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Investing in Global Health “Best Buys” and Priorities for Action in Developing Countries

How many years of healthy life can a million dollars buy? In a developing country, the answer ranges from one to more than 100,000. The number of people who can be saved from death and disability depends not just on their health status or where they live, but also on which health care interventions are available to them.

Some of the best and most cost-effective health care solutions are as simple and inexpensive as teaching mothers to keep their newborns clean and warm or advising people at risk of heart disease to take an aspirin a day. Other interventions, such as surgery for injuries or to remove cataracts, may seem expensive but are worth the price because they so efficiently treat serious health problems. They can mean the difference between death, disability, and a full life. Many health care interventions—such as curbing tobacco use and improving nutrition—target several health problems at once.

The Disease Control Priorities Project has released three new books—*Disease Control Priorities in Developing Countries, second edition*; *Global Burden of Disease and Risk Factors*; and *Priorities in Health*—that can help countries choose the right investments. The Project identifies 10 best health buys¹ that have proven to be highly cost-effective in a variety of settings.

Best Health Buys

- Vaccinate children against major childhood killers, including measles, polio, tetanus, whooping cough, and diphtheria.
- Monitor children’s health to prevent or, if necessary, treat childhood pneumonia, diarrhea, and malaria.

¹ These “best buys” were calculated based on DALYs—Disability-Adjusted Life Years—a unit measuring the amount of health lost due to a particular disease or condition. DALYs are useful for policymakers because they are a more comprehensive measure of population health than merely counting deaths and because they allow comparisons among a wide range of health interventions. *Global Burden of Disease and Risk Factors* provides comprehensive DALY information.

- Tax tobacco products to increase consumers’ costs by at least one-third to curb smoking and reduce the prevalence of cardiovascular disease, cancer, and respiratory disease.
- Attack the spread of HIV through a coordinated approach that includes: promoting 100 percent condom use among populations at high risk; treating other sexually transmitted infections; providing antiretroviral medications, especially for pregnant women; and offering voluntary HIV counseling and testing.
- Give children and pregnant women essential nutrients, including vitamin A, iron, and iodine, to prevent maternal anemia, infant deaths, and long-term health problems.
- Provide insecticide-treated bednets in malaria-endemic areas to drastically reduce malaria.
- Enforce traffic regulations and install speed bumps at dangerous intersections to reduce traffic-related injuries.
- Treat TB patients with short-course chemotherapy to cure infected people and prevent new infections.
- Teach mothers and train birth attendants to keep newborns warm and clean to reduce illness and death.
- Promote use of aspirin and other inexpensive drugs to treat and prevent heart attack and stroke.

Priorities for Health Policy

The best health buys tackle the major causes of death, disability, and illness in developing countries. The Disease Control Priorities Project also identifies other priority actions needed to address the developing world’s major health problems.

Ensure Healthier Mothers and Children

One-half of all child deaths occur in the first 28 days after birth.

More than 13 million children under age five, including stillbirths, die each year in developing countries. At least 70 percent of these deaths could be avoided by using a variety of interventions, including approaches that start before a child is born. Much of the tragic child death toll stems from poor maternal health and care. Sadly, the risk of a mother dying of pregnancy-related conditions is more than 200 times higher in the lowest-income countries than in the highest-income countries.

Primary causes of death in the first 28 days of life are premature birth, asphyxia, and infections. Children under age five are most likely to die from pneumonia, diarrhea, malaria, measles, and malnutrition. Often, a combination of these causes leads to death, which argues for integrated approaches to childhood illness.

Improving maternal and child health not only saves the lives of mothers and children, it also increases average life expectancy and narrows the health gap between rich and poor countries.

Priority Actions

- Ensure access to family planning services to avoid high-risk pregnancies and unsafe abortion and to prevent infant deaths—between 20 and 40 percent—that are directly linked to high-risk pregnancy.
- Improve women's status so they have equitable access to food and health services.
- Ensure the health and good nutrition of mothers during pregnancy and childbirth, thus reducing the number of low-birthweight babies and a multitude of other problems that contribute to poor maternal and child health.
- Train skilled birth attendants, especially in resuscitation of newborns.
- Ensure proper treatment of major childhood killers, especially diarrhea, pneumonia, and malaria. The Integrated Management of Childhood Illness (IMCI) approach is a promising mechanism in many countries.

- Immunize all children against major childhood diseases.
- Teach family members to promote basic hygiene to reduce diarrhea in children, and to treat it with oral rehydration therapy.

Stop the AIDS Pandemic

Forty million people are infected with HIV—26 million in Sub-Saharan Africa.

