

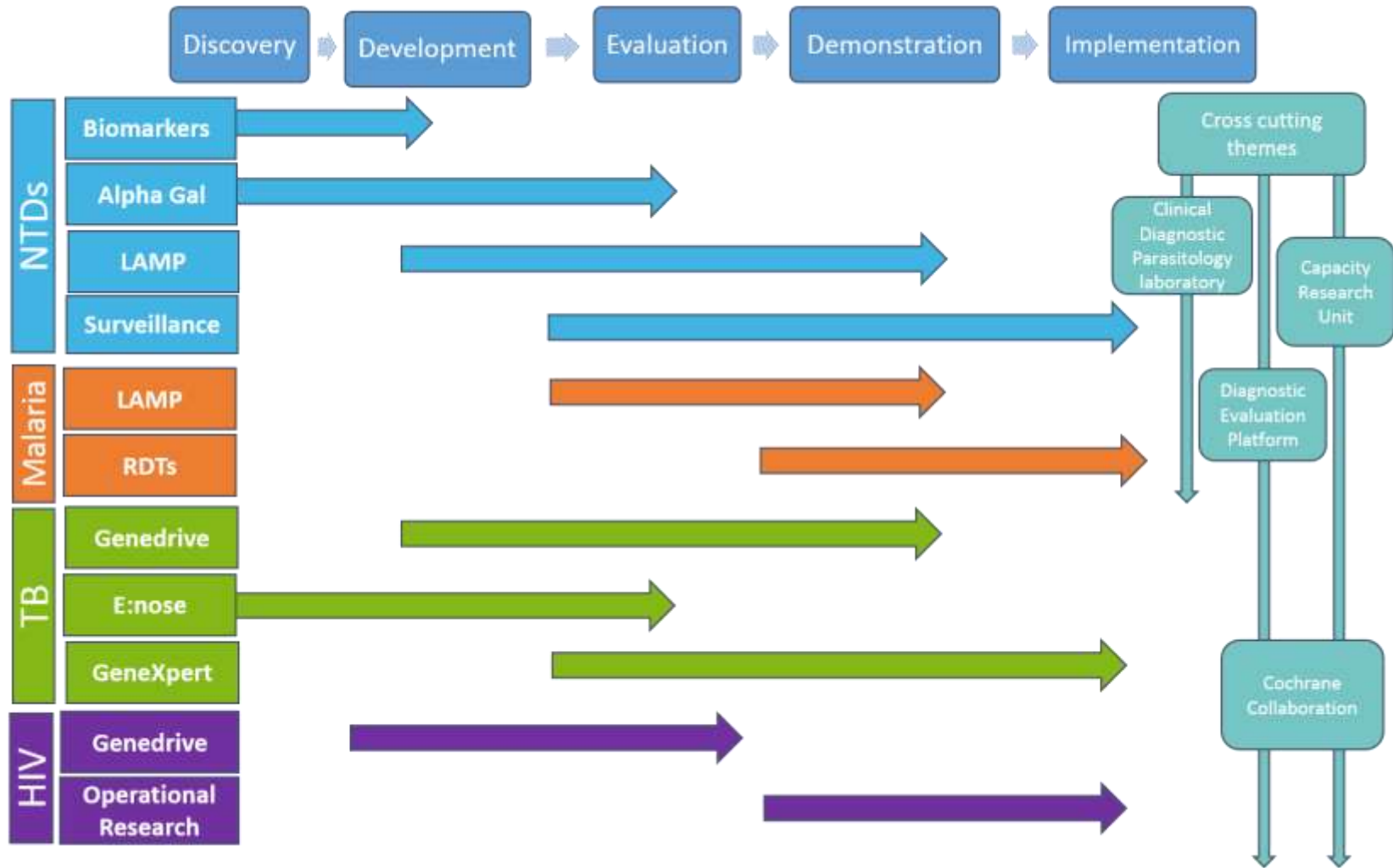
Research Centre for Drugs and Diagnostics

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Diagnostic pipeline at LSTM

From Discovery to Implementation



Aims: Pipeline of diagnostics from development to integration
for infectious disease in endemic settings
... if possible in the community



