

# Multipurpose Open Point-of-Care Diagnostic Platforms for LMICs

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- **The need for such platforms**
- **What is being done to facilitate their development and deployment in LMICs**
- **How will they contribute to the fight against AMR**



# Diagnosics are essential tools

- Identify causes of disease
- Select appropriate treatments
- Interrupt transmission of disease
- Surveillance

(all these points are relevant for the fight against AMR)

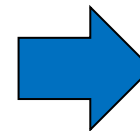


## WHAT ARE THE NEEDS?

- Point-of-Care Dx for LMICs (where the need is the greatest) are still lacking for many diseases. (for treatment, surveillance,..)
  - many areas with no electricity, no refrigeration, no trained medical staff...
- New PoC Dx suitable for LMICs need to be developed



- The good news: there are many new Dx being developed based on many different technologies (e.g. microfluidics). → high potential for developing suitable Dx for LMICs.
- However, as diagnostics become available, local health care centres in LMICs will further struggle to procure and maintain all the different Dx tools needed. The training requirements for all these tests will also be an issue.



# The Need for a New Approach for Dx in Local Health Care Centres in LMICs

→ Low-cost, robust and open PoC diagnostics platforms

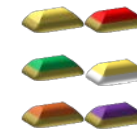
From a multitude of diagnostics potentially available in local health care centres in LMICs



to



Instrument including Reader/transmitter



Cartridges for multiple diseases and health conditions

# Dx Platform for LMICs Local Health Care Centres

- Open concept (reader and cartridges from various manufacturers can be used)(Interoperability)
- Low-cost, robust, simple, minimum training needed.
- Possibility of multiplexing
- Results read on equipment and sent wirelessly



# Advantages of the Dx Platform concept for LMICs

## Local Health Care Centres

- No need to stock many different types of equipment, reagents, parts,..
- Less training requirements
- Promote lower overall Dx costs
- Lower entry barriers to market participation (e.g. not necessary to develop the instrument, only the cartridge)

**→ WHO is thus organizing a global consultation on diagnostic interoperability standards for 11-12 June 2015 in Geneva as the 1<sup>st</sup> step toward the development of the new DX platform.**





# Global Consultation on Diagnostic Interoperability Standards (and New Business Models)

- Types of standards needed (e.g. device to device and device to EHR)
  - Needed incentives for Dx industry (e.g. new business models.....?)
  - Builds on previous work by others (e.g. BMGF)
- Agreement between major Dx stakeholders on the desirability of Dx interoperability standards and on new business models to facilitate the development of low cost, robust and multipurpose PoC diagnostics for LMICs. + initiation of 5 year plan.



# Conclusions

- WHO in collaboration with multiple partners is working to facilitate the development of multipurpose open diagnostic platforms for LMICs.
- These platforms will contribute to the fight against AMR by making it easier to:
  - Identify causes of disease (e.g. viral vs bacterial)
  - Select appropriate treatments (if antibiotics needed, which ones)
  - Interrupt transmission of disease (stop spread of resistant pathogens)
  - Surveillance (emergence of resistance)



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