This Intelligence Community Assessment was prepared under the auspices of Karen Monaghan, National Intelligence Officer for Economic Issues, with the active collaboration of CIA, DIA/National Center for Medical Intelligence, and the National Counterproliferation Center. Inquiries may be directed to the NIO on 703-482-1232.
deficiencies severe enough to disqualify them for service by US standards. The National Center for Medical Intelligence estimates that mental fitness of North Koreans subject to military conscription will be at its weakest during the period 2009-2013 as children born during the severe food shortages and famine of the 1990s reach military age.

Worldwide, the capability of a government or organization to provide adequate health protection for its military will significantly impact its ability to project force abroad. Deployed militaries will likely continue to be vulnerable to the ravages of disease, despite a global trend towards forces that are more technologically sophisticated and less dependent upon large quantities of personnel.

In the case of standing militaries in southern and central Sub-Saharan Africa, however—where high HIV/AIDS prevalence has long been thought to endanger the functioning of some of the most developed forces on the continent as well as the UN and African Union peacekeeping operations to which they contribute—the risks of disease may have been overstated:

- A 2006 study by one of the world’s most renowned HIV/AIDS researchers challenges assertions that military populations have a higher prevalence of HIV/AIDS than civilian populations. Many such calculations, in fact, have had little data to back them, and accounts of the ravages of HIV/AIDS on African militaries are frequently anecdotal.

- Even if military populations are a high-risk population for contracting HIV, the military also provides an environment conducive to HIV/AIDS intervention. In recent years many African militaries have instituted education and awareness, condom distribution, and testing programs, often with the assistance of the US Department of Defense HIV/AIDS Prevention Program.

Health as Opportunity: A New Look at a Successful Paradigm

Health aid as provided by the developed world is most often tied to infectious diseases that are seen as posing the greatest humanitarian or security threat. HIV/AIDS, for example, garners about 25 percent of global health aid while constituting 5 percent of the disease burden in low- and middle-income countries according to an early 2008 study in the *British Medical Journal*.

- The fight against infectious diseases often appeals to international donors and affected countries alike: preventable with vaccines or treatable with courses of antibiotics, and with the efficacy of such interventions readily discernable and measurable. With infectious diseases commonly having the highest death toll in children and young adults, the question of when to intervene is also relatively apparent.

While such an approach may at least temporarily stem the targeted disease, however, it may or may not address other health needs in poor countries that are equally, or more, urgent.

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13 This figure does not include individuals who are mentally capable but have physical conditions disqualifying them from service.

14 Reasons for lack of data include reluctance of many countries to collect information on HIV prevalence in their militaries or to publicize or share what data they have. Most militaries by 2004, however, had prohibited recruitment of HIV-positive personnel. In the case of UN peacekeeping operations, the UN neither conducts its own HIV/AIDS testing nor requires troop-contributing countries to conduct such testing.
• Chronic conditions, however, can be far more complicated to deal with than infectious ones. They are more likely to require prolonged interventions—public education, lifestyle changes, complex diagnoses, and life-long medication and monitoring—and success or failure of these measures may be much more difficult to fathom.

• HIV/AIDS, although an acute infectious disease that can be treated with antiretrovirals, is similar to chronic diseases in its requirements for the prolonged and complex interventions detailed above.

Developed world efforts similar to that exerted by the US in the fight against HIV/AIDS—but focused on broader global health objectives—could simultaneously help advance economic development, foster diplomacy, and improve overall health worldwide.

Medical Diplomacy. States such as Cuba and Venezuela garner a disproportionate amount of international influence thanks to their provision of health services worldwide. More and better-publicized developed world medical diplomacy efforts—for example, the US Naval Ship Comfort’s humanitarian tour of 12 Latin American countries in 2007—could mitigate such influence while improving the health of citizens of poor countries.

Reconstruction and Stabilization. A recent RAND nation-building study has indicated that the ability of occupying forces or nascent governments to visibly boost public health and health-care capabilities can play a major role in enhancing the credibility of nation-building efforts.

• In Afghanistan, amelioration of major health challenges such as hepatitis B, drug addiction, high maternal and child mortality, and access to basic health-care could serve as means of bolstering support for the Karzai administration and the allied reconstruction effort, a greater degree of gender equality, and economic development.

• Visible Coalition fostering of better health-care in Iraq could have similar impacts, as well as enabling the Iraqis to develop the human capital needed to grow and diversify their economy.

• Marked health improvements in these two Muslim countries could play a role in easing frictions between the West and the Islamic world.

Smoothing Relations with Adversaries. Cooperation on health issues has historically kept international lines of communication open even at times of increased tensions among countries. Western health cooperation with Iran and North Korea—for example, assisting Pyongyang with the country’s heavy health burden or encouraging Tehran to consolidate its recent improvements in health-care—could serve as a means of “diplomacy through the back door.”

• Increased incidence of polio in Muslim countries or Iran’s rising incidence of drug addiction could be two areas for engagement with Tehran.

