

## **Risk-adjustment methods**

The risk-adjusted outcome reports provided for home health agency outcome-based quality improvement includes, for each outcome measure, the agency's observed outcome rate and a risk-adjusted national reference rate. The national reference rate is calculated based on the case mix of the agency's patients, using statistical models estimated on a national sample of home health agency patients. The method used to calculate the national reference rate is as follows:

For each home health agency patient to whom a particular outcome measure applies, a predicted outcome probability is calculated, based on the patient's health status and other attributes at admission to home health care. Predicted outcome probabilities are averaged across all of the agency's current patients to yield a predicted outcome rate, which is displayed as the national (risk-adjusted) reference rate for that agency. This current predicted outcome rate can be interpreted as the outcome rate that patients in the national sample would have experienced if they had the same case mix as the patients served by that particular agency.

This method of calculating a risk adjusted reference rate for Home Health Agencies appropriately takes into account variations between agencies in patient case mix, and it provides a means for all agencies to measure their outcomes against a national, risk-adjusted standard. However, unless risk models are continuously updated and re-estimated, predicted outcome rates reflect outcome performance prevailing at some point in the past, when the national sample was drawn. They do not reflect any changes in overall national patient outcomes that may have occurred more recently. Therefore, agencies are compared against a standard from the past rather than against the current outcome experience of home health patients nationally.

While it is not practical to completely re-estimate all risk models every month, it is possible to adjust Home Health Agency predicted outcome rates to compensate for changes in national outcome performance and/or national home health case mix that may occur over time.