SYSTAT Brings Graphical Smoothers to Litholink Reporting

Founded by Dr. Fredrick Coe of the University of Chicago, Litholink provides consulting to many of the nation's leading urologists and academic medical centers in the area of kidney stone prevention.

A key feature of Litholink's consultative process is its unique patients' results reporting. These reports include colorful graphic representations of complex patient data, including risk factors, dietary factors, normalized renal function results, and other elements. As a regular service, Litholink provides aggregate reporting to physicians, offering statistical comparisons of patient outcomes against national population averages. Based on these comparisons, Litholink's reports use sophisticated algorithms to offer practice management advice.

In representing this data, Litholink needed a reliable and statistically precise smoother algorithm. They decided to partner with Systat Software, who offered Litholink one of its ***Custom Analytics*** modules: ready-made statistical and graphical libraries that can be plugged into enterprise solutions.

The ***SYSTAT smoothing module*** offers an unusually wide variety of parametric and nonparametric smoothers. Parametric smoothers fit curves to point data using algebraic equations that specify linear or nonlinear functions.

Nonparametric smoothers are adaptive – that is, they do a particularly good job of accommodating local features in the data. Compared to parametric smoothers, nonparametric smoothers tend to be more "wiggly." This was especially important to the Litholink application; patient data rarely show smooth, global patterns. It is especially important for clinicians to be alerted to unusual short-term features. And because the SYSTAT modules incorporate best-of-breed statistical design, clinicians are able to focus on systematic patterns rather than random events.

With a little graphics help from ***Systat Custom Analytics***, Litholink added more representational capability to its signature clinical reporting. Litholink's reporting is the cornerstone of a renal care consultancy that has helped bring about a nearly 80% reduction in the occurrences of kidney stones thanks in part to patient education and first class informatics.

The ***Systat Custom Analytics Group*** is an international team of statisticians and developers who work with customers to provide them with on-demand statistical, analytical and graphical solutions. The analytics drivers are based upon the tried-and-true statistical functionality found in Dr. Leland Wilkinson's venerable ***SYSTAT*** statistical software product. Grafiti LLC is a division of Cranes Software International, located in 39 countries worldwide with a 350,000 strong global user base.