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A new global study reveals that even in such poor countries as Congo, success against health problems is possible, and at a low cost.

Health bargains in poor nations: A few dollars can buy years of life

By David Brown

The Washington Post

WASHINGTON — Speed bumps.

Who would have thought those annoyances were one of the great health-care investments of our age?

At a cost of \$5 for every year of life they save or year of disability they prevent, speed bumps are a bargain that no health minister in a poor country is going to want to pass up.

It's in the same league with these exceptionally good deals: once-a-year treatment to rid rural African children of intestinal worms — \$3 to save a year of disability — and having extra measles vaccine on hand in clinics so kids who missed their shot can get one at the next visit — \$4.

Not much more expensive is making sure that people having heart attacks get a month's worth of aspirin and beta-blocker pills — a \$14 investment for every year of life saved. Or making sure that places such as Morocco and Oman offer a simple eyelid operation to people whose eyesight is threatened by a disease called trachoma — \$39 to save a year of sight.

Deep-brain stimulation for Parkinson's disease? At \$31,114 for each year of life or disability saved, it's

not a great choice for countries trying to stretch their health-care dollars. The same is true for coronary bypass surgery. That operation is virtually routine in rich countries. But if poor and middle-income nations want to make it widely available, they can expect to spend \$36,793 for every year of life saved.

This shopping list — and much more — is included in a 1,401-page book called "Disease Control Priorities in Developing Countries, Second Edition," being launched today in Beijing.

The volume is emblematic of global health strategies in the 21st century.

It is loaded with evidence; explicit about its methodology; attuned to cost-benefit trade-offs; produced by a collaboration of governments, foundations, international organizations and academics; written by 346 people from 34 countries; funded partly by Bill Gates; equipped with its own Web site (www.dcp2.org); and free to anyone with a computer.

It comes out of a massive effort called the Disease Control Priorities Project, whose purpose is to provide practical information about the world's many health problems and what works in the battles against them.

A companion volume, "Global Burden of Disease and Risk Factors," catalogs the amount of death and disability caused by 300 health conditions — including car accidents, alcoholism, cataracts, arthritis, syphilis and heart attacks. It updates, with statistics from 2001, a report first published 10 years ago.

Success stories

A slimmer book called "Millions Saved" was published last year. It offered 17 case studies of recent global-health successes. They include an anti-smoking campaign in Poland that since 1990 has produced a 30 percent drop in lung cancer in middle-age men; measles-vaccination campaigns in seven southern African countries that cut the total number of cases from 60,000 in 1996 to only 117 in 2000; and China's introduction of iodized salt in 1995 that cut iodine deficiency in children from 20 percent to 9 percent.

Despite their heft, these books are meant to be highly practical and accessible.

Given the magnitude of the problems — the AIDS epidemic, resurgent malaria, increasing obesity and diabetes — the entire project is surprisingly optimistic. It sends twin messages of encouragement to even the poorest countries: Success is possible, and there is still a lot of low-hanging fruit.

"Money doesn't necessarily buy health," said Dean Jamison, a health economist at the University of California at San Francisco who spent much of the past five years at the National Institutes of Health's Fogarty International Center, where he led the project. "But today good health is clearly possible at low cost."

Globally, average life expectancy has gone up about five years every decade for the past 40 years. Over the course of the 20th century, however, many countries' gains have far exceeded that average. Some have gone from the back to the front of the pack.

In Chile, for example, a male born in 1910 had a life expectancy of 29 years. His counterpart in the United States could expect to live 49 years. By the 1990s, their life expectancies were virtually the same: 72 for the Chilean, 73 for the American.

How can relatively poor countries do that? In "Millions Saved," health economist Ruth Levine gives the example of Sri Lanka.

In the 1930s, the island nation off the coast of India had a maternal mortality rate of more than 2,000 deaths per 100,000 live births. That was higher than the countries with the highest rates today (2,000 in Sierra Leone; 1,900 in Afghanistan).

By the 1950s, Sri Lanka had cut its maternal mortality rate to between 500 and 600. But that was just the start. Today, its rate is 60, close to Europe (24), and far less than Asia overall (330) or the world average (400).

Sri Lanka achieved this, Levine argues, by making medical care free; training midwives so that today 97 percent of births are attended by a professional; building clinics in rural areas; setting up a system for sending difficult cases to city hospitals; and improving transportation networks.

Measuring the economics

The core of the project is a set of estimates of the cost-effectiveness of 319 different interventions. Most are for individuals: drugs, vaccinations, surgical procedures, advice. Some are provided to the entire population: These include providing clean water and controlling mosquitoes, promoting abstinence and banning cigarette advertisements.

The researchers in the Disease Control Priorities Project measure the effect of each intervention effect in units called "disability-adjusted life years," or DALYs. Each unit can represent a year of life saved when a fatal disease is prevented or cured. It can also be time without a disability when an unpleasant but nonfatal outcome (blindness, loss of limb, mental incapacity) is prevented or relieved — although a year without a disability is weighted less than an extra year of life.

One of the chief insights of the original "Global Burden of Disease" report, published in 1996, was that poor countries had much higher rates of disability than rich ones. The updated report notes that 85 percent of "non-fatal disease burden" occurs in low- and middle-income countries.

By definition, an intervention is very cost-effective if it averts one DALY for a small cost. That's the case for speed bumps.

A study in Ghana showed that fatal crashes declined by more than 50 percent after the obstructions were installed at high-risk intersections.

Speed bumps are "probably the best thing and the first thing policymakers should do to lower traffic accidents," said Ramanan Laxminarayan, a health economist at the Resources for the Future think tank and one of the book's authors.

But neither he nor any of other experts assert that governments should simply pick the most cost-effective interventions and forget doing anything else. Issues of fairness, practicality and culture also have to be considered.

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