

## When Medicines Fail

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Washington, DC – Efforts to improve the health of poor people in the developing world by increasing the availability of drugs to treat diseases such as malaria, HIV, and tuberculosis are having a serious unintended side effect: accelerated drug resistance, which is raising costs and claiming lives.

A new report from the Center for Global Development (CGD) warns that the world is rapidly losing its ability to treat these and more common diseases, such as dysentery and respiratory infections that can lead to deadly pneumonia.

“Drug resistance is a natural occurrence, but careless practices in drug supply and use are hastening it unnecessarily,” said Rachel Nugent, chair of the expert Working Group that prepared the report, “The Race Against Drug Resistance.”

Rich countries suffer from resistance problems, too. “Superbugs” like methicillin-resistant *Staphylococcus aureus*, or MRSA, increased from roughly 2 percent to more than 50 percent of staph infections in many U.S. hospitals between 1974 and 2004. More people in the United States die each year from MRSA than HIV/AIDS.

In the developing world, millions of children die annually from drug resistant disease strains and since 2006 donors have spent more than \$1.5 billion on advanced drugs to treat resistant diseases. Unless action is taken, the stage is set for both the death toll and the dollar cost to rise. Donors are already budgeting for increased purchases of expensive specialized drugs needed to treat resistant diseases.

The report urges the World Health Organization (WHO) to reverse a decade of neglect of drug resistance and to take the lead in getting others involved. Action is needed from a wide variety of stakeholders – pharmaceutical companies, national governments, philanthropies that buy and distribute medicines, hospitals, healthcare providers, pharmacies, and even patients.

In recent years governments and private funders have worked to increase developing-country access to drugs, particularly for malaria, HIV, and tuberculosis. Access to anti-retroviral drugs for HIV/AIDS patients rose more than 10-fold, deliveries of the most effective anti-malarial drugs increased more than eight-fold, and access to TB drugs rose dramatically.

These are laudable efforts that have saved many lives, but they are hindered by drug resistance that could be avoided, the report said. Until now, surprisingly little effort has gone into ensuring that life-saving drugs will continue to work.

The report shows that there is a strong link between the volume of drug use and emergence of drug resistance, particularly in settings with weak safeguards for appropriate use and monitoring of effectiveness. In countries where people consume the highest amounts of antibiotics, 75 to 90 percent of strep pneumoniae strains are already drug-resistant.

The consequences can be most profound for children, who are especially susceptible to infectious diseases. Common childhood diseases in developing countries – malaria, pneumonia, other respiratory infections and dysentery – can no longer be cured by the older antibiotics or other drugs available in poor countries. Bacterial acute respiratory infections, for example, kill more than three million children every year and malaria kills two million. Many of these cases involve strains resistant to common drugs. Across Latin America, 60 to 80 percent of childhood strains that cause dysentery are resistant to the drugs recommended to treat it.

“Drug resistance is a serious problem that doesn’t get serious attention,” said CGD President Nancy Birdsall.

“It is hard to see that people are dying from drug resistance – but they are. We know what actions are needed to fix the problem,” she said. “We just lack the incentives, institutions, and global leadership to get on with it.”

Drug resistance can have a startling impact on the cost of curing patients. In many poor countries, drug expenditures range from 20 to 60 percent of total expenditure on health