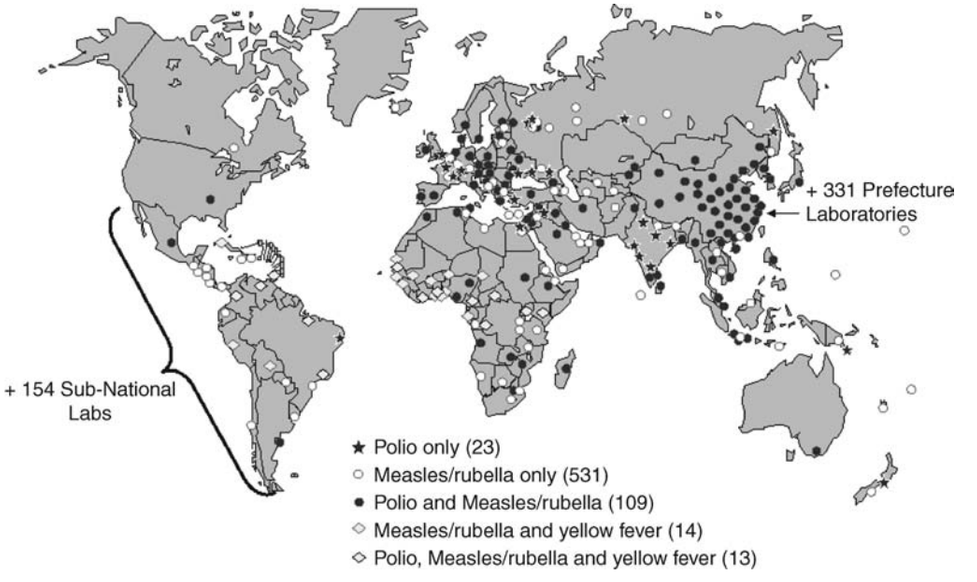

Figure 2 Network of laboratories for diagnosis of vaccine-preventable diseases that has been built on the Global Polio Laboratory Network, as of June 2007.

eradication goal was subsequently endorsed by the World Summit for Children in 1990, the largest ever gathering of Heads of State (38). Political leaders from low-, middle-, and high-income countries have continued to reconfirm their commitment through resolutions adopted in summits that include those of the G8, African Union (AU), which was preceded by the Organization of African Unity (OAU) (39), Organization of Islamic Conferences (OIC), and the South Asian Association for Regional Cooperation (SAARC) (40).

Following the WHA resolution, rapid progress continued in the Americas, with the last case of indigenous polio occurring in August 1991 in Peru (26). By the mid-1990s, large-scale activities were ongoing in WHO's Western Pacific (WPR), Eastern Mediterranean (EMR), and European (EUR) regions. In the six endemic countries of WPR, including China, polio was rapidly interrupted, with the last case occurring in Cambodia in March 1997 (41). In EUR and EMR, activities accelerated with Operation MECACAR in which NIDs were synchronized across 18 countries of the MEditerranean, CAucasus, Central Asian Republics and Russia, immunizing 56 million children, three years in a row, beginning in April and May 1995 (42). The last indigenous case of polio in EUR occurred in southeast Turkey in November 1998 (43).

By the year 2000, indigenous poliovirus had also been interrupted in 9 of the 10 countries of Southeast Asia, WHO's most densely populated Region. In India, the sole exception, indigenous polio was restricted to just 2 of the 30 states. The cessation of polio in Indonesia (1995) and Bangladesh (2000) reinforced the effectiveness of the strategies in highly populated areas. By 2001, indigenous poliovirus in EMR was limited to parts of Pakistan, Afghanistan, Egypt, the Sudan, and Somalia. In the WHO Region of Africa, with 46 sub-Saharan countries, large-scale activities began with the 1996 ''Polio-free Africa'' declaration at the OAU, led by Mr. Nelson Mandela. Progress was surprisingly rapid, with indigenous polio interrupted everywhere except Nigeria, Niger, Ethiopia, and Angola by 2001.

The progress between 1988 and 2000 was the result of multiple factors that facilitated strategy implementation (27). There was a strong ''core'' partnership of four agencies with a long-term commitment of time, expertise, and resources: WHO, Rotary International, the U.S. Centers for Disease Control and Prevention (CDC) and the United Nations Children's Fund (UNICEF). This partnership mobilized the high-level political commitment that facilitated fundraising and strategy implementation. An enormous investment was made in surveillance, underpinned by a global network of 145 accredited laboratories (44,45) (Fig. 2). Finally, there was a massive deployment of technical assistance (reaching nearly 3500 people in 75 countries at the peak of activities) and investment of external financing (totaling US$8 billion by end-2008) (32,46).

Although wild poliovirus transmission had not been interrupted globally by 2000, all countries had introduced the necessary strategies by then, and substantial progress had been made. Most notably, one of the three poliovirus serotypes (type II) had been eradicated globally, with the last virologically confirmed case of paralytic polio due to indigenous type II virus occurring in India in late 1999 (47). Consequently, support for the GPEI was high as it entered the new millennium. Between 2000 and 2003, however, a range of new problems emerged, which challenged the very precepts upon which the GPEI was founded. These challenges resulted in a period of unprecedented innovation, however, so that by 2009 the feasibility of the GPEI again appeared sound: only four countries still had indigenous poliovirus transmission though 11 of the reinfected countries had yet to interrupt polio again.

NEW TOOLS AND TACTICS TO ADDRESS NEW CHALLENGES

This section outlines, in order of programmatic importance, the new challenges and problems that emerged for the GPEI since