

Internal QC – a single laboratory analyzing controls and making immediate internal decisions on the acceptance or rejection of analytical runs. IQC provides a good estimate of the imprecision of the method by reviewing SD and %CV.

External QC – a program that involves many laboratories analyzing the same samples (control materials or PT samples). This allows individual laboratories to compare their performance to that of a peer group. EQC is useful for estimating the bias or inaccuracy of a method.

Comparison of EQA Programs

	Proficiency Testing (PT)	Inter-laboratory Comparison
Description	Many laboratories analyzing PT samples from the same pool submit their results for each sample to the PT provider	Many laboratories analyzing the same lot number of control material submit monthly summary statistics (Mean, SD, number of control measurements) to a central data base
Data Submitted	Results obtained from testing provided PT samples. <ul style="list-style-type: none"> • Must be analyzed in the same manner as patient testing. • Receive and analyze 1-5 samples per discipline. • Samples may require special handling and reconstitution. 	Monthly summary statistics calculated from routine QC testing as per your laboratory's QC protocol schedule
Frequency	2-4 events a year -refer to PT testing schedule	monthly
Values of Sample	Not known at time of testing	Known at time of testing - the new control measurements should show the same distribution as the past control measurements if the system is stable.
Provider	Accredited PT provider	Manufacturers of QC materials
Information provided by the service	<ul style="list-style-type: none"> • Captures a snapshot of your test performance for a given analyte at a specific point in time • Grades your performance • Provides some idea about the amount of bias present in the analytical system. 	<ul style="list-style-type: none"> • Describes your performance relative to your peers. • Excellent source to determine Target Value for each control
Cost	Additional costs to participate in a PT provider's testing scheme	Usually no additional cost to participate; service provided with the purchase of QC materials.
TAT for Report Receipt	The time between receipt of PT samples for testing and returned report for review may be a few months.	Many manufacturers provide on-line services for up-to-date information
Pitfall	If report TAT is extensive it may not allow laboratories to detect and correct in a timely manner problems that affect quality	Manufacturer of QC materials used for the method does not provide this service
Compliance	Required by many regulatory and accrediting bodies	<ul style="list-style-type: none"> • Optional, but highly recommended if service is offered • Participation may fulfill regulatory and accreditation requirements for the analyte in some countries.