# Integrated POC testing models - (missed) opportunities

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### 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 <sup>st</sup> 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 Caner 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; <u>neither truly decentralised nor POC</u>

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





- Edna a 31-year-old FSW from Mt. Hagen explained,
  - 'I came here not feeling ashamed because I wanted to know my blood results that you people will give me. And I am just happy. But to take the blood and also to provide the results instantly, I was a bit scared. On the other hand, you people said that you were going to provide for the medication, I was happy.'
- The privacy afforded participants in the self collection process was a positive aspect of the testing, as explained by Jacob, a 21-year-old MSM in Mt. Hagen:

"I wasn't scared or whatever. It was all because I had my privacy in there to test myself, that's why I was not even concerned about anything. It's to do with infections; that's why I have to find out about the type of infection I might have. So I actually felt at ease with all these tests.



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#### PLOS ONE

Confidential, accessible point-of-care sexual health services to support the participation of key populations in biobehavioural surveys: Lessons for Papua New Guinea and other settings where reach of key populations is limited

ngele Kelly-Units an <sup>114</sup>, Mitte le Rechten-MacLaneng<sup>104</sup>, Rolly Ool-Neo<sup>1</sup>, Sorta Ho gelen Auf, Honek Barrol, Justan Tamanin, Angelen Angelen <sup>10</sup>, Josephine Garron<sup>1</sup>, Interfallagu (1), Gener Willie, Angeles anthreaded (1), Anter Holm<sup>14</sup>, Simon Pelen<sup>144</sup>, Jan I Kabari, Simon (1), Anders J. Valley<sup>144</sup>, Ang. Helin<sup>14</sup>  Yasa, a 33-year-old MSM in Lae, was diagnosed with TB

"I came and found out properly, and I didn't know that I had TB. . .Now you have me on medication, and I am on the supply, and I'm very happy."

 Mayo, a 43-year-old FSW in Lae, described her happiness in receiving a card from a peer and hearing that such a diverse range of tests were offered at one site:

"They mentioned that your team here did a number of tests. That was what I heard when the information was being disseminated. . . when I came into this place, like when we go for HIV tests, we never get all the other types of tests. But when I came inside this place the other types of tests were provided by you. And that has made me so happy."

 Usually ashamed to go to a clinic, Darius, 24-yearold MSM said,

'It was those tests that prompted me to come.'





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

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