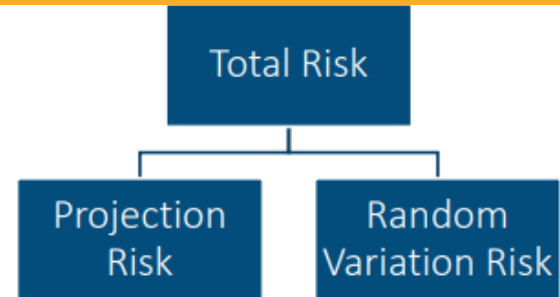


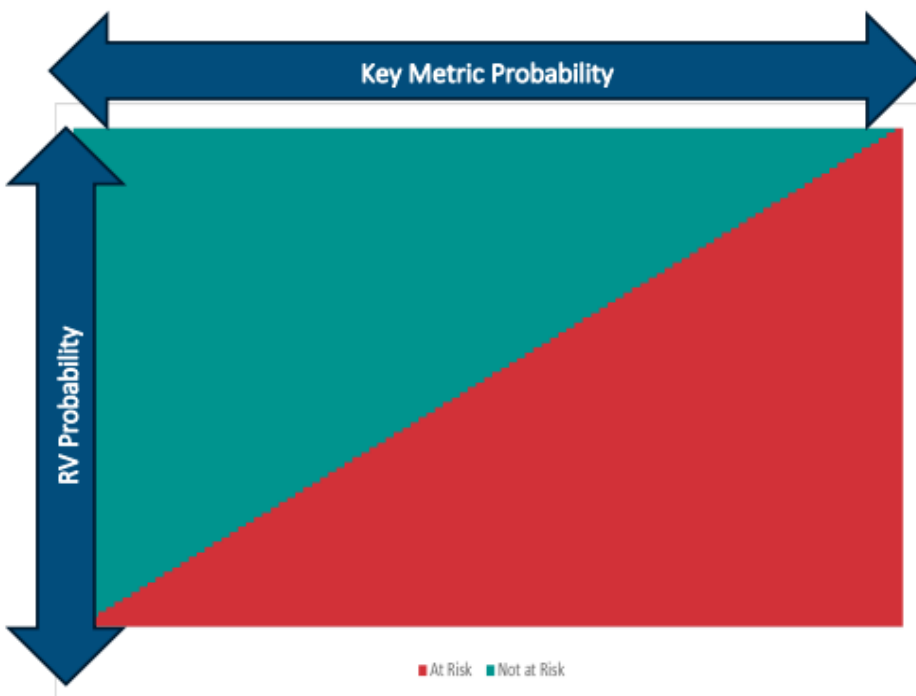
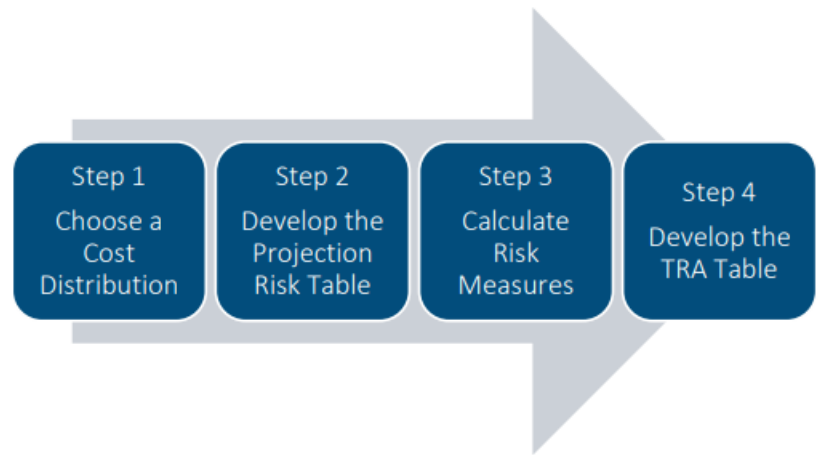
This fact sheet summarizes some key quotes and findings from a recently sponsored Society of Actuaries Research Institute report published in January 2024, [Calculated Risk: Driving Decisions Using the 5/50 Research](#).

This report provides actuaries and other professionals working with risk, data and analytics, or program evaluation in the health care space with an introduction to the concept of total risk analysis (TRA) via a case study in typical health care decision: setting a budget for claims in the upcoming year.

**“What are the chances we will lose more than \$1 million if we go with this decision?** The purpose of this research is to provide a practical roadmap for applying TRA in the decision-making process as it applies to health care cost projections. TRA can provide a consistent, rational methodology to answer key questions. TRA recognizes both major dimensions of risk associated with the forecast: the *projection risk* and the *random variation risk*.”



In the report, the authors provide an example of how to perform the TRA process: “the application of TRA depends on the objective of the analysis, the data available, and the time and resources available to conduct the analysis.”



“TRA calculates risk based on two dimensions. The first dimension is the key metric value. Every value of the key metric is accounted for once and only once in the projection risk distribution table. For any given value of the key metric, however, a chance exists that a specific group will be at risk simply because of random variation. [...] The higher the key metric, the more likely the group is of being at risk for missing the projection because of random variation. That said, every group is at some level of risk because of random variation. A bright line lies between being at risk and not being at risk. That line, which is represented by the diagonal in the figure, varies by the risk metric under consideration.”