**Transcript for Which Chart Is Right**

Alemi: These slides were organized by Farrokh Alemi. This lecture should help you understand which charts are appropriate and when. We assume that the user has a basic understanding of each of the different types of charts. There are many different types of control charts possible. Furthermore, it's possible to analyze each chart type using risk-adjusted or without risk adjustment.

Which chart is right depends on what type of data you have. Here are a list of continuous variables. These variables are measured using an interval scale where division and multiplication of the numbers makes sense. Cost of care and wait times are two examples of continuous measures. These measures are typically analyzed using X-bar chart. Tukey chart analyzes medians of these measures.

Discrete events require a different type of control chart. Typically, the rate of these events are analyzed using P-chart or time-between control charts. If we are dealing with a continuous measure, and if we have one data point per time period, then use to Tukey chart if there are outliers. If we are dealing with a continuous measure, and if we have one data point per time period, use XmR chart if there are no concerns for outliers. If we are dealing with a continuous measure, and if we have multiple data points per time period, use X-bar chart.

If the measure is discrete and the event is rare, then use time-in-between charts. If the measure is discrete and the event is not rare, then use P-charts. When case mix changes over time, then use risk-adjusted control charts.

Instead of comparing to historical patterns, new observations are compared to expectations derived from typically from the patients conditions. Think it through. Select the right chart for the specific data you're analyzing.