

Six Sigma (6 σ -)

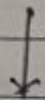
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→ Six sigma measures / compares quality of a laboratory & also helps to set target for quality.

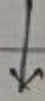
→ Six Sigma methods for measuring process performance.

Measure Outcome

Inspect outcomes & count defects



Calculate defect per million (DPM)



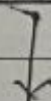
Convert DPM to sigma metric

Measure Variation

measure variation of process (SD)



Calculate sigma process capability



Determine σ_c Design metric

→ $\sigma = [T_{ea} - \text{bias}] / SD$

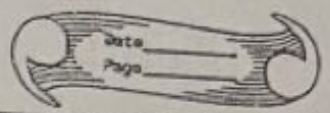
$T_{ea} = \text{Avg. of data} \times \text{CIA criteria}$
cr.

$\text{bias} = \text{Running mean \% deviation}$

$SD = SD \text{ of avg. data.}$

taken from Rigas

$\text{Bias} = Rm\% DV \times Avg / 100$



→ It includes

- Sensitivity
- Specificity
- Likelihood ratio.

→ Summary should include assessment on Quality of its study.

E Meta-Analysis :-

→ Meta analysis is performed if data are available from a number of similar studies.

→ It can explore sources of variability in the results of studies.

→ Can ↑ confidence in the data & conclusion

→ Can signal when no additional studies are necessary.

Pubmed
→ Useful tools : medline } for searching
Embase }

→ An incorrectly structured search can generate large numbers of irrelevant references & miss crucial references.

(C) Data Extraction & Critical Appraisal of studies :-

→ Depending on the number of papers identified in the search

↓
Initial review of the abstracts may be undertaken to check for relevance ↓

So size of data can be reduced.

→ A checklist of items to extract from 10 studies in preparing the systemic review to test diagnostic accuracy is available online.

eg. QUADAS

[Quality Assessment of Diagnostic Accuracy In Systemic Reviews]

- STARD checklist can also be used as addition guide.

(D) Summarizing the Data :-

→ characteristics & data from study should be presented in table.