

CONSIDERATIONS FOR THE DEVELOPMENT OF A NATIONAL PUBLIC HEALTH INSTITUTE (NPHI)

With adequate funding, clearly defined roles and strong relationships, sufficient independence, an appropriate scope and the right people, NPHIs can improve health security and accelerate health progress.

In many countries, major public health issues are addressed, at least in part, by national public health institutes (NPHIs), which help analyze, plan, develop and operationalize [essential public health functions](#). A core role of an NPHI is to provide accurate, timely information and data analysis, including on the evolving epidemiology of outbreaks and on the status of outbreak control.

Based in part on the reputation of the global flagship NPHI – the U.S. Centers for Disease Control and Prevention (U.S. CDC) – and impressive progress at [Africa Centres for Disease Control and Prevention](#) (Africa CDC) and [Nigeria Centre for Disease Control and Prevention](#) (Nigeria CDC), as well as peer-to-peer learning within the [International Association of National Public Health Institutes](#) (IANPHI), a global network of NPHIs, there have been calls to create and strengthen NPHIs in other countries and regions to deliver a consistent, coordinated, high-quality public health services. [Africa CDC has committed to promoting NPHIs on the continent](#), viewing them as critical to implementing the International Health Regulations (2005), which underpin global health security.

NPHIs at all levels of development and resources have struggled to meet the challenges of the COVID-19 pandemic. The establishment of NPHIs in new places can be hampered by lack of resources and staff and has, in many countries, led to friction with parent ministries of health and conflicts over independence, personnel, authority and access to data.

With the proper foundation, an NPHI can be an [effective means](#) of coordinating a country's public health structure and operations and improving population health. Whether an NPHI is successful will depend on what drives its establishment, how it is designed, how it functions in its national context, and the powers and means it is granted to carry out its functions.

Before establishing, expanding or restructuring an NPHI, countries should develop a clear vision of the NPHI's core rationale. What problems or opportunities is the NPHI intended to address? What goals is it intended to achieve? What is the motivation for changing the status quo, and where is it coming from?

Important lessons have emerged from Resolve to Save Lives' and the International Association of National Public Health Institutes' work with partners in numerous countries.

1. Funding

The fundamental obligation of an NPHI is to obtain sufficient funding to enable high performance of all functions within its scope of responsibility, and to use these funds to maximize benefit to public health.

Because NPHIs generally do not provide clinical services or support basic research, and because most public health services, such as disease prevention and promotion of wellness, are not politically popular, budgets of NPHIs inevitably constrain their potential public health impact.

In many countries, health spending and attention are overwhelmingly directed toward strengthening clinical care, with limited investment in preventing disease and promoting, improving and protecting public health. Such activities are thus often undertaken by a small, under-resourced and overburdened workforce.

The critical role of NPHIs in areas such as epidemic preparedness and translational research — advancing basic science discoveries more quickly and efficiently into practice — must be recognized with appropriate funding and support.

2. Relationships and roles

Carefully articulating how an NPHI will be integrated into broader government health systems — and which powers it will have — is essential.

Most NPHIs are part of a larger health department or ministry of health and experience some friction with their parent ministry. Even if an NPHI has latitude to operate independently in its day-to-day functioning, it will only be effective to the extent it can influence public health and clinical practice more broadly based on scientific evidence. Having a clear and — ideally — legally protected role, being granted appropriate autonomy on technical issues, and working effectively as part of the larger governmental health landscape are important and often challenging issues.

An NPHI benefits if a broad range of stakeholders is involved in its design, review and support. Stakeholder groups that need to be considered include governmental partners (president or premier, cabinet, state-level officials, etc.); ministry partners within and beyond the health ministry (including environment, agricultural, transport, education and defense ministries, among others); NPHI staff (or prospective staff, if the NPHI is not yet in place); external donor partners; academia; private sector partners; civil society organizations; and representatives of affected communities.

Although inclusive stakeholder engagement takes time and effort, it drives diverse partners to not only accept the NPHI's mission but also take ownership of their roles in enriching NPHI development and progress. Stakeholders who are not adequately engaged may hinder NPHI development through duplicative or poorly-coordinated activities or active resistance to change.

NPHIs must work closely with government leaders, including heads of state and other elected representatives, to ensure that the NPHI receives dedicated funding and can create, defend, sustain and

increase its budget. Strong working relationships with elected leaders will also allow the NPHI to gain or preserve the authority required for vital public health action as well as to advocate for broader legal and regulatory interventions that protect and promote public health.

