

Integrated POC testing models - (missed) opportunities

Angela Kelly-Hanku

Papua New Guinea Institute of Medical Research
Global Health Equity and Justice Research Group, Kirby Institute



Overview

- What is meant by Integrated POC testing?
- Value of Integrated POC testing
- How successful have we been to integrate POC testing in PNG
- Barriers to integrated POC testing
- Examples of Integrated POC
- Human and non-human challenges to integration
- The future for Integrated POC testing

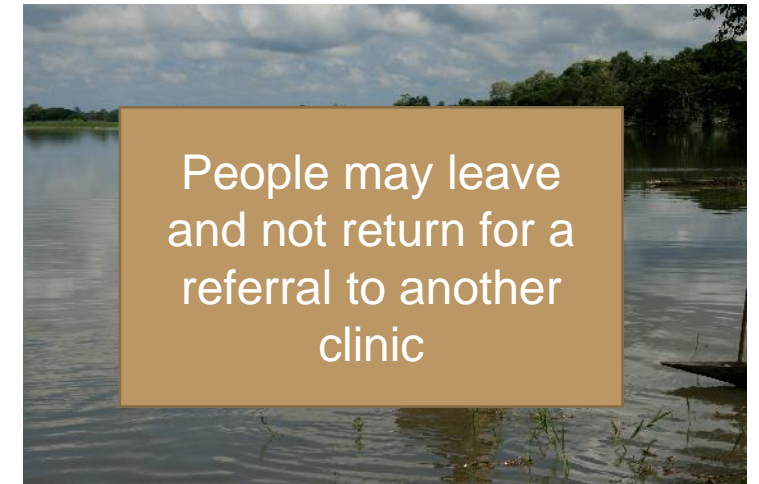
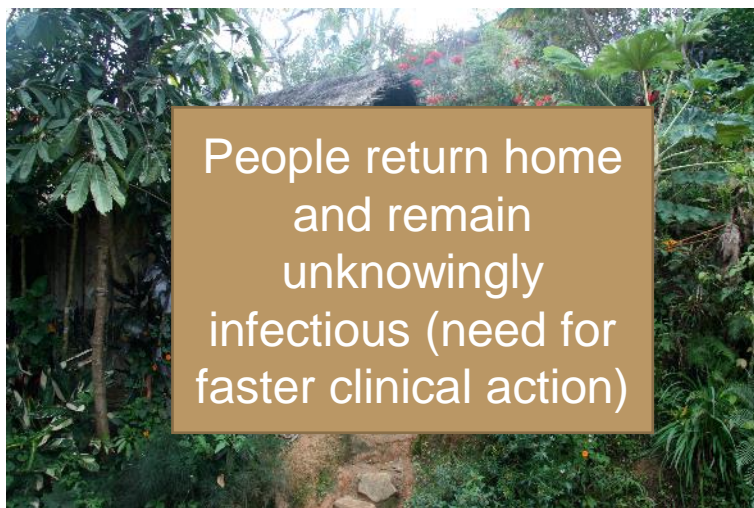
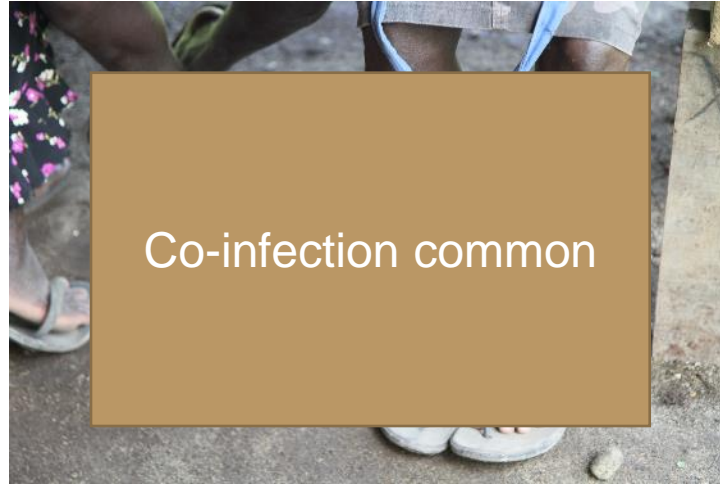
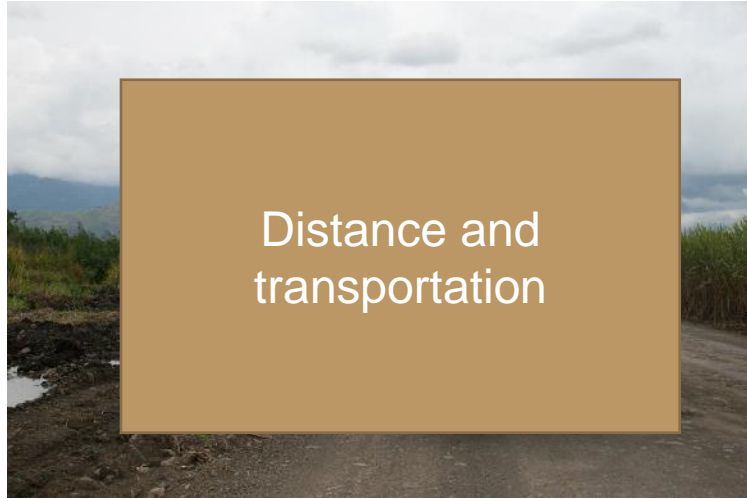


What do we mean by integrated POC testing?

