



The GSID System: Diagnostic Health Information Beyond the Point of Care

International Workshop on Point of Care (POC) Tests
for Diagnosis of HIV and TB
Harare, Zimbabwe
16 – 19 March 2015

Ian Francis
Global Solutions for Infectious Diseases

Thinking Beyond the Point of Care

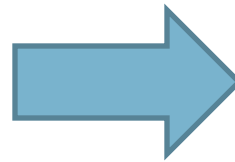
At Point of Care

Current Use

- Confirm diagnosis
- Guide patient treatment

Opportunities

- Electronic Medical Records
- Guidelines for HCWs



Beyond the Point of Care

Current Use

- Paper: Error-prone & delays

Opportunities

- Surveillance
- Supply Chain
- Program Management / M&E
- Quality Assurance



Proof Of Concept Study: Manicaland, Zimbabwe



- 16 phones at 5 Locations
- Over 60 nurses trained
- Tests
 - HIV: Determine, First Response, SD Bioline
 - Malaria: First Response, Paracheck, SD Bioline



Field Evaluation of a camera-Based Mobile Health System in Low-Resource Settings

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Proof of Concept Study: Data Captured with Each Result

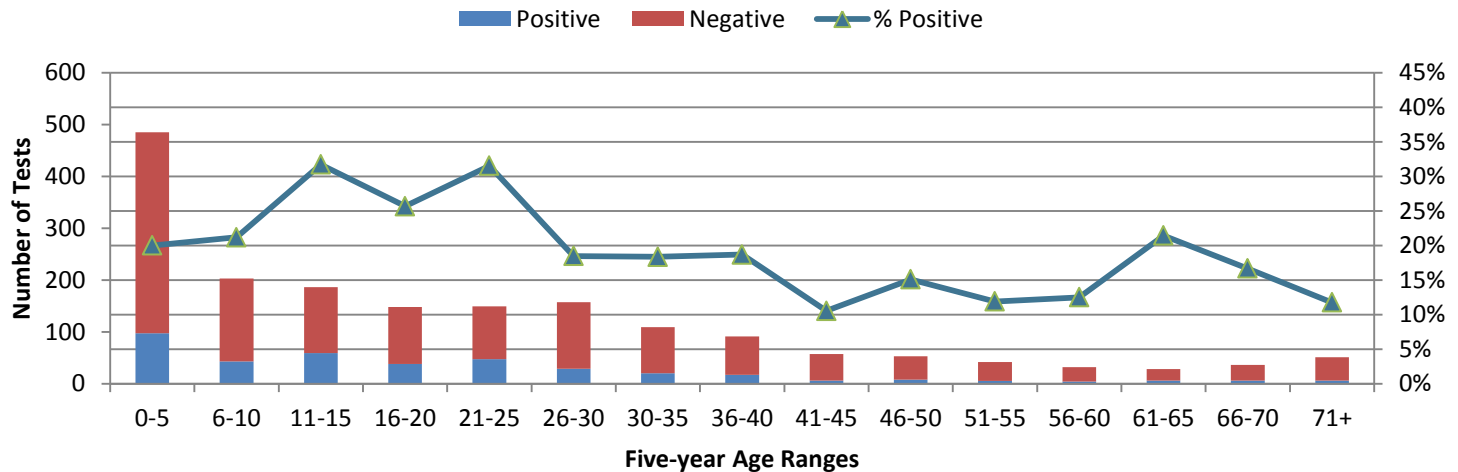
Collected during Routine Patient Care:

- Diagnostic Result (positive / negative)
 - Including image of RDT
- Demographic (age, gender)
- Consumption / Supply (test, lot, expiry)
- User (department, facility)
- Geographic
- Temporal (time, date)

- Possibilities: Patient ID, Individual HCW, symptoms...