Relationships must also be nurtured with state, city and local jurisdictions. In some countries, subnational areas have substantial autonomy and NPHIs provide only general technical guidance. Aligning different levels of government may be challenging in some contexts, but it is important to achieving coherent and effective public health action.

In a widespread emergency such as the COVID-19 pandemic, the need for a whole-of-society response will exceed the capacities of almost any NPHI. A legal framework should facilitate the NPHI's leadership and coordination of state, city, and local governments, as well as many sectors of the national government and civil society organizations. It is also essential that the law affirm the NPHI's use of independent scientific findings to develop and support an evidence-driven response.

3. Independence

Ideally, an NPHI should operate with sufficient day-to-day insulation from political influence that it can build and maintain trust with a broad range of stakeholders and communities, including the general public and those which may not be favorably disposed to the broader government.

At the same time, the NPHI should remain close enough to political decision-makers and principal government agencies to be trusted and given a central role in public health policy decisions.

As summarized in 2010: "To be effective, an NPHI must have credibility and be independent, technically expert, and apolitical, which requires independence from parent ministries of health on technical issues. But if an NPHI is seen as being too independent, it might not be able to address important health challenges" because its advice to the government may not be followed.

Independence on technical issues and clinical recommendations must be distinguished from independence on policy guidance. The role of the NPHI is not to set policy, but rather to ensure that policy is developed using the best and most accurate information possible; for example, decisions on school and business closures during a pandemic should be informed by disease rates and risks, but ultimately require balancing health, educational, social, economic, and other considerations, a process best undertaken with transparency by the broader government.

An NPHI's independent epidemiologic assessments of health threats should be promptly and transparently shared with the public. During the height of the COVID-19 pandemic, the Africa CDC published epidemiologic information and analysis that was distributed widely, including to heads of government, without political intervention, and the Nigeria CDC served as the national focal point for accurate, timely information on the pandemic and protective actions.

Technical recommendations on case definitions and diagnostic criteria are also appropriately generated at an NPHI, with input from outside experts and front-line staff. Governmental and non-governmental entities with specialized technical expertise have an appropriate role in helping to formulate and revise clinical



recommendations; for example, in establishing recommended immunization schedules and treatment protocols. At the U.S. CDC, this is done by the [Advisory Committee for Immunization Practices](#), which consists of a broad range of experts and stakeholders from inside and outside of the government. The Committee conducts all of its sessions openly with broad participation, meticulously reviews presentations from U.S. CDC specialists and makes recommendations for the U.S. CDC to consider.

4. Scope and authority

Different NPHIs have differing scopes of responsibility.

Core responsibilities shared by nearly all NPHIs include surveillance, emergency response, laboratory networks, technical and sometimes financial support to state and local public health departments, development and dissemination of public health guidance, training of some public health staff such as field epidemiologists and communications with policymakers, clinicians, media and the public.

NPHIs are charged with both coordination of data-sharing for emergencies and developing public policy recommendations. An NPHI can add maximum value in this situation by using data to optimize the response so that both illness and societal disruption are minimized. However, this can be difficult in a federated system where subnational governments have substantial authority for public health functions.

Other potential responsibilities, particularly for well-established NPHIs, include providing reference laboratory services; overseeing disease-specific programs such as prevention and control of sexually transmitted infections, tuberculosis, malaria, HIV, non-communicable diseases, injuries, and birth defects as well as immunization, occupational, and environmental health; and health care safety and quality. A few NPHIs regulate drugs, and many have selective regulatory authority, for example, relating to importation of animals and microbiological specimens.

Most countries will expect their national public health system to deliver a full range of the essential public health functions critical to national health security. However, many NPHIs currently focus on a subset of these technical areas. A practical approach for new NPHIs is to start with a narrower focus and show rapid and measurable results. This increases the likelihood of achieving initial goals, builds momentum and demonstrates the NPHI's value. Adaptation in roles and activities over time will be essential as health threats emerge and recede and opportunities for health progress arise.

When establishing a new NPHI, a review of relevant health-related institutions and existing legislative frameworks that address public health functions can foster collaboration and prevent common pitfalls, such as duplication of responsibilities, paralysis, lack of sustainability, or further fragmentation of health systems. A review will be most effective if it determines how NPHIs will work with national and subnational governments to coordinate data and policy, with a focus on the relevant legal frameworks. Challenges encountered during COVID-19 suggest that NPHI authority should be sufficiently defined in relationship to subnational structures so as to clarify key operational issues, such as whether subnational structures are required to share data with the NPHI.