- Can allow the simultaneous testing ...
 - Of more than one pathogen at a time ...
 - Multi-disease platforms
 - For diagnosis and monitoring
 - Xpert – HIV (Qual and Quant)
- A facility / clinic that used any number of POC /RDTs to provide health care to people



What is the value of integrated POC testing?



In other words

- Cost-effective
- Maximize the utilization of laboratory equipment
- Maximise patient health outcomes

- Public Health Impacts – Reduced mortality and morbidity and transmission averted
- Economic Impacts - out of pocket expenses for patients and treatment costs averted
- **Equity and access**



How successful are we in integrated POC testing?

- Not very
 - HPDB – 72% people newly diagnosed with HIV screened (not tested) for TB (and only ~1 in 4 start TB preventative therapy)
 - Why it matters - TB / HIV – one of 14 countries dual high burden of HIV and TB; AIDS related deaths increased
 - Frustration by DFAT and donors that TB/HIV integration not happening ?Skills, SOPs, location? test kits?
 - Kiunga, WP –TB program; 400 people tested for TB, only 1 person tested for HIV
 - PMGH - HIV testing of children with TB is now > 90% (PMGH)
 - Testing for TB at POC in an HIV program not as easy as it is to test for HIV in a TB program
- Not normalized - Mainstreaming diagnostic integration
 - Leverages Investments by industry and donors - best value for money

“Most laboratories (10) performed multiple tests (MTB/Rif, MTB/Rif Ultra, Xpress SARS-CoV-2, and HIV-1 VL) on the same GeneXpert instrument” (Recent laboratory assessment – “integrated POC” - IndoPac)

13 of the 14 lab were in hospitals not in clinics providing POC
?HIV clinic in Enga doing HIV VL and COVID-19



Barriers to integrated POC testing

- For the most part doesn't appear to be about pricing reductions or pricing agreements that are frequently cited as issues for scale up of POC testing
- **Opportunities are being missed on a continual basis**
 - Systems related (vertical disease models, space, WHS – TB /COVID)
 - Human resourcing, staff turn over, task shifting, training, job descriptions
 - Procurement of tests and consumables; supplied by different health programs / donors e.g.
 - HIV – HIV and STI program (Global Fund)
 - Syphilis – Family Health Services (no international donor)



HIV and Syphilis testing in pregnant women in PNG

YEAR	1 st ANC visit	Number tested for Syphilis (%)	Number tested for HIV (%)
2021	145,226	7,603 (5.2%)	31,909 (22%)
2022	140,847	14,645 (10.3%)	38,196 (27.1%)

Significant delays in moving from 2 test HIV algorithm to a 3 test one (that includes dual HIV / Syphilis test)

1. New PNG algorithm failed to be validated
2. New algorithm designed by WHO
3. PNG validated the algorithm in 2021
4. National roll out still pending

.....**Opportunity significantly delayed (costs lives)**



Contd..

- Siloed funding and thinking - “TB machine”; “ HIV machine”; “COVID machine”
 - Laws Rd; TB testing at POC, but blood sent to CPHL for HIV VL
- Letting go of expertise – demand that MLT operate Xpert machines
- Treatment needs
 - HPV (an STI) but the concern of oncology and gynaecology;
 - Space needed for same day treatment (point of POC testing)
 - % HPV higher in women attending SH clinics, so testing does make sense at these clinics, but treatment? Not even space for thorough clinical assessment (beds used as tables)
 - Integration in the reverse also needs to be considered – 45% increase in HIV in 10 years need to scale up testing; HIV testing may be more readily integrated into HPV ? Well Women clinics
 - Women with HIV need HPV testing more often (annually) and starting at a younger age (25 years)
 - Looking at this in WHP to see how integration should/could occur, what is most acceptable to women – watch this space!
 - HIV/STI and Cervical Cancer elimination TWG’s need to collaborate, find opportunities to leverage
 - Integration of testing only possible if we start to talk and think across disease programs together.
 - Recent review of national HIV / STI strategy made a strong recommendation about the need for greater integration, similarly for HPV vaccination (single dose) – opportunity for SH prevention (integration of information)



- **Missing the opportunities available with GeneXpert through HIV VL program**
- 20-22 machines purchased through the HIV/TB grant
- “Decentralise” VL testing to increase coverage and reduce turn around time of results
- Provincial hospital laboratories; neither truly decentralised nor POC

All provinces now have GeneXpert platform and those able to bring samples within 6 hours will utilize this platform. Sites with transportation issues will continue to utilize HIV VL DBS. Test kits are getting expired as samples are not reaching the labs to do testing (PNG VL Roadmap minutes)



Examples of successful integrated POC testing in PNG



2016/17 – (I)BBS Key Pops.

HIV (2 test algorithm)

CD4

HIV VL

TB

HBV

Syphilis (DPP)

Urogenital CT/NG

Anorectal CT/NG



WANTAIM

2018-2022 ANC Trial

HIV
Syphilis

CT/NG
TV
BV

Antenatal women's experiences of self-collected vaginal swabs and point of care testing for sexually transmitted infections in Papua New Guinea

Authors:

Vallely Lisa M,^{1,2} Nosi S,² Ofi P,² Mengi A,² Riddell MA,^{1,2} Bolnga JW,^{2,3} Pomat W,² Vallely AJ,^{1,2} Kelly-Hanku A,^{1,2}



Congratulations
PMGH HIV SERVICES
for an outstanding performance in
HIV VL & EID TESTING! Together
we can!





Acknowledge

Those who “take the challenge to think differently, challenge the status quo” and improve integrated POC testing for our families and communities.