Data Beyond Point of Care: Surveillance

Malaria Tests – By Age Range



Current

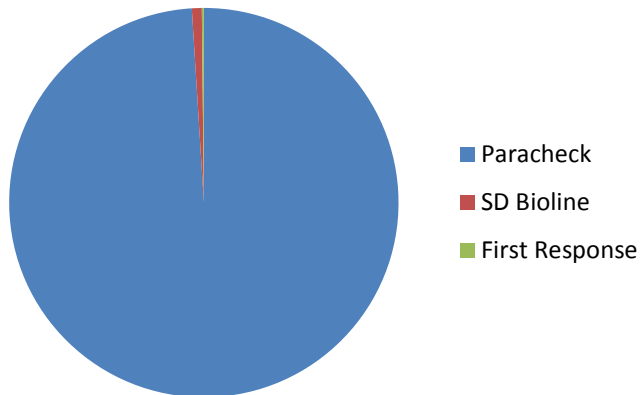
- Burden of Disease
- Monitoring

Future

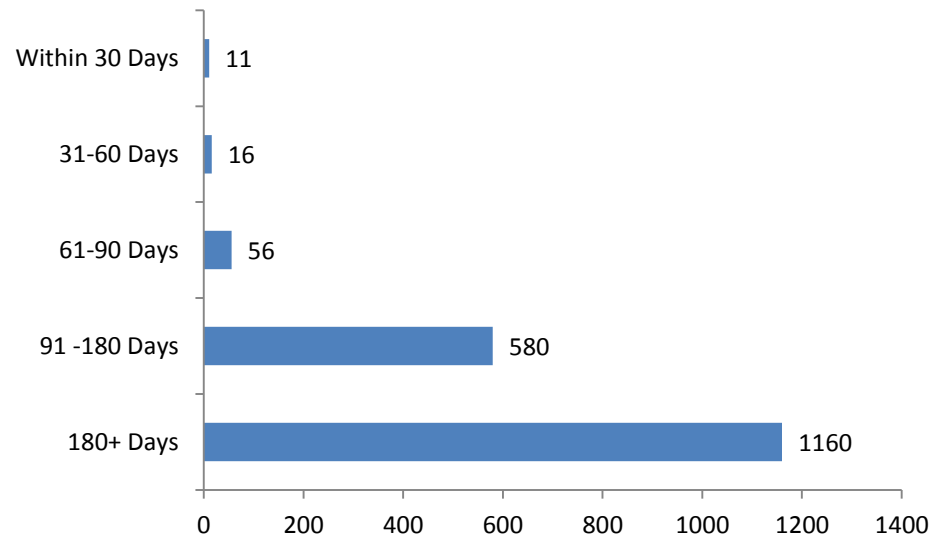
- Outbreak Detection – *spike in positive results*
- New & Emerging Infections - *testing up, but negative results*