Creating a dynamic process or roadmap, rather than a static planning document, can improve NPHI



development and implementation. Elements of a dynamic strategic planning process include setting clear and realistic goals, objectives and activities; conducting quarterly monitoring of plan progress with a steering committee of NPHI leaders, managers and stakeholders; and annually reviewing and updating the plan to reflect current priorities and evolving contexts

5. People

All functions of an NPHI are carried out by people; appropriate human resources at all levels are critical to an NPHI's effectiveness.

NPHI leadership needs to be technically rigorous, both to understand and guide work within the organization and to communicate effectively with and earn the trust of stakeholders outside the organization; operationally excellent to manage what is usually a challenging environment; and politically savvy to anticipate and manage the risks and opportunities facing the organization and health progress more generally. A strong founding director can position an NPHI to make steady progress.

A core team of skilled staff should be assembled to manage the NPHI and guide its initial development, secure funding from both domestic and external sources, identify and agree on core functions, chart a path to operationalize its vision, and begin essential functions. NPHI staff must have technical expertise; NPHIs with a deep bench of highly qualified staff who can move into leadership positions are most likely to experience sustained growth and progress. These experts must be sufficiently protected to be willing to communicate to government leaders and the public the often-inconvenient facts about disease emergence and spread.

Often, the details of hiring, promotion, employment benefits, and staff development can be pivotally important for the success of an NPHI, but these factors rarely receive the detailed attention they merit. For example, achieving parity with employment terms and conditions offered by health care system employers is important to securing and retaining a motivated, professional NPHI workforce. Effective policies and practices on hiring, promotion, staff contracts, staff engagement, and change management can help staff understand the value of such endeavors and ensure legal, ethical and transparent processes.

CONCLUSION

When fit for purpose and given sufficient authority and resources, NPHIs can strengthen essential public health functions. However, even mature NPHIs grapple with challenges including large-scale threats such as COVID-19.

NPHIs function best when they embrace a culture of rigorous evaluation, continuously upgrade staff skills and organizational capacity, and closely monitor the broader context in order to identify and pursue opportunities for health progress. With adequate funding, clearly defined roles and strong relationships, sufficient independence, an appropriate scope and the right people, NPHIs can improve health security and accelerate health progress.

Each country will need to determine how best to develop, coordinate and support its own public health strategy. Whatever course is chosen, it is critical that a country has timely, accurate data on the most important risks and opportunities for health and the ability to act quickly and effectively based on that data. For this to occur, there must be an adequate number of highly trained staff with appropriate institutional support who are expert in collecting, interpreting, disseminating and acting on health information.

Effective action will depend on whether public health entities and leaders have sufficient information, power and authority to act promptly and effectively.

Recommendations

1. Countries considering or in the process of creating an NPHI will be most likely to succeed if they:

- operate based on a shared analysis of gaps they aim to address and clarity on goals to be achieved;
- engage stakeholders and facilitate productive interactions among different parts of the government affecting health;
- define, ideally with law and/or regulation, the roles of the NPHI;
- address essential administrative procedures, especially effective human resource management, including competitive salaries and benefits; and
- select and support effective leadership.



2. Donors and multilateral organizations will be most effective if they:

- organize systematically to support countries that have decided to embrace the NPHI challenge;
- provide financial and technical resources as well as organizational, operational and management support that is aligned with national strategic priorities; and
- provide support with minimal earmarking to allow for maximum flexibility in addressing public health challenges.

3. Existing NPHIs will be most likely to achieve sustained progress if they:

- review and, with stakeholder engagement, achieve consensus on their most important roles and expectations;
- support staff development;
- work effectively with subnational public health entities;
- continuously assess and improve their ability to collect, analyze and communicate health information effectively; and
- create a dynamic roadmap for and regularly monitor implementation of NPHI development with a steering committee of NPHI leaders, managers, and stakeholders, updating the roadmap as needed to reflect evolving contexts and priorities.

About Resolve to Save Lives

Resolve to Save Lives is a not-for-profit organization partnering with countries, communities and organizations to help prevent 100 million deaths from cardiovascular disease and make the world safer from epidemics. To find out more, visit resolvetosavelives.org or Twitter [@ResolveTSL](https://twitter.com/ResolveTSL).

About The International Association of National Public Health Institutes

The International Association of National Public Health Institutes (IANPHI) collectively builds public health capacity and capabilities by connecting, developing and strengthening national public health institutes worldwide. To learn more, visit ianphi.org.