The role of national public health institutes in health infrastructure development

Science based and often relatively apolitical, they deserve 10% of donors’ funds

Modern day challenges to public health systems include—as well as infectious and chronic diseases—the need to improve environmental health, occupational health, and mental health; to reduce injuries; to strengthen systems for delivering public health services; and to prepare for unanticipated problems and emergencies, such as natural disasters and bioterrorism.

Public health services have developed in a less consistent manner than medical services in hospitals, clinics, and primary care. But, from 19th century pioneers of public health such as Farr, Chadwick, and Snow in England; Shattuck in the United States; and Frank, Villerme, and Virchow on the European continent, to Yen and Grant in Ding County, China, disciplines and skills have evolved into a set of recognised essential public health capacities. As defined by the Pan American Health Organization and the US Centers for Disease Control and Prevention (CDC), such capacities permit a nation—through its public health authorities—to recognise, measure, and tackle health challenges through population based interventions.

Many countries find it useful to group target problems together and to cluster essential capacities under one roof—or at least under roofs whose buildings are in close organisational proximity. These national public health institutes provide focused, centralised leadership and coordination for public health in a country. They are generally quasi-governmental institutions, which are often affiliated with national ministries of health. Effective national public health institutes have adequate human, financial, and infrastructure support and good links with key organisations within the country and internationally.

The International Association of National Public Health Institutes (IANPHI; www.ianphi.org), founded in 2002 and now with 50 members, supports the development and strengthening of these institutes throughout the world. The association’s mission is to strengthen existing national public health institutes and to create new ones by providing funded grants to support national priorities for the development of public health infrastructure. It is also a professional association for directors of national institutes, and it fosters leadership development and advocacy for public health.

National public health institutes allow countries to set and implement national priorities, respond to international regulations, develop human and physical capacity, and (in countries with low resources) ensure that donor funds are used in a coordinated manner to meet national public health priorities—a crucial problem in countries with multiple and fragmented donors. For example, in 2002, Vietnam received aid from 25 official bilateral donors, 19 official multilateral donors, and about 350 international non-governmental organisations, which funded more than 8000 development projects. Likewise, countries in sub-Saharan Africa typically receive aid from an average of 25 bilateral donors each year.

National public health institutes often began with more narrow and circumscribed missions and roles (such as malaria control for the US Centers for Disease Control and Prevention), but many—including the Brazilian Fundação Oswaldo Cruz (FIOCRUZ), the Chinese Center for Disease Control and Prevention (China CDC), the Finnish National Public Health Institute (KTL), and the Netherlands National Institute of Public Health and the Environment (RIVM)—have grown in breadth and depth as public health functions and challenges have increased.

Some have their basis in international models and networks, such as the Pasteur Institute’s facilities in Morocco, Vietnam, and elsewhere. Others, including those in Mexico, South Africa, Thailand, and the Czech Republic, have developed from national needs. In recent years, several institutes—including the UK Health Protection Agency, the Canadian Public Health Agency, and the Hong Kong Centre for Health Protection—have been created in the wake of major and dramatic public health crises that demanded an effective response.

National public health institutes permit the assembly of a critical mass of skills, disciplines, experience, and expertise. For example, tackling antibiotic resistance in a community requires not only laboratory microbiologists,
epidemiologists, and statisticians but also health educators and communicators, infectious disease specialists, and others.

Even in nations with limited resources—where a fledging institute may comprise only a handful of nurses, doctors, laboratory workers, and public health inspectors or sanitarians—such a cluster can be more effective when placed in a common unit and can serve as a building block towards more robust national capacity. Moreover, as a science based organisation, a national public health institute is often somewhat removed from the politics and pressures of a ministry of health. These institutes often engender a high level of trust and, in some cases, use donor funds more transparently and effectively. The framing of public health decisions through scientific knowledge, data, analysis, and evidence serves as a vital precondition for good decision making and policy setting. At the same time these institutes can also provide a centralised focus for implementing policies such as the new International Health Regulations.

A coordinated approach to health services and public health systems is more effective than simply investing in thousands of vertical, unconnected, and uncoordinated programmes. But it needs adequate funding. We propose that donors of funds for specific diseases and other health problems in nations with low resources allocate 10% of their donations to the development of infrastructure in the host country, with special consideration for national public health institutes. Mechanisms for auditing and evaluating programmes should then be applied to both the programmatic and infrastructural components of these grants.


Rapid tranquillisation in emergency psychiatric settings

In resource poor settings, a sleeping patient is better than one who needs constant observation

Two randomised controlled trials in this week’s BMJ assess the effectiveness of different combinations of drugs for tranquillising and sedating people who are violent or agitated as a result of psychiatric disorders. Both trials were undertaken in developing countries.

The first trial, by Raveendran and colleagues, was carried out in the emergency services of a general psychiatry department in a hospital in South India. It compared the tranquillisising and sedative effects of a single intramuscular administration of either olanzapine (10 mg) or a combination of haloperidol (10 mg) plus promethazine (50 mg) in 300 aggressive or agitated patients. The observation period lasted for four hours only and patients were followed up for just two weeks. This contrasts with most randomised controlled trials in psychiatry, which have treatment periods lasting for four to 12 weeks and can have several months of follow-up. The trial is important, however, because it looks at a neglected area—the early effects of treatment with parenteral antipsychotic drugs in patients who are violent or agitated. Without effective treatment these patients may harm themselves and their environment, and they are a heavy burden on resources in emergency psychiatry facilities.

Violent patients are usually psychotic and often receive antipsychotic drugs. In the Indian trial, 10% of the participants were depressed, two thirds were manic, and the remainder had other forms of psychosis. At all five assessments during the four hour study significantly more people were asleep after the haloperidol-promethazine combination than with olanzapine (number needed to treat (NNT) ranged from 5 to 8). Whereas revisits by consultants (NNT=6) and the use of additional drugs (NNT=5) were less frequent with the combination, the need for physical restraint and the adverse effects of drugs did not differ significantly between the treatment groups. No patient experienced dystonia.

Clinicians are usually satisfied if drugs tranquillise a disturbed patient. The two treatment groups did not differ significantly in the combined outcome measure of being tranquil or asleep at 15 and 30 minutes. However, at one hour significantly more people taking the combination treatment were tranquil or asleep (NNT=19). Some people taking olanzapine needed additional drugs, after