Data Beyond Point of Care : Logistics / Supply Chain

Malaria Results: By Test

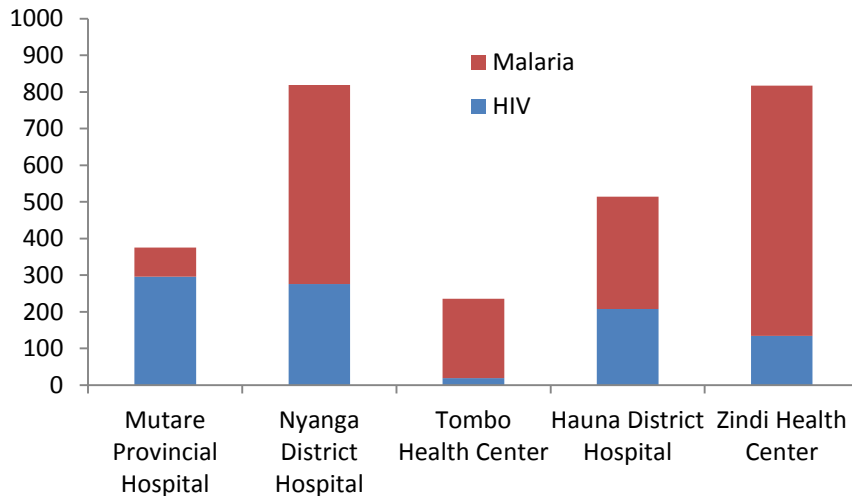


Malaria: Expiration Dates

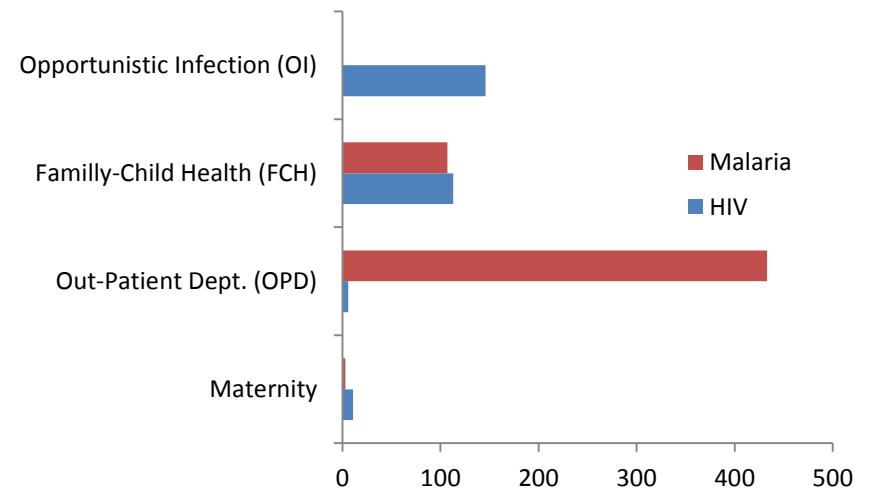


Data Beyond Point of Care: Monitoring & Evaluation

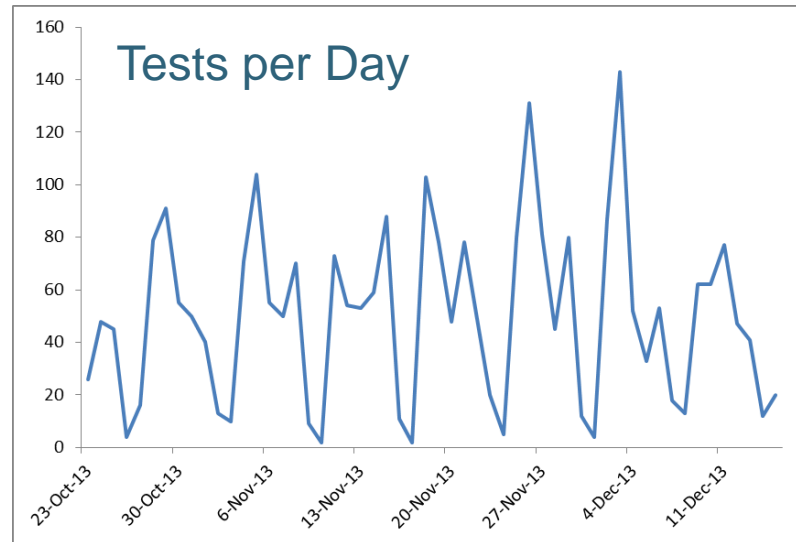
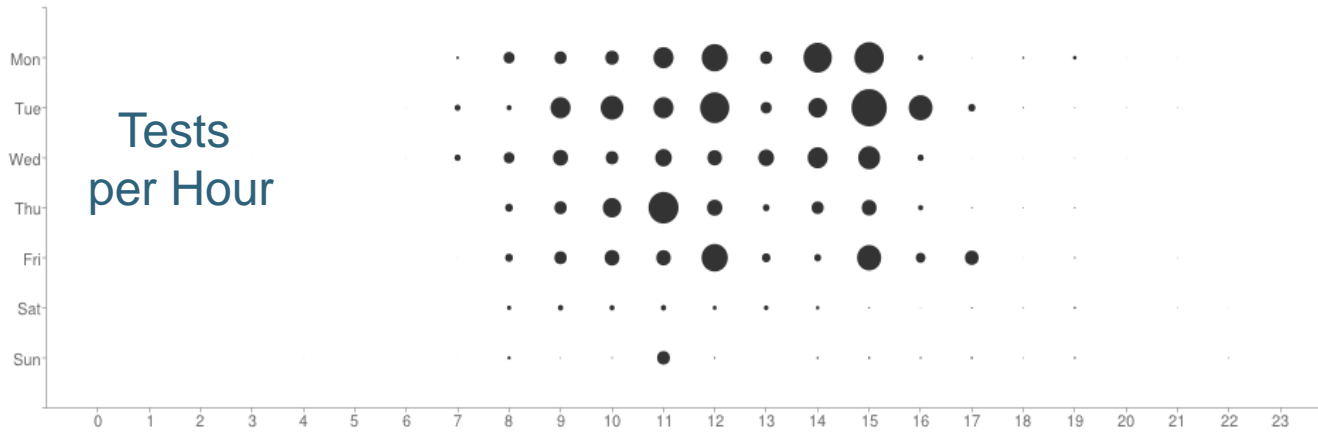
Results by Health Facility



Results by Department Nyanga District Hospital



Data Beyond Point of Care: Program Management



Next Steps: Need for Quality Assurance

Partial Line:
49 Tests
(~3%)



