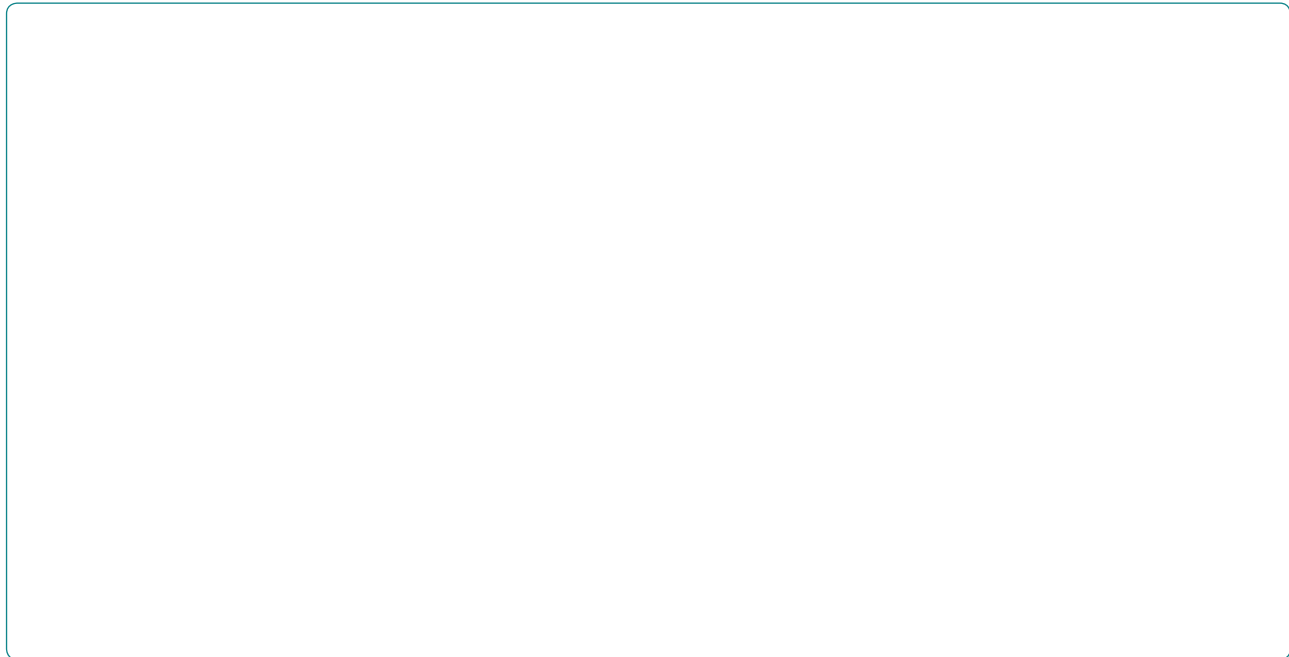


REVIEW

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Background text

Despite increased interest in strengthening health

With increased travel and urbanization, the threat of emerging diseases of pandemic potential is increasing alongside endemic diseases such as human immunodeficiency virus (HIV), tuberculosis (TB), malaria, and hepatitis virus infections. At the same time, the epidemiologic patterns are shifting, giving rise to a concurrent increase in disease burden due to non-communicable diseases. These diseases can be addressed by public health surveillance and response systems that are operated by competent public health workers in core public health positions at national and sub-national levels with a focus on disease prevention.

