Selection of the Primary Quality Control Rules Based on Total Allowable Error and Total Error (by hand or laptop)

David S. Plaut, B.A.
Plano, TX
Julie Laramie, MS, MLS(ASCP)^{CM}SM
Minneapolis, MN
Nathalie Lepage Ph.D.
Children's Hospital of Eastern Ontario
Ontario, Canada

Choosing QC rules for monitoring quantitative methods is compulsory and often frustrating and not easy. Part of these protocol there are many possible QC statistical 'rules' (e.g. rejecting a single value outside 2 SDs) to be selected. Each analyte should use the rule(s) that have the fewest accepted wrong results (for patients and controls. Selecting the best primary QC rule to ensure that we have developed a simple, rapid system that calculates the rule best primary for each level used by for an analyte, our algorism uses three readily available data points for each QC level – the lab's mean and SD, the true (survey) mean. With these data plus the TEa the program calculates the values for the TE and (TEa-TE). This algorithm generates the primary QC rule (e.g.1 2.0 SD, 2.5 SD, 1 3SD rule). The rules -1 2.5 or 1 3 SDs (and ones between if wanted) will reduce wrong results without accepting false results. Additionally, QC rules such as 4 1 SD and 10 SD are no longer necessary. The 2 2 SD rule need not be rejected but needed only a aware. Using the algorithm by hand or in a lap top is easy, and removes the guesswork of choosing the primary QC rules.