

Developing research tools to assess laboratory systems' capacities for the control of neglected tropical diseases

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Background

- The lack of capacity in laboratory systems is a barrier in the control of neglected tropical diseases (NTDs).
- Capacity strengthening traditionally focuses on individuals' skills or institutional quality ignoring wider national/international structures, which are integral to establishing sustainable capacity.
- Published methodologies of how to assess capacity in laboratory systems are scarce.
- As researchers within the Capacity Strengthening Implementation Research (CSIR) unit we use operational research techniques to generate high quality robust evidence to aid the design and evaluation of capacity strengthening initiatives.

Objective

To develop a set of research tools that determine the capacities required by laboratory systems at the individual, organizational, and national/international system levels to support the regional control of NTDs.

Methods

We developed a set of mixed methods research tools based on published tools and evidence concerning the components (i.e., people, skills, systems, resources) needed to achieve capacity. The tools developed included:

- pre-visit questionnaire for laboratory managers
- semi-structured interview guide for stakeholders
- capacity gap checklist for various cadres of staff
- checklist using ISO 15189 standards for staff

We tested the tools with three laboratory systems in three African countries.

We piloted the tools with regional NTD laboratories in Kenya, Malawi, and Ghana.



Results

Through using the set of tools we identified:

- strengths and gaps of the laboratory systems from various perspectives
- activities for the laboratories to undertake in order to meet ISO 15189 standards
- capacity gaps to be filled to enable laboratories to provide effective support to regional NTD control programmes
- ways to strengthen the laboratory's relationship with relevant networks and collaborations

Using the data gathered, an action plan was developed for each laboratory system that detailed steps to enable capacity strengthening in all four areas above. The action plan has guided short and long term activities for NTD control in each country.

The tools were flexible enough to incorporate contextually specific issues and were therefore transferable between laboratories and countries. With repeated use the tools have been slightly refined to obtain greater depth and breadth of information from stakeholders.

Discussion

We found our innovative tools to be a comprehensive and systematic way of evaluating laboratory systems capacity for NTD control across individual, organisational, and network levels.

The tools were found to be flexible and therefore could be adopted in other contexts to determine the capacities needed to strengthen laboratory systems ability to control NTDs. Our future research includes employing the tools in low income countries outside of the African region in order to explore their transferability.

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