EXTERNAL QUALITY ASSESSMENT PROGRAM (EQAP)
BIOCHEMISTRY DEPARTMENT

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REASONS FOR REDUCING CONSISTENCY BETWEEN DIFFERENT METHODS AND PROCEDURES ARE

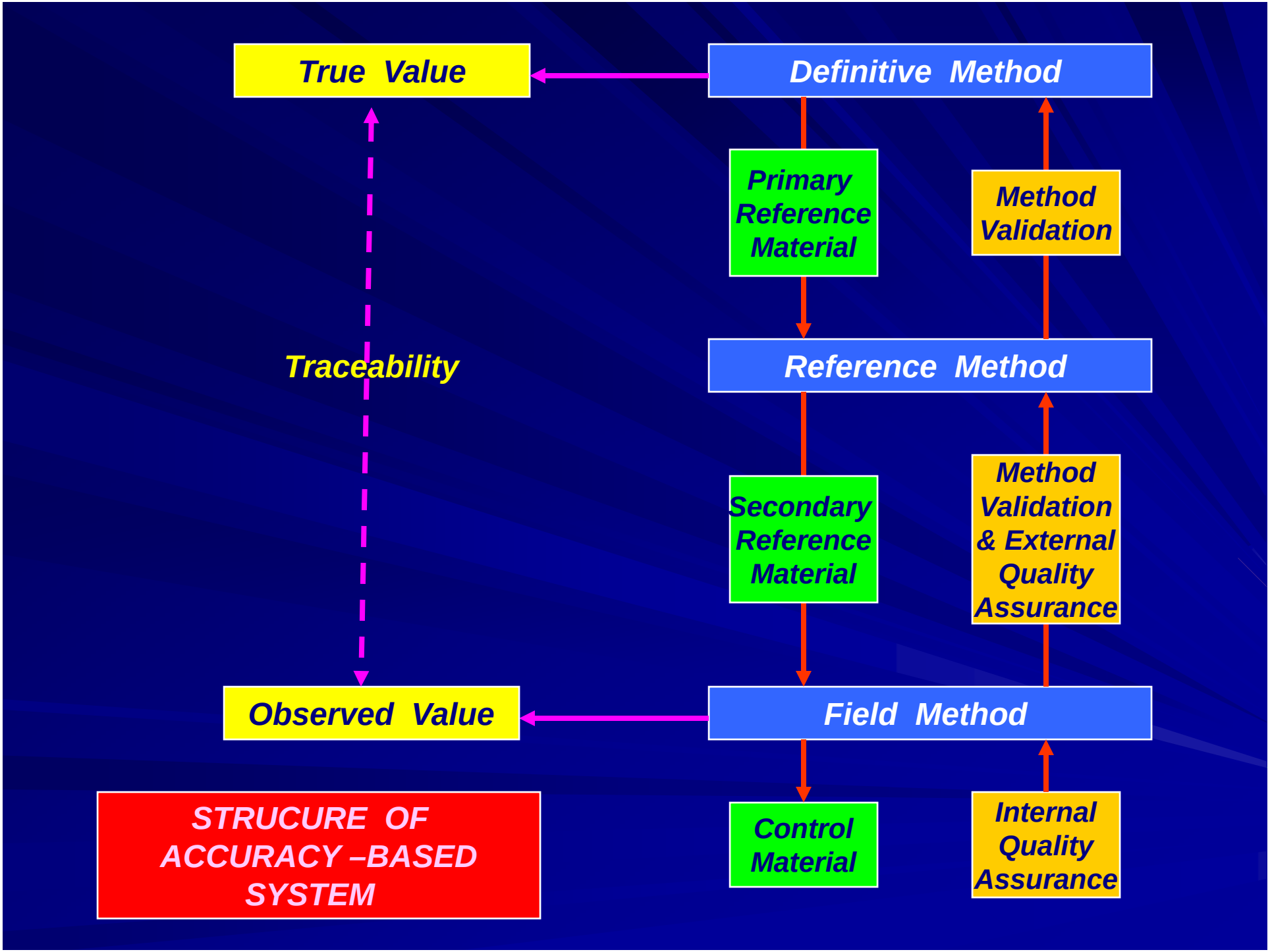
- Different Analytical Specificity
- Different Analytical Sensitivity
- Different Calibration
- Matrix Effect

DATA ANALYSIS FOR INTERPRETATION OF RESULTS

- *Evaluation of performance of each participant needs to stablish two values:*
  1) *Assigned (target) value of the test material*
  2) *Acceptable range*

- *Different methods can be used to establish these estimates, but there is no standard protocol statistical parameters*

WHAT ARE TARGET VALUE & TRUE VALUE ?


