rates
- Some data elements are *optional* – cost savings and population data

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Required Variables

The following variables must be present in your data file:

- Age (patient age in whole years)
- Ageday (patient age in days)
- Sex (sex coded 1 for male, 2 for female)
- DX1 (ICD-9-CM primary diagnosis)
- PR1 (ICD-9-CM primary procedure)
- MDC (major diagnostic category)
- DRG (diagnosis related group)
- PSTCO (county of patient residence)
- Atype (admission type)
- Asource (admission source)

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Optional Variables

The following variables are optional, but are needed if the user wants the PHC tool to calculate potential cost savings:

- Totchg (total charges)
- Hospid (State Inpatient Database hospital identifier)

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Optional Population Dataset

A second dataset is required if users wish to overlay population information on maps. This dataset must include the following variables:

- County (State FIPS code followed by county FIPS code)
- Sex (sex coded 1 for male, 2 for female)
- Age (age group coded 1 for 0-17, 2 for 18-39, and 3 for 40+)
- Pop (population by sex and age cells)


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Data Problems

- Most reported problems are related to the user datasets.
- The QI team can provide technical assistance with your dataset if you cannot solve your problem with the information provided here.


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Outputs

- All outputs are automatically placed in the folder where your dataset is located
- Outputs include:
 - CSV file
 - Excel file
 - Maps


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CSV & Excel Files Include:

- Numerator count of flagged cases
- Denominator count of the at-risk population
- Observed rate
- Risk-adjusted rate
- Standard error of risk-adjusted rate
- Whether county is significantly higher or lower than statewide rate
- Potential cost savings associated with a 10% reduction in flagged cases (*optional*)


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Maps


- Separate maps will be created for each selected QI
- Files will be named after the QI, e.g., *PQI14*, *PQI1*
- Can be opened and manipulated using any graphics program or picture viewer

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Interpretation and Use of Results

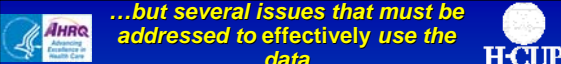
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There are many possible uses for mapping tool data...

- Public Reporting
- Intervention Targeting
- Tracking Intervention Impact
- Identification of Best Practices


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...but several issues that must be addressed to effectively use the data

- Data leaves you with more questions: Are these rates reasonable? Do they present significant quality concerns?
- Excel data needs to be manipulated to present a more dynamic, appealing, and concise data display.

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Sources of Comparison Data

- State benchmarks (provided by tool)
- PQI and PDI User Guides
- HCUPnet
- NHQR / NHDR

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Presentation of Data

- Focus on using maps for presentations of data
- Focus on using Excel outputs for further analysis or as source data for new graphics
- Consider creating concise narrative data summaries

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Future Plans

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We're exploring ways to improve the mapping tool...

- Incorporation into Windows QI Software
- Allow for mapping below the county-level (zip-code, etc.)
- Other ideas??

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Further Info on the Mapping Tool

- 2 versions available:
 - **SAS** (requires SAS version 9 or higher and Office 2003 or higher)
 - **Windows** (runs on Windows NT, XP, 2000, and Vista only; requires Office 2003 or higher)
- Download the Mapping Tool at:
 - <http://www.qualityindicators.ahrq.gov/mappingtool.htm>

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Additional Assistance

Technical Assistance:

- Margie Shofer, Marjorie.Shofer@ahrq.hhs.gov
Senior Program Analyst, Office of Communications and Knowledge Transfer

For questions about the tool:

- support@qualityindicators.ahrq.gov

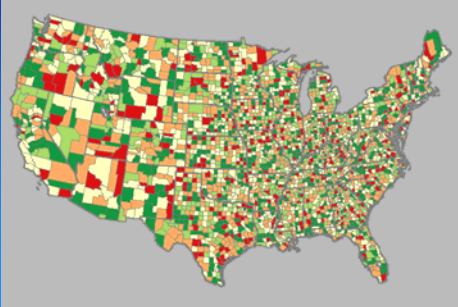
For more information about AHRQ Quality Tools:

- <http://www.academyofhealth.org/ahrq/qualitytools/index.htm>

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Questions?



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