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Global vaccination meets global terror

When the Global Alliance for Vaccines and Immunization (GAVI)[1] meets next month in Senegal, it will confront a new threat to its laudable mission of achieving worldwide access to childhood immunization: the global war on terrorism. Participating political leaders, philanthropists and pharmaceutical companies will need all the resolve and ingenuity they can muster to support GAVI in its war against vaccine-preventable disease.

The current global immunization campaign began in 1974 when the World Health Organization marshalled its forces to face the unconscionable fact that only 5% of the world's children had the benefit of existing vaccines against diphtheria, tetanus, pertussis (DTP), polio and measles (as well as BCG vaccine, which proved only partly protective). Almost 3 decades later, average childhood vaccine coverage stands at about 75%.

Which means that 1 in 4 go without. Each year 1.7 million children die from vaccine-preventable diseases. In addition to those who are not protected against DTP, polio or measles, almost no children in poor countries receive the Hib and hepatitis B vaccinations now routine in industrialized countries. This gap is widening with the deployment in rich countries only of new vaccines against varicella, pneumococcus and meningococcus. The last 2 infections cause millions of deaths in developing countries every year.

Although more money and better organization for delivery of existing vaccines would certainly help,[2] there are other challenges. First, poor countries often encounter disease strains different from those circulating in rich countries. Pneumococcal vaccine deployed in Canada doesn't cover the most prevalent strains in Gambia, for example. This means that governments need to encourage manufacturers to develop vaccines for cash-poor markets by easing testing and licensing hurdles, providing additional tax incentives for research and development, ensuring protection against lawsuits prompted by vaccine reactions and paying realistic prices for vaccines.[3] Second, several diseases, such as rotavirus infection (which causes 125 million cases of diarrhea and 600 000 deaths a year) and tuberculosis and malaria (which together cause 6.7 million deaths a year) require entirely new vaccines. This takes time, money and, sometimes, more than one attempt.[4]

But the most insidious challenge to GAVI's efforts may be the war on terrorism. Already the US and other countries are diverting resources from third-world needs to first-world threats of smallpox and anthrax — the first, a disease that has not caused a single death since 1977; the second, so rare that even a possibility of infection makes headlines. Is this wise? Smallpox vaccination results in relatively high rates of serious side effects, a tolerable fact when the disease is prevalent, but not when the threat is remote. Given the rarity of the disease, anthrax vaccine has never been tested in a clinical trial; its efficacy and safety are unknown.

Spending resources on improbable risks of biologic warfare posed by a rogue nation or extremist organizations at the expense of populations already gravely afflicted by holoendemic disease is irresponsible. This is not the time to retreat from the war on vaccine-preventable diseases. — *CMAJ*

References

1. See GAVI Web site at www.vaccinealliance.org (accessed 2002 Sept 17).
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3. Rappuoli R, Miller HI, Falkow S. Medicine. The intangible value of vaccination. *Science* 2002; 297(5583):937-9.
4. Intussusception among recipients of rotavirus vaccine — United States, 1998–1999. *MMWR Morb Mortal Wkly Rep* 1999;48(27):577-81.