Fruitful Engagement with Rising Powers. International assistance with the significant health burdens stemming from environmental degradation could provide potential opportunities for cooperation with China, India, and Russia.
In the case of China, shared interests by it and the developed world in strengthening African capacities to fight infectious diseases could be an additional means of cooperation.

**Easing North-South Tensions.** Joint developed-developing world efforts to tackle degradation of health-care services in poor countries—frequently the result of South-to-North migration of health professionals in search of better pay, emphasis in some low- and middle-income countries on health tourism over provision of basic health-care, lack of affordable drugs, and the resultant proliferation of harmful counterfeit medications—could be a means of trust-building between North and South.

**Advancing Economic Development.** Increased developed world attention to the top three killers in the developing world—maternal and newborn mortality, infections of the lower respiratory tract, and diarrheal diseases, with their disproportionate impacts on young children—as well as highly debilitating NTDs could mitigate a tremendous portion of the health burden in low-income countries while potentially helping them out of poverty.

Significant improvements to global health are increasingly beyond the capacities of any single actor. Multilateral organizations can be effective force-multipliers, reducing financial and other costs to any one country. The global health infrastructure is under strain, however, and successful execution of programs may require a fresh look at mechanisms for delivering health aid:

- The World Health Organization is currently constrained by the fact that the bulk of monies provided by member countries are tied to the battling of single diseases. Freeing up funding for more comprehensive programs could render the WHO a more effective partner in fostering better global health—as could renewed commitments by states and private actors to multilateral health partnerships.

- An agreement by WHO member states in 2005 to revise and implement new International Health Regulations\(^\text{15}\) (IHR) is a significant step forward for multilateral cooperation on health issues, particularly infectious diseases—even if not all member states have been fully compliant with the new regulations.

The Global Fund for HIV/AIDS, TB, and Malaria, an independent public-private partnership, has thus far been primarily focused on tackling of specific diseases, but its operating procedures offer ideas for multilateral cooperation on other health needs.

- These include fostering of multi-sector coalitions—governments, multilateral organizations, nongovernmental organizations, and private enterprise—to implement projects; heavy dependence upon local expertise for the running of programs; and placing a premium on results.

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\(^{15}\) The IHR requires that countries have minimum disease detection and reporting requirements with the aim of increasing transparency.
What Works? Global Health Success Stories

A recent Center for Global Development study\textsuperscript{16} catalogued successful public health programs in the developing world.\textsuperscript{17} \textit{A recurring theme is the need for ownership of public health measures by local governments and populations.}

\textbf{Success is possible even in very poor settings with hard to reach populations.}
\textit{Cases}: Guinea worm and river blindness control efforts in African and South Asia; vitamin A supplementation programs; improvement to health of mothers and children in Bangladesh and Mexico.
\textit{Mechanisms}: Working through community to reach residents of remote places; sensitivity to cultural factors (e.g., women unable to venture far from home); financial incentives to take part in well-child services.

\textbf{Even governments of poor countries can take a leading role in improving the health of their populations.}
\textit{Cases}: Halving of maternal mortality in Sri Lanka; cross-border collaboration in South America to eradicate Chagas disease; fighting measles in southern Africa.
\textit{Mechanisms}: Collaboration of affected governments with each other, NGOs or the business community; design, delivery, and monitoring of health services by local public health systems; use of local resources as opposed to international donations.

\textbf{Behavior changes and good management are as important as technology in fostering public health.}
\textit{Cases}: Control of guinea worm in Africa; fight against diarrheal diseases in Bangladesh; cutting tobacco use in Poland and South Africa.
\textit{Mechanisms}: Families learning to filter their water and to fix rehydrating solutions; in the case of tobacco use, a combination of communication, legal measures, and taxation.

\textbf{International agencies can overcome institutional and bureaucratic barriers to work for a common purpose.}
\textit{Cases}: Guinea worm eradication; control of river blindness.
\textit{Mechanisms}: Collaboration among private foundations, donor countries, the WHO and other UN bodies, NGOs, donor countries, private companies, affected rural communities and governments.

\textbf{Cause-and-effect (health programs and outcomes) can be measured.}
\textit{Cases}: The Progresa program in Mexico, which provided education and health interventions to families.
\textit{Mechanisms}: Special data collection efforts; use of conditional cash grants.

\textit{(Continued on next page…)}

\textsuperscript{17} Programs were deemed successful if they could be implemented at the national, regional, or global level; addressed a significant public health problem; had a clear and measurable impact on a population’s health; had staying power; and were cost-effective.
Disease-specific programs and comprehensive efforts to improve health systems can be integrated.

Cases: Distribution of vitamin A; salt iodation; tobacco control; child immunization.

Mechanisms: Pairing child immunization with fundamental improvements to basic pediatric health services; boosting success of disease-specific programs through inclusion of training, logistics, surveillance, and referral systems in a country’s health infrastructure.