




**Agency for Healthcare Research and Quality**  
Advancing Excellence in Health Care [www.ahrq.gov](http://www.ahrq.gov)

## Hands-on Tool Training: Preventable Hospitalization Costs: A County-Level Mapping Tool

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Tools You Can Use to Make a Difference  
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## System Requirements

- Windows version:
  - Windows NT, XP, 2000, or Vista *only*
  - Microsoft .NET framework, v2 or higher
  - Office 2003 or higher
- SAS version:
  - SAS version 9 or higher
  - Office 2003 or higher
- Not currently available for Macs


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## QIs Used in the Tool

- Version 3.1 Prevention Quality Indicators (14 - all)
- Version 3.1 Pediatric Quality Indicators (5 – area level only)
- The PHC tool does NOT process any Inpatient Quality Indicators or Patient Safety Indicators

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## Navigating the Tool

The PHC tool is fairly simple and has only 4 screens. Users navigate through these screens to use the tool. The 4 screens are:

- Overview
- Specify Discharge Dataset
- Select QIs to Process
- Map Display Options


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## Screen 1: “Overview”

- None of the functions of the tool are accomplished using this screen
- Presents a shorter version of what is found in the technical documentation
- Available as a resource if needed

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## Screen 2: “Specify Discharge Dataset”

- Allows users to select the hospital discharge data file to be used for analysis
  - Single state, single year (1995-2007)
- Must manually select state and year from drop-down menu
- On-screen explanation (also found in technical documentation) explains required file format and variables

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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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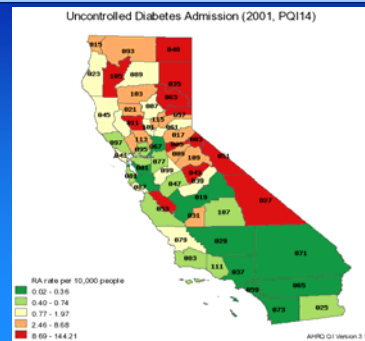
## Screen 3: "Select QIs to Process"

- Can select any or all available QIs to be processed using the user-supplied dataset
- PQIs and PDIs are located on separate tabs
- This is the last required screen. Users can submit their data and finish here

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## Sample Map



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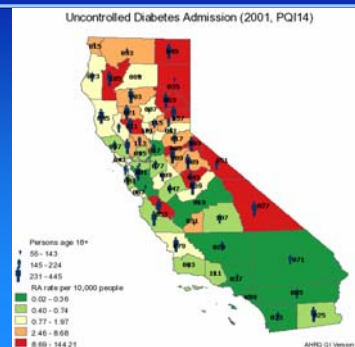
## Screen 4: "Map Display Options"

- Allows users to overlay population information onto maps
- Requires a second dataset with variables county, sex, age, and pop
- Produces map with stick figures representing the relative size of the population at risk for the selected QI

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## Sample Map



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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 File

- One ASCII CSV dataset is created regardless of how many QIs were selected
- The dataset is always called *summaries.csv*

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## Excel Files

- One Excel file is created for all PQIs selected, another Excel file is created for all PDIs selected
- Files are always called *PQI* or *PDI*
- Each selected PQI/PDI will have its own worksheet named after the specific QI, e.g., PQI14, PQI1, etc.
- Contains same data as CSV file, but is easier to read

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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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It is recommended that users move and/or rename all output files after running the PHC tool because the automatically-generated file names are not specific and files can easily be overwritten!

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## Where to Download

Download the PHC mapping tool (SAS and Windows versions) and all technical documentation at:

<http://www.qualityindicators.ahrq.gov/mappingtool.htm>

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## Questions

If you have technical questions of any kind while using the PHC tool, contact the QI team at:

[Support@qualityindicators.ahrq.gov](mailto:Support@qualityindicators.ahrq.gov)

or

1-888-512-6090

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