Risk Adjustment Methods

Risk-adjusted home health agency outcome measures are reported on Home Health Compare, along with national and state outcome measure averages. Risk adjustment is based on statistical models estimated on a national sample of home health agency patients to predict individual patient outcomes based on patient health status and other attributes at admission to home health care. The method used to risk adjust home health agency outcome measures is as follows:

1. The observed outcome rate for the agency is calculated for all eligible patients receiving care from the agency during the most recent twelve month period:
   $Agency_{obs}$ = *(# of patients achieving outcome)/(# of patients eligible for outcome)*
2. For each of the same patients, a predicted outcome probability is calculated based on the statistical risk model and the patient's condition at admission to home health care.
3. Predicted outcome probabilities are averaged across all of the patients served over a twelve month period, to yield a predicted outcome rate for the agency:
   $Agency_{pred}$ = *(sum of predicted probability)/(# of patients eligible for outcome)*
4. National observed and predicted rates are calculated in the same manner for the same twelve month period, by aggregating across all patients served by any home health agency in the United States.
5. The agency rate is risk adjusted by adding to the observed agency rate the difference between the national predicted rate and the agency predicted rate, using the following formula:
   $Agency_{ra} = Agency_{obs} + (National_{pred} - Agency_{pred})$

   If applying the risk adjustment formula results in a number less than zero the risk-adjusted rate is set to zero. Similarly, if the result is greater than 100%, it is set to 100%.

   On the Outcome-Based Quality Improvement reports that home health agencies receive, the observed agency outcome rate is reported and the national reference rate is risk adjusted. This is done using the same method as for Home Health Compare, but the following formula is used:
   $National_{ra} = National_{obs} + (Agency_{pred} - National_{pred})$