Smart LabTools
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Evaluate QC Performance vs. Allowable Error Limits

< Enter Lab Name - Analyzer - Control Info. Here >

Reset Data
Reset Form
Z = 2.0

Analyte & TEa Reference	Ctrl	True Mean	Obsv Mean	Obsv SD	Obsv %CV	Bias Units	%Bias	Imprec Units	TE Units	%TEa Limit	TEa Units	TE/TEa Ratio	%TE	ME Units	ME SD	Delta SEcrit	Sigma Metric
TEST	L-1	100	105	2.5	2.50	5.00	5.00	5.00	10.00	10.00	10.00	1.00	10.00	0.00	0.00	0.35	2.00
TEST	L-2	200	210	2.5	1.25	10.00	5.00	5.00	15.00	10.00	20.00	0.75	7.50	5.00	2.00	2.35	4.00
TEST	L-3	300	315	2.5	0.83	15.00	5.00	5.00	20.00	10.00	30.00	0.67	6.67	10.00	4.00	4.35	6.00
Demo Template																	
1st 3 Rows																	
Requires																	
-Adobe Reader-																	

Mean(True) - as Published, Insert, Peer, Target
Mean(Obsv) - Observed Lab Mean from between day testing
SD(Obsv) - Lab Standard Deviation - between day testing
%CV(Obsv) - Calc. 100 * (SD / Mean(True))
Bias - Mean(True) - Mean(Obsv)
%Bias - 100 * ((Mean(Obsv) - Mean(True)) / Mean(True)
%TEa - Total Allowable Error (ATE), as with CLIA PT %CV
Imprecision - (SD(Obsv) * Zp), Zp is '2' for 2SD Limit

TE or TAE - Total Analytic Error = (Bias + Imprecision)
TEa or ATE - Total Error Allowed = (Mean(True) * CLIA PT %CV)
TE/TEa - <1.0 is Acceptable, .33 or Less Desired
%TE - %TE = %Bias + Zp * %CV
ME units - Margin for Error = (TEa - TE)
ME in SD - Margin for Error = (TEa - TE) / SD
Delta SEcrit - ((%TEa - %Bias) / CV%) - 1.65
Sigma Metric - (%TEa - %Bias) / CV%

Comments:

Reviewed by: 05/19/2019

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Quality Control Performance Limits (SD's) vs. TEa

BV (TEa Limits)
Westgard (TEa)
CLIA PT Limits

< Enter Lab Name - Analyzer - Control Info. Here >

Analyte & TEa Reference	Ctrl	True Mean	Obsv Mean	Obsv SD	TEa Low	TEa High	2.0 SD Low	2.0 SD High	2.5 SD Low	2.5 SD High	3.0 SD Low	3.0 SD High	3.5 SD Low	3.5 SD High	4.0 SD Low	4.0 SD High	TEB %
TEST	L-1	100	105	2.5	90.00	110.00	100.00	110.00	98.75		97.50		96.25		95.00		100
TEST	L-2	200	210	2.5	180.00	220.00	205.00	215.00	203.75	216.25	202.50	217.50	201.25	218.75	200.00	220.00	75
TEST	L-3	300	315	2.5	270.00	330.00	310.00	320.00	308.75	321.25	307.50	322.50	306.25	323.75	305.00	325.00	67
Demo Template																	
1st 3 Rows																	
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Comments:

TEB(%) = Total Error Budget = (TE/Tea)*100,
TEB(%) should not exceed 50%; 33% or less is desired.

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