We describe two ways that health ministries in developing countries could leverage President Obama's Global Health Initiative (GHI) to build public health surveillance and response systems using proven models for public health systems strengthening and to create the public health workforce to operate those systems. We also offer suggestions for how health ministries could strengthen public health systems within the broad health systems strengthening agenda. Existing programs (e.g., the Global Vaccine Alliance [GAVI] and the Global Fund Against Tuberculosis, AIDS, and Malaria [GFTAM]) can also adapt their current health systems strengthening programs to build sustainable public

designed with a goal of contributing to the following critical outcomes within five to ten years after startup in the host country:

- a) functional and robust public health surveillance systems, often beginning with notifiable disease surveillance systems and moving on to add non-communicable disease surveillance systems;
- b) prompt and effective response to public health

surveillance and response system in a multi-disease manner. The WHO's Integrated Disease Surveillance and Response Strategy (IDSR), which is being implemented in all 46 Member States of the WHO's African Regional Office and in the Integrated Disease Surveillance and Response Project in India, are examples of general crosscutting public health and response improvement programs that have originated in developing countries. With sustained support from USAID and other donors from 1998 to date, IDSR has been successful because in addition to being a threshold-based surveillance strategy that focuses on public health response at the district or equivalent level, its implementation has gone through a process which allows all stakeholders to achieve a shared vision of what good multi-disease public health surveillance and response can look like in their country. The IDSR process starts with a baseline in-depth assessment and analysis of gaps, and then development of prioritized plans of action, which are implemented by the various stakeholders in a coordinated manner and are monitored, evaluated, and improved [14,15]. Currently, IDSR is the platform on which IHR implementation in Africa will be built and it is moving to address non-communicable diseases.

PEPFAR has supported initiatives to strengthen public health laboratory systems to address multiple diseases in resource-constrained settings by leveraging and integrating all the support for laboratory services, after the development of national laboratory strategic plans [16,17]. The strategic plans include consideration for policy, legal, and regulatory frameworks, the administrative and technical management structure of the laboratories, human resources and retention strategies, laboratory quality management systems, monitoring and evaluation systems, procurement and maintenance of equipment, and laboratory infrastructure enhancement. Several countries have developed or are in the process of developing their laboratory plans, and others, such as Ethiopia, have implemented and evaluated their plans [17,20].

We propose that health ministries in developing countries adopt the following suggestions as they grapple with the challenges of strengthening public health systems within the broader challenge of health systems strengthening:

- 1) Devote at least as much attention to public health as is given to treatment-focused health efforts in all aspects of health systems strengthening in order to lay adequate emphasis on public health systems strengthening within broader health systems strengthening.
- 2) Leverage GHI and other multilateral and bilateral funding to ensure that some of those resources are used to develop sustainable public health systems, with a focus on developing and retaining the public health

workforce in core public health positions at national and sub-national level to operate the strengthened systems.

- 3) Adapt existing public health system frameworks (e.g., IDSR), including the processes that lead to a shared vision, a common strategic plan, and a common set of indicators to other priority public health conditions (e.g., maternal and child health, non-communicable diseases, and environmental hazards).
- 4) Support the ongoing process of strengthening public health laboratory services using a multi-disease approach through one national strategic plan and coordinated and leveraged investments.
- 5) Implement training programs for public health leaders and frontline public health workers within the country with a focus on critical outcomes that are measured and improved upon incrementally.
- 6) Leverage existing funding mechanisms like GAVI and GFATM to develop sustainable public health systems which are operated by competently training public health workers.

Using approaches such as these will ensure that the current interest in health systems strengthening is translated into sustainable public health strengthening along with curative health system strengthening which is the main focus of current efforts. Preventive or public health system strengthening will be critical to address the myriad of health challenges that are faced by developing countries including IHR and the Millennium Development Goals, particularly those that address public health issues.

S u m m a r y c o n c l u s i o n

Developing countries need a public health workforce to operate public health surveillance and response systems, good domestic public health surveillance and response is necessary for implementation of IHR(2005). FETPs and FELTPs provide a proven strategy c[634w [(FE)-8(L)85(T)0td02(d in)9

Net; USAID, U.S. Agency for International Development; WHO, World Health Organization.

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

AA conceived the study, participated in its design and coordination, drafted the manuscript, participated in the sequence alignment, and read and approved the final manuscript. AA conceived the study, participated in its design and coordination, drafted the manuscript, participated in the sequence alignment, and read and approved the final manuscript.

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