

## Challenges in HIV Diagnostics & Monitoring in Resource Limited Settings

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### Some of the issues

- Location
- Specimen type
- Collection
- Transport
- Analysis
- Interpretation
- Transporting result
- Conveying result
- Acting upon it



### Practical considerations

- Location:
  - a general clinic, a specific testing centre, distance to get there
- Transporting sample and Transporting result:
  - if going to a central lab, cost and frequency of flights
- Some of these issues can be overcome by having equipment locally, using point of care tests, and conveying results back electronically, but each has an initial cost, maintenance cost and in the case of electronic transmission a risk of outage



### Issues to test selection & quality

- Specimen type:
  - Point of care is much easier, self tests have issues of collection and interpretation
  - Is CD4 needed or is viral load better?
  - Is resistance really an issue, does a dry blood spot give a sufficiently high quality resistance result on which to act?
- Interpretation:
  - Can anyone interpret the test, is it affected by temperature, humidity
- Analysis:
  - If using an analyser, is it maintained, how many machines are working and working accurately?



### Training, skill and authority

- Collection:
  - Do operators know how to collect a sample, do they have the capacity to perform phlebotomy, is the right amount of reagent used, is it still in-date?
- Analysis Interpretation:
  - Do stock-outs hamper analysis, can analysis only be done once a sufficient number of samples are available?
- Conveying result:
  - Who can do this and what support does the patient have as well as the person providing the result?
- Acting upon it:
  - If a person is positive, is there an immediate linkage to care, and who else close to the patient should be tested?



### What are we looking for

- Simple, Quick and effective
- Antibody, CD4, VL & resistance
- Immediate linkage to care and treatment
- "Perfectest" is the test that does everything perfectly
- Trade-offs:
  - maximise the benefit,
  - minimising the cost and
  - practical as possible

