A Systems Perspective on the Organization: Implications for Public Health Policy  

Case Studies

Case Brief 1. Polio in Uttar Pradesh: Local Context Matters

Poliomyelitis, an enterovirus spread by fecal-oral transmission, can cause paralysis. Fortunately, inexpensive vaccines have been available since the 1950s. By 1985, however, vaccine coverage in India was still below 50 percent of the population.

In the 1990s, the Indian government significantly expanded its polio eradication efforts by instituting National Immunization Days. On a national level, the program achieved impressive results: more than 100 million children were vaccinated, and coverage exceeded 94 percent.¹

Despite the campaign’s success in reducing polio cases nationally (as shown in map 7.1), vaccination rates remained poor in parts of the country. By the end of the decade, officials noted that vaccine coverage in a number of districts in the province of Uttar Pradesh was under 20 percent. Ethnographic investigation indicated that residents did not consider polio a leading health concern; many asked why polio was being targeted instead of other pressing health needs.² A predominantly Muslim province in a Hindu-majority nation, Uttar Pradesh had a legacy of skepticism toward outside intervention. Family planning and immunization campaigns in the province a decade earlier had been construed by some as an attempt to sterilize Muslim communities, fueling distrust of health care personnel.³ The province is also one of India’s poorest, and it faces a high burden of diarrheal disease, which significantly reduces the oral polio vaccine’s efficacy.⁴

In 2002, Uttar Pradesh experienced a resurgence of polio.⁵ Variable achievements of the national campaign in this province illustrate the role of local factors in mediating the delivery of health services, and community-based adjustments to the campaign have succeeded in eliminating polio from India since 2011.

Case Brief 2. AMPATH HIV Care: A Care Delivery Value Chain

In 1989, the Indiana University School of Medicine in the United States and the Moi University School of Medicine in Kenya launched a joint project in Kenya’s Western Province that aimed to expand health services and to train American and Kenyan clinicians. For several years, the program offered mainly primary care services. By the late 1990s, however, it became clear that the partnership could not meet the province’s health needs without providing HIV care. The main teaching hospital recorded eighty-five AIDS deaths in 1992; by 2000, there had been more than one thousand.

In response, they created the Academic Model for Prevention and Treatment of HIV/AIDS (AMPATH), which rolled out an AIDS prevention and treatment program targeting various points in the disease cycle. AMPATH providers offered HIV counseling and testing, antiretroviral therapy, and treatment of opportunistic infections, including tuberculosis. The program referred patients to oncology care (Kaposi’s sarcoma is among the most common opportunistic infections across sub-Saharan Africa), provided reproductive health services, and delivered antenatal care to reduce HIV transmission between mother and child. It also offered food and social support for patients in need. To tackle the many afflictions associated with AIDS—opportunistic infections, sexually transmitted infections, poverty, stigma—AMPATH developed a package of integrated interventions, including prevention, diagnosis, treatment, and clinical management of complications. What began with a single patient scaled up to more than one thousand in the first three years (see figure 7.2); by 2008, the program had a cumulative enrollment of more than sixty-eight thousand patients and operated seventeen centers. AMPATH had become the largest provider of antiretroviral treatment in Kenya.

Nonetheless, a 2007 survey indicated that 83 percent of residents in AMPATH’s catchment area were unaware of their HIV status. The AIDS patients AMPATH identified received excellent care, but others remained beyond its reach; the program’s services were insufficiently addressing HIV transmission. A pilot project called Home-Based Counseling and Testing was begun, which provided door-to-door information, testing, and counseling. The project reached 95 percent of the 19,024 eligible residents, 96 percent of whom received HIV tests. By 2020, AMPATH had expanded this service throughout the catchment area; knowledge of HIV status increased markedly, as did patient volume. Expanding services at the front end of the care delivery value chain—knowledge of HIV status and counseling about preventing transmission—helped AMPATH enroll more than 120,000 people in treatment by 2013.¹

Case Brief 3. BRAC's Rural Tuberculosis Program: Shared Delivery Infrastructure

BRAC (formerly known as the Bangladesh Rural Advancement Committee) has promoted rural economic development since shortly after Bangladesh gained its independence in 1971. Before long, BRAC leadership realized the links between health care and development; they began investing in local health delivery systems by training a cadre of female community health workers, called shasthya shebikas. The shebikas implemented grassroots health education programs and taught community members how to dispense medications for minor medical needs. BRAC provided ongoing training as well as logistical and clinical support for the shebikas, each of whom served 150 to 300 households.

In the early 1980s, BRAC staff identified tuberculosis (TB) as one of the most pressing health needs in rural Bangladesh. Beginning in a district of 250,000 people, BRAC set up a pilot program of TB control based on the existing network of shebikas. During regular home visits, shebikas screened for TB and conducted active case-finding, referring suspected cases to treatment facilities and counseling patients with confirmed TB to help them adhere to therapy. After patients completed treatment, shebikas were paid. BRAC also integrated this program into the government health system: public-sector facilities provided medicines and laboratory capacity whenever possible. Where there was not sufficient public-sector capacity, BRAC set up its own laboratories according to government guidelines. The shebikas followed the protocol of the government's National Tuberculosis Programme, including treatment and reporting procedures.

BRAC's TB program was hailed as a success and expanded to ten upazilas (subdistricts) in 1991; by 2006, it served a catchment area with more than 83 million residents. That year, BRAC treated 87,000 TB patients and recorded a cure rate of 92 percent. Today, BRAC's work is widely regarded as a paradigm of TB control. Its model—based on BRAC's large network of trained and paid shebikas and integrated with the public-sector health system—exhibits the substantial benefits of leveraging shared delivery infrastructure in global health delivery.1

Case Brief 4. A to Z Textile Mills Ltd.: Improving Health and the Economy

Insecticide-treated bed nets (ITNs) have been shown to reduce malaria transmission when used regularly and mended or replaced periodically. An initial effectiveness study performed in the Gambia in 1992 suggests that use of these bed nets reduced mortality among children under the age of five by up to 60 percent.1

In 2000, international malaria-control organizations committed to scaling up the use of bed nets, but utilization rates have remained somewhat low. One problem was that when ITNs were first developed, the nets needed to be retreated with insecticide every six months. More recently, manufacturers such as Sumitomo Chemical Company in Tokyo have developed insecticidal bed nets that remain effective for at least three years. Sumitomo's product is called Olyset. In 2006, the Roll Back Malaria Partnership—a multilateral coalition formed in 1998 to intensify and coordinate global efforts against malaria—called for 80 percent coverage with long-lasting insecticidal bed nets among vulnerable populations by 2010.

In order to increase access to bed nets and to boost local production capacity, Sumitomo chose to partner with public- and private-sector ventures in Sub-Saharan Africa. Instead of restricting manufacturing to its own factories, for example, Sumitomo partnered with A to Z Textile Mills Ltd., in Arusha, Tanzania. One of Africa's largest ITN producers, A to Z had been producing bed nets for over a decade (6 million in 2002 alone). After partnering with Sumitomo, A to Z expanded annual production to more than 19 million royalty-free Olyset nets in 2008. When demand continued to outstrip production, Sumitomo and A to Z entered into a 50/50 joint venture to build an additional factory north of Arusha (see figure 7.3). Together, these efforts created more than 3,500 salaried jobs—90 percent of which went to women—and supported an estimated 24,000 people in the surrounding community. Partnering with A to Z also reduced Sumitomo's shipping and distribution costs. This success story highlights the potential synergy that exists between the health and business sectors.2