Innovations, Laboratory Diagnostics and Networks:

How can laboratory networks take up innovations?

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What is a diagnostic innovation?

- The development of new products, designs and ideas
- The process of translating an idea or invention into a good or service that creates value or for which customers will pay

The development of new product, design and ideas that can be added to the standards of care to bring about clinical or public health benefits

Innovation can be:

- technology
- package of diagnostic delivery
- business model that improves access to testing
- Etc...
What are (laboratory) networks?

Group or system of interconnected people or things

- **Research networks**
  - PANDORA
  - ALERRT
  - ILEAD
  - WANETAM
  - Research in support of improved standards of care

- **Public health laboratory networks**
  - NPHL-Kenya
  - EAPHLN
  - Testing in support of public health

- **National tiered networks**
  - Testing in support of patient care and public health
Poor uptake of innovations: some examples

- An increasing menu of HIV viral load testing technologies options exists but many West and Central African countries are insufficiently implementing VL testing policies for improved patient outcomes

WHO prequalification:
- Abbott RealTime m2000
- bioMerieux EasyQ
- Cepheid Xpert
- Hologic Aptima
- Roche CAP/CTM v2.0
- Siemens VERSANT

Courtesy of Dr Lara Vojnov, WHO
Poor uptake of innovations: some examples

- Validated innovations for HIV diagnostic delivery:
  - Rapid HIV testing
  - Community testing
  - Self-testing
    but, only **47%** of HIV positive persons know their status in 2017 (*UNAIDS*)

- Point of care (POC) tuberculosis diagnostic geneXpert endorsed by WHO
  but inconsistent results on patient outcomes (*Churyard 2015; Trajman 2015*) and many instruments are underused.

- POC diagnostic technology for Ebola diagnostic available and outbreak response preparedness is a priority
  but <10% of level 3 laboratories in 7 countries of Central Africa able to perform the diagnostic (*ASLM, LabMap results*)
Where are the barriers?

- Research networks
- National public health laboratory networks
- National tiered laboratory networks
- Take up the innovations
- Generate clinical and public health impact and contribute to UHC and IHR

Develop or confirm the utility of innovations
What and who plays a role at the interface between research and uptake by tired networks?

- Insufficient consideration for implementation at validation phase?
- Behavior change not feasible?
- Insufficient evidence of health benefit?
- Low involvement of the customers/beneficiaries?
- No financial sustainability?
- Systems cannot adapt to change?

- Policy makers?
- Regulatory bodies?
- Global stakeholders?
- Funding agencies?
- Researchers?
- Laboratories?
- Manufacturers
- Healthcare providers?
- Civil society?