True Value
Definitive Method
Primary Reference Material
Method Validation
Traceability
Reference Method
Secondary Reference Material
Method Validation & External Quality Assurance
Observed Value
Field Method
Control Material
Internal Quality Assurance
STRUCURE OF ACCURACY –BASED SYSTEM

ESTABLISHING ASSIGNED VALUE

- *There are three methods*

1) The addition of a known amount or concentration of analyte to a base material containing none

2) The use of a Consensus value produced by a group of expert or referee laboratories using best possible methods

3) The use of a consensus value produced in each round of EQA, and based on the results by participants

ESTABLISHING ASSIGNED VALUE FROM PARTICIPANT RESULTS

- *assigned value is consensus value (trimmed mean value) derived from all results submitted by participants in the scheme of that analyte*

- *Practical experiences has shown that the consensus value usually agrees closely with the true value in schemes with a large number participants*

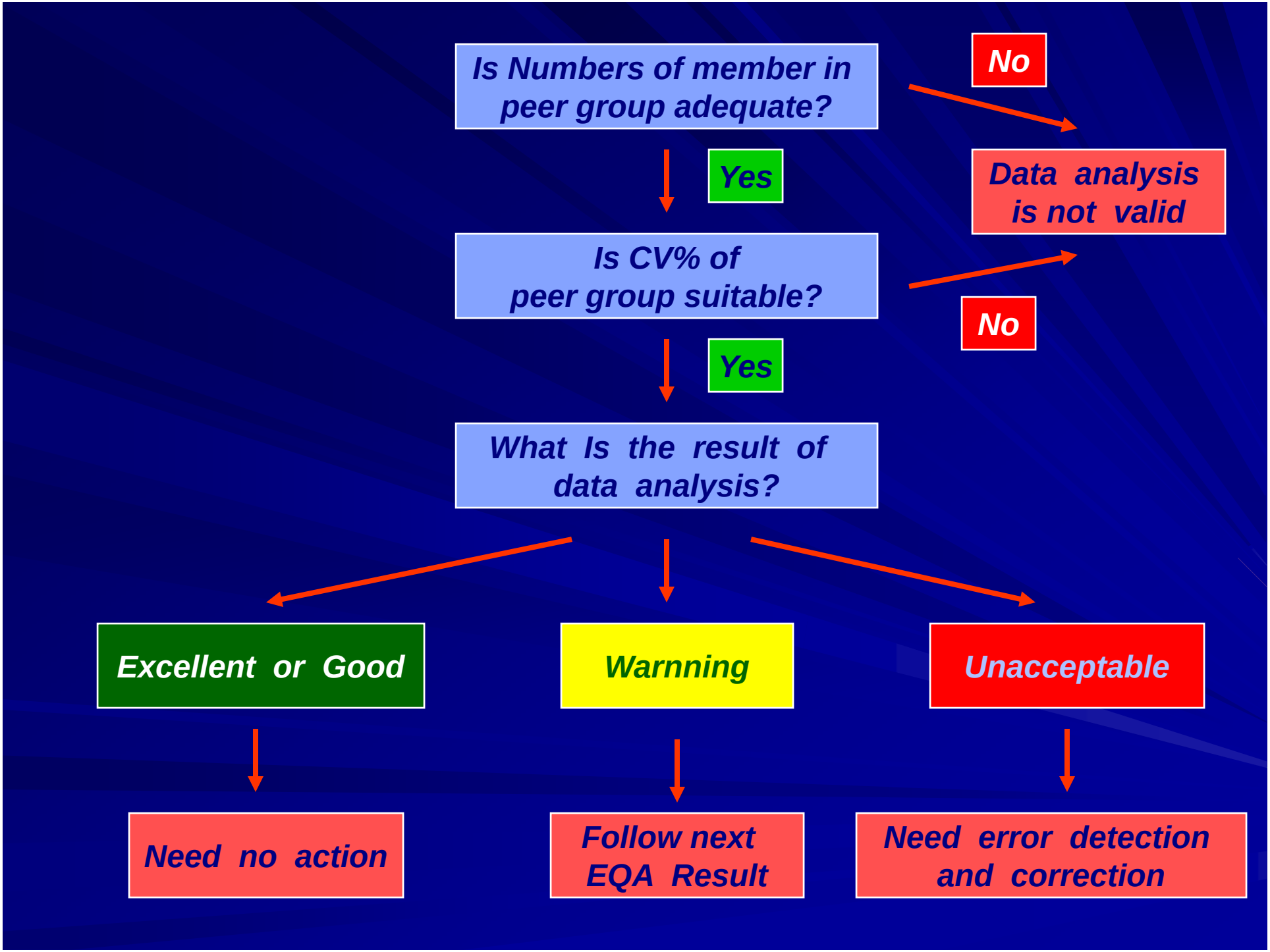
- *Consensus value may not be valid in two condition:*

1) Numbers of laboratories is small

2) A large proportion of participants have a significant analytical bias

Chosen Coefficient of Variation (CCV)

- CCV are the lowest CVs obtained for particular determinations during first two years of the EQAS
- It is kept constant so that improvements in the performance of laboratories can be detected


