AHRQ Quality Indicators
Smoothed Rate Confidence Intervals

September 13, 2010

Instructions for Calculating Smoothed Rate Confidence Intervals in WinQI

Introduction

In the current version of the AHRQ QI Windows Software (WinQI), the provider and area level reports do not include the confidence intervals for the smoothed rate. The AHRQ QI team is providing an Excel workbook entitled "Calculating the Smoothed Rate CI in WinQI" that helps compute the upper and lower bounds of the smoothed rate confidence intervals. This document provides instructions for using the Excel workbook.

The workbook consists of three linked worksheets:
1. Worksheet "Provider or Area Reports": Contains rows into which you enter data from the WinQI provider or area level reports.
2. Worksheet "Calculations": Contains formulae that calculate the smoothed rate confidence intervals.
3. Worksheet "Smoothed Rate CI Results": Contains the resulting values for the upper and lower bounds for the 95% probability smoothed rate confidence intervals.

Step 1. Enter Provider or Area Level Data

Enter data from the WinQI provider or area level reports into the worksheet entitled "Provider or Area Reports." Enter one row of data for each provider or area. Six example rows have been provided for you. You should replace these with your own data.

For each indicator, you will enter eight data elements per provider or area.
1. Indicator module (e.g. PQI, IQI, PSI, PDI)
2. Indicator number (e.g. 8, 9, etc.)
3. Provider or area ID
4. Reference population rate
5. Risk adjusted rate
6. Risk adjusted rate confidence interval lower bound
7. Risk adjusted rate confidence interval upper bound
8. Smoothed rate.

These data elements are generated by the AHRQ QI Windows Software using the Provider or Area Report Wizard. The results may be exported to a CSV file.

Step 2. Copy Rows in the "Calculations" Worksheet

After you have entered the data for the providers or areas, switch to the worksheet entitled "Calculations." Five identical rows have been provided for you. They contain formulae that

calculate smoothed rate confidence intervals based on the values in the worksheet "Provider or Area Level Data."

Create additional copies of these rows within the "Calculations" worksheet. You need to have one row for each row of data in the worksheet "Provider or Area Level Data."

Do not modify any of the cells in the "Calculations" worksheet. Their values are linked to cells in the other two worksheets.

Step 3. View Results

After you have created the correct number of rows in the "Calculations" worksheet, switch to the "Smoothed Rate CI Results" worksheet. Here you will find your results.

The upper and lower bounds for the 95% probability confidence intervals for smoothed rates are in the columns labeled "Smoothed Rate Conf. Int. Lower Bound" and "Smoothed Rate Conf. Int. Upper Bound", respectively.

If you have any difficulties or questions on the Excel documents, please contact support@qualityindicators.ahrq.gov.