LABORATORY



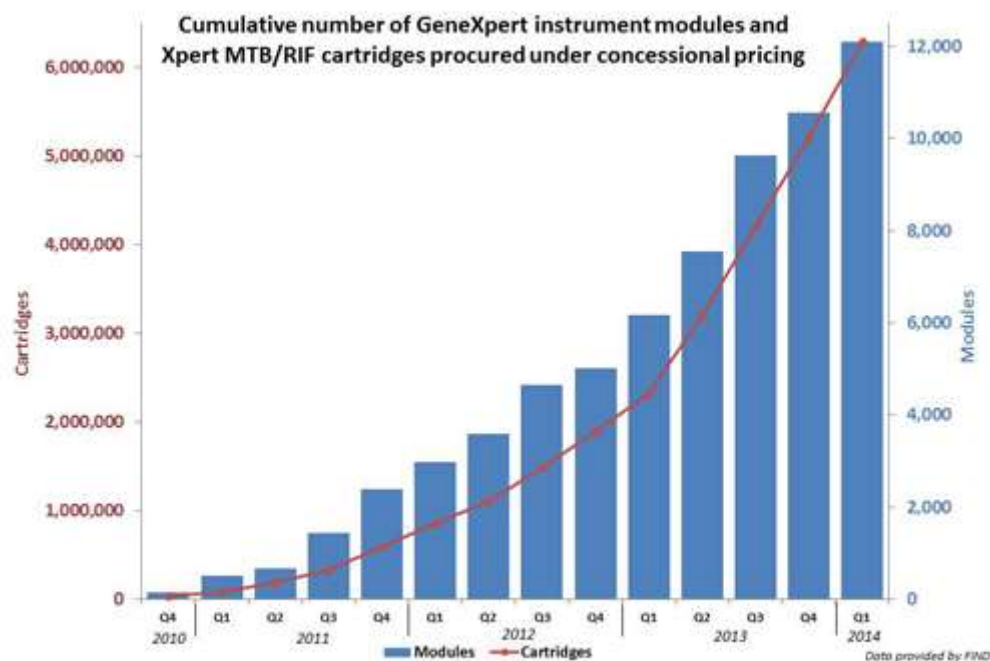




Global roll-out of GeneXpert®



Global summary statistics of procurement



As of 31 March 2014, a total of 2,343 GeneXpert instruments (comprising 12,103 modules) and 6,291,330 Xpert MTB/RIF cartridges had been procured in the public sector in 104 of the 145 countries eligible for concessional pricing.

The XTEND study in South Africa compared 20 clinics, 10 of whom had replaced smear microscopy with GeneXpert and 10 with SM as diagnostic.

They found that

1. Xpert did not decrease mortality
2. Did not increase proportion starting TB treatment although more patients had confirmed disease




Multiplex lab-on-chip diagnostics capable of discriminating pathogens in a low cost, hand-held, portable device Genedrive[®] produced by Epistem, Manchester

Similar principle to GeneXpert – PCR based technology, melt curve shows peak for disassociation.

Set up of cartridge takes 25 minutes. Reaction takes just over 1 hour.

Will be battery operated and portable – without computer

A photograph of a desk setup for a clinical trial. In the center is a black laptop displaying a web interface. To its left and right are several handheld diagnostic devices with white handles and black screens. A power supply unit and various cables are visible in the background. A black bag with the 'epistern' logo is on the far left. Papers are scattered on the desk in the foreground.

Enrolment of >1200
patients between May-
November 2014
Results will be available
soon

Recently been awarded a MRC:CASE studentship award to look into the development of diagnostics for malaria in elimination situations.

- Asymptomatic infection
- Potential to multiplex
- Pooling of sample

Paediatric TB diagnostics – Desmond Tutu TB Centre



Prof Anneke C. Hesseling
Dr Elisabetta Walters
University of Stellenbosch

Testing the Genedrive on different
paediatrics diagnostic samples
including GA, NPA, IS and stool.

What LSTM and RCDD can offer



- Collaborations with industry at different levels
 - Development and Co-application for development funding
 - Optimisation
 - Category 3 facilities
 - Large collection of isolates
 - Client interface
 - Beta and independent clinical evaluations
 - Facilitate sample collection
 - Support in endorsement process

- Emerging diseases (e.g CHIKV) and non-communicable diseases (e.g diagnostics for diabetes in LMIC)

Diagnostic evaluation platform



LSTM have developed a Diagnostics Evaluation Platform with long-standing collaborators to facilitate quality diagnostics evaluations that are informative to policy makers and diagnostic developers.

Field testing locations include Nigeria, Ethiopia, South Africa and Malawi, where LSTM has well established links with centres with expertise in diagnostics for HIV, TB, Malaria, EIDs and NTDs.



We look forward to collaborating soon!