Is Numbers of member in peer group adequate?
No
Yes
Data analysis is not valid
Is CV% of peer group suitable?
No
Yes
What Is the result of data analysis?
Excellent or Good
Warnning
Unacceptable
Need no action
Follow next EQA Result
Need error detection and correction

CV% OF EQAP : GLUCOSE

Kit	87-1	87-2	88-1	88-2	88-3	89-1	89-2	89-3	90-1	90-2
Pa-A	5.23	5.17	5.14	5.38	4.72	5.12	5.47	5.12	4.68	5.21
PA-M	9.49	8.15	9.44	8.08	7.93	7.5	6.92	6.27	6.54	7.69
Zi-A										
Zi-M										
Ma-A	5.51	8.07	5.74	3.24	8.60	5.17	5.33	6.17	3.83	3.75
Ma-M	8.40	6.08	7.72	10.00	5.89	8.15	9.25	5.11	7.52	7.35
El-A	7.44	8.42	4.11	6.33	5.62	4.58	5.51	4.1	4.9	4.31
Bi-A	8.06	4.51	4.77	5.37	6.23	4.63	4.22	3.85	5.58	4.05
Ro-A									5.15	3.27

Average EQAP CV%	Allowable CV%	CCV%	Indian CCV%
5.12	2.5	7.7	7.7

4.68	4.72	5.12	5.12	5.14	5.17	5.21	5.23	5.38	5.47

CV% OF EQAP : Triglyceride

Kit	87-1	87-2	88-1	88-2	88-3	89-1	89-2	89-3	90-1	90-2
Pa-A	10.17	8.19	7.20	7.33	9.23	7.72	7.98	7.95	6.35	6.91
PA-M	14.36	9.99	11.50	16.15	13.41	10.61	11.18	12.37	10.04	10.9
Zi-A	-	-	-	-	-	-	-	-	-	-
Zi-M	-	-	23.74	9.73	-	-	-	-	-	-
Ma-A	9.33	10.16	8.35	11.25	4.82	9.02	7.33	9.23	5.48	7.06
Ma-M	-	4.67	11.30	17.38	7.99	13.11	12.44	11.79	9.68	10.10
El-A	11.24	9.51	10.35	16.78	6.97	8.82	8.42	7.99	9.72	5.5
Bi-A	-	9.16	9.09	6.86	7.37	13.32	9.70	7.42	8.34	9.10
Ro-A	-	-	-	-	-	-	-	-	2.73	4.64

Average EQAP CV%	Allowable CV%	CCV%	Indian CCV%
7.9	6.3	7.6	14.0

6.35	6.91	7.20	7.33	7.72	7.95	7.98	8.19	9.23	10.17

CV% OF EQAP : Cholesterol

Kit	87-1	87-2	88-1	88-2	88-3	89-1	89-2	89-3	90-1	90-2
Pa-A	5.30	5.53	5.10	4.87	5.80	4.84	4.50	5.08	4.40	4.88
PA-M	11.13	9.1	7.77	8.12	9.98	7.52	6.79	9.14	7.51	7.95
Zi-A										
Zi-M										
Ma-A	8.58	3.87	5.5	4.39	5.01	4.53	5.02	4.5	3.95	4.81
Ma-M	7.73	3.89	7.29	7.94	5.63	4.97	10.28	7.4	6.82	10.28
El-A	7.56	9.29	4.94	4.74	5.73	5.38	5.03	3.38	4.70	4.64
Bi-A	-	5.77	5.83	5.20	5.44	6.09	5.40	4.10	4.08	4.32
Ro-A	-	-	-	-	-	-	-	-	1.34	1.66

Average EQAP CV%	Allowable CV%	CCV%	Indian CCV%
5.0	2.5	7.6	7.5

4.40	4.50	4.84	4.87	4.88	5.08	5.10	5.30	5.53	5.80

CV% OF EQAP : HDL-C

Kit	87-1	87-2	88-1	88-2	88-3	89-1	89-2	89-3	90-1	90-2
Pa-A	20.91	14.79	14.32	14.81	16.15	14.93	15.96	13.39	12.65	14.36
PA-M	29.48	15.29	21.53	20.53	24.09	21.75	23.54	20.80	19.96	20.05
Zi-A	-	-	-	-	-	-	-	-	30.19	16.33
Zi-M	27.77	16.65	26.60	26.18	27.20	15.94	27.11	30.56	20.82	21.81
Ma-A	-	-	34.5	21	-	19.06	33.26	23.51	29.99	23.29
Ma-M	-	-	37.88	-	-	-	-	-	-	-
El-A	25.34	22.22	20.26	13.40	12.68	16.60	15.05	17.51	16.4	9.46
Bi-A	16.07	9.61	13.21	15.13	18.89	12.63	11.73	13.21	10.82	10.32
Ro-A	-	-	-	-	-	-	-	-	5.97	10.13

Average EQAP CV%	Allowable CV%	CCV%
15.2	7.5	14

12.65	13.39	14.32	14.36	14.79	14.81	14.93	15.96	13.39	20.91