Now that 40 million people are living with HIV worldwide, the AIDS epidemic threatens global economic development. HIV/AIDS is a leading cause of death in developing countries and the top cause in Sub-Saharan Africa. To stem this epidemic, effective interventions must reach everyone, but they must aggressively target the people most at risk within each region. The highest risk groups in most countries include sex workers, injecting drug users, and men who have sex with men.

Priority Actions

- Promote 100 percent condom use and education, especially among populations at high risk.
- Treat other sexually transmitted infections that increase the risk of HIV infection.
- Provide antiretroviral medications, especially for pregnant women.
- Offer harm reduction programs (e.g., needle exchange) for injecting drug users.
- Offer voluntary counseling and testing for HIV.
- Combat the stigma and discrimination surrounding HIV and AIDS.

Promote Good Nutrition

Poor nutrition contributes to up to 40 percent of the disease burden worldwide.

About 130 million children under age five in developing countries are underweight, with the highest rates in Sub-Saharan Africa and South Asia. Malnourished children face a higher risk of poor school and job performance, higher health care costs, and a lifetime of poverty. At the same time, high blood pressure, cholesterol, and overweight are responsible for a large portion of the global burden of disease, having been linked to cardiovascular disease, type 2 diabetes, cancer, and other chronic conditions.

Priority Actions

- Ensure access to essential micronutrients such as vitamin A, iron, folic acid, and iodine through diet, fortified foods, or supplements.
- Promote a minimum of six months of exclusive breastfeeding for infants and appropriate supplementary foods when needed.
- Regulate salt and saturated fat in manufactured foods, accompanied by public health campaigns to encourage healthy diets.

Stem the Tide of Tuberculosis

TB is spreading into new populations and becoming resistant to treatment.

Tuberculosis (TB), one of the world's deadliest diseases, claimed 1.7 million lives in 2003. Despite a steady drop in the number of cases in some parts of the world, globally the incidence appears to be growing, with an estimated 8.8 million new cases in 2003. New drug-resistant strains and co-infection with HIV require more aggressive treatments and new health interventions.

Priority Actions

- Treat active TB cases with short-course chemotherapy.
- Manage multidrug resistant TB with new drugs and drug combinations.
- Improve strategies to treat TB in HIV-positive individuals.
- Develop a low-cost vaccine against pulmonary TB.

Control Malaria

Malaria claims the lives of 1 million children each year.

Malaria threatens nearly one-half of the world's population and more than 1 million children die each year of malaria-related anemia, brain damage, and other complications. The disease is resurging in many places. If left untreated in pregnant women, malaria can cause their newborns to suffer from low birthweight, which can lead to a range of neurological impairments—including cerebral palsy, mental retardation, and cognitive deficits.

Priority Actions

- Provide universal access to insecticide-treated bed-nets.

- Spray indoor surfaces with long-lasting insecticides.
- Expand malaria intermittent preventive treatment for pregnant women to reduce severe maternal anemia and newborn deaths.
- Finance more effective drugs—especially artemisinin combination therapies (ACT) to replace widely used ineffective drugs.

Reduce the Toll From Cardiovascular Disease

Cardiovascular disease kills nearly three times as many people in developing countries each year as HIV, tuberculosis, and malaria combined.

Cardiovascular disease (CVD), which includes heart diseases and stroke, is the leading cause of death worldwide. Because of population aging, increasing tobacco use, and success in reducing other health problems, cardiovascular disease now accounts for a growing burden of disease in developing countries. CVD results in 13 million deaths each year in developing countries.

Developed countries have lowered CVD prevalence and death rates markedly through a combination of individual lifestyle and behavior change, policy measures, and medical treatment. Low- and middle-income countries also can adopt many of these cost-effective strategies to prevent and treat cardiovascular diseases.

Priority Actions

- Help smokers quit with taxes to increase the cost of cigarettes by at least one-third, banning tobacco advertising, enforcing no-smoking laws, and promoting nicotine replacement therapy.
- Provide people at high risk of CVD with access to cholesterol-lowering drugs, aspirin, and other low-cost drugs.
- Encourage people at risk of CVD to limit their intake of salt, unhealthy fats, and excess calories.

Combat Tobacco Use

Tobacco-related diseases are the fastest growing disease burden in developing countries.

Tobacco use accounts for one of every five deaths among men over age 30 and one of every 20 deaths among women over age 30. Tobacco-related diseases are the fastest growing cause

of death in low- and middle-income countries, on a par with HIV/AIDS. Of the estimated 1.1 billion people who smoke, four-fifths reside in low- and middle-income countries. Without aggressive curbs on tobacco use, tobacco-related deaths will rise to 10 million per year by 2030.

Getting current smokers to quit is the best way to reduce the health toll from tobacco over the next half-century.