Positive

Heavy
Background:
65 Tests
(~4%)

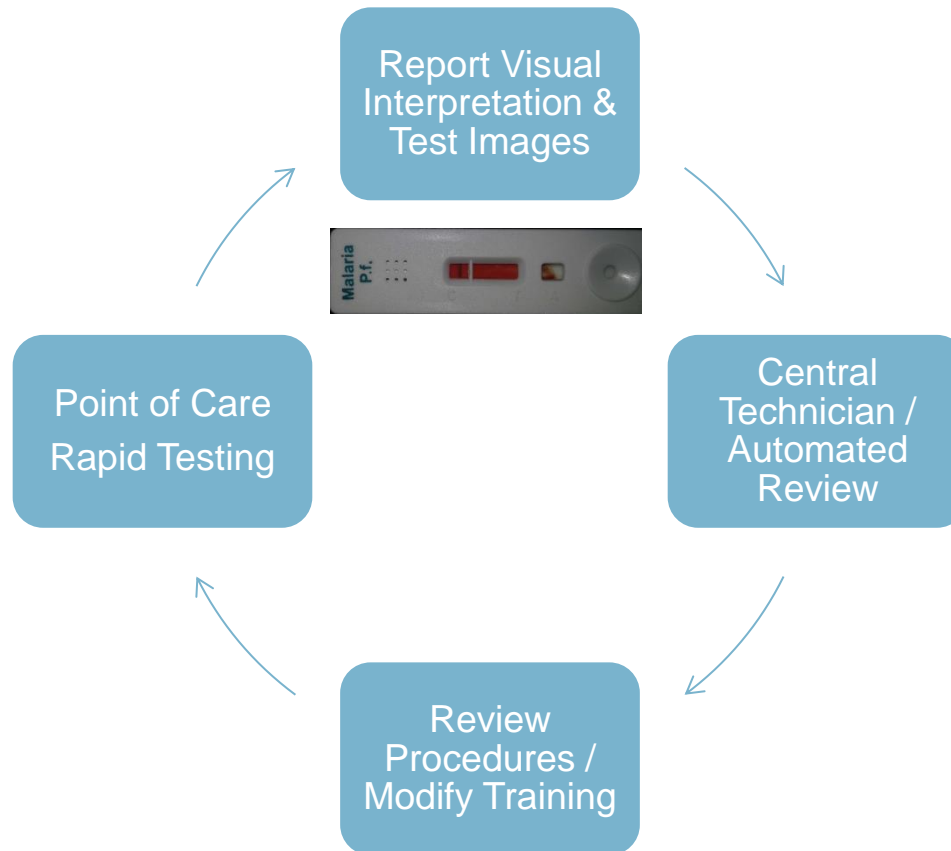


Negative



Positive

Next Steps: Remote Quality Assurance





Next Steps: Zimbabwe

- Evaluate Remote QA Capacity
- Planning Phase 2 in Zimbabwe
 - Include HIV, malaria, and syphilis
 - Add non-RDT results reporting (e.g. T3 / T5)
 - Provincial Scale-up: 200-500 sites



Next Steps: Integrating Data

Integrate data with existing health information management systems

- DHIS2 for surveillance
- Supply chain management
- Electronic medical records
- Last mile medical records

Next Steps: Universal Reader Adding Well-Evaluated RDTs



- HIV
- Malaria
- Syphilis
- Influenza
- Dengue
- Hepatitis B
- Hepatitis C

- Leishmania
- Filariasis
- Chagas
- RSV
- Tetanus
- Lassa Fever
- Ebola – **New!**



Premier Medical Corporation Ltd.



GS
ID GLOBAL SOLUTIONS
FOR INFECTIOUS DISEASES



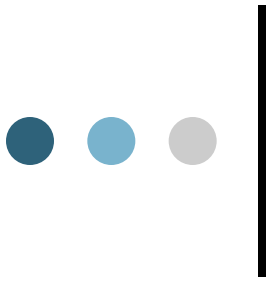
Next Steps: Longer Term

- Vertical Programs: HIV and malaria
- Perinatal: HIV + malaria + syphilis
- Febrile: Flu + Malaria + Dengue + Ebola
- Use Zimbabwe as roll model for other countries in Africa and beyond

Our Vision



Real-Time Reporting of All Critical Infectious Diseases on a Global Scale



Thank you!

Ian Francis

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