Priority Actions

- Boost taxes to increase the retail price of cigarettes worldwide by at least one-third.
- Ban tobacco advertising and promotion.
- Restrict smoking in public places and workplaces.
- Provide nicotine replacement therapy and other cessation tools.

Reduce Fatal and Disabling Injuries

Rising motor vehicle ownership means an escalating number of traffic injuries and fatalities.

Injuries and violence caused more than 5 million deaths worldwide in 2001, with an especially heavy toll on young men. Injuries also cause disabilities that prevent people from leading normal, productive lives. Traffic crashes are the largest single cause of serious injuries worldwide. Traffic-related injuries are poised for a rapid increase as the number of motor vehicles escalates in developing countries. Some countries have drastically reduced traffic-related injuries by enforcing traffic laws and designing safer roads and motor vehicles.

Priority Actions

- Ensure safer driving by enforcing traffic laws, especially against speeding and drunk driving.
- Make roads safer with pedestrian walkways, traffic signals, speed bumps, and guardrails.
- Improve motor vehicle safety by installing seat belts and enforcing safety standards.
- Expand and improve emergency medical response.
- Expand and improve trauma surgery capabilities.
- Attack alcohol and drug abuse, which are often factors in injuries and violence:
 - Increase taxes on alcoholic beverages.
 - Ban advertising of alcohol and limit alcohol sales to specific retail outlets, times, and days.

Ensure Equal Access to Quality Health Care

When women lack access to health care, the health of the entire family suffers.

In many countries, women, rural residents, and the poor have less access to health care than their compatriots. These health inequities affect families and the larger community. With the appropriate health interventions, scarce personnel and resources can be stretched to better serve disadvantaged groups.

Priority Actions

- Encourage providers to focus on treating the most common causes of ill health.
- Train nonphysicians to perform basic surgical procedures and treat common medical conditions to lessen reliance on physicians.
- Help health care providers choose the most cost-effective interventions.
- Offer incentives to recruit, retain, and raise the performance of health care workers.

Forge Strong, Integrated, Effective Health Systems

For health care to achieve the greatest return on investment, it needs to start with several key building blocks: policies that adapt to new information and research; an infusion of money; the best health system possible; and more health research and development.

Many low-income countries spend less than US\$20 per capita each year on health care. The poorest spend an average of US\$11 per capita. To deliver a universal basic package of health services, spending needs to rise to at least US\$34 per capita. Since this is beyond the reach of the poorest countries, funding from international donors must be secured. To be effective, donor commitments need to be long-term—10 years or longer—and designed to create incentives for improving performance.

No matter how carefully selected, individual health interventions will be more effective with a strong health system that includes primary care as well as district and referral hospitals. Capacity to provide emergency response and surgery at the primary level should be implemented where feasible. Training health workers and building infrastructure is the critical

foundation on which all health services depend. Quality of care is important for outcomes; it can be measured and must be improved.

More research and development will save millions of lives as scientists find more effective and less expensive ways to prevent or treat some of the most persistent scourges, including HIV and influenza and drug-resistant forms of TB and malaria. Health system research is also top priority for delivery of prevention and treatment. Better treatment for cardiovascular disease and diabetes are also priorities as noncommunicable conditions become even more common in developing countries. Health specialists around the world need to work together to share information to ensure that people in all countries benefit from medical advances.

Priority Actions

- Help decisionmakers convert research findings into viable policies.
- Secure funding commitments from national governments and the international donor community.
- Develop financial incentives for product research and development.
- Encourage knowledge transfer among institutions.
- Accelerate training in specialties with high disease burdens, such as tropical diseases.

For More Information

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The Disease Control Priorities Project

Nearly 500 experts from around the world reviewed and compiled the best scientific research on a broad array of diseases and conditions as part of the four-year Disease Control Priorities Project (DCPP). DCPP's objective is to improve the health of people in developing countries by fostering an environment that supports evidence-based decision making in global health. The distinctive contribution of DCPP is to combine analysis based principally on economics and epidemiology, resulting in evidence-based policies, priorities, resource allocations, and intervention choices. Through its landmark publications—*Disease Control Priorities in Developing Countries, second edition* (DCP2); *Global Burden of Disease and Risk Factors* (GBD); and *Priorities in Health* (PiH)—DCPP provides a comprehensive guide for improving health even in the lowest-resource settings.

This briefing paper presents highlights of the findings from DCP2, GBD, and PiH; please visit www.dcp2.org for free and full access to the original data, descriptions of the methodologies, in-depth discussions of the extent of diseases and health conditions in developing countries, and the cost-effective interventions available to reduce disability and death as well as to increase health and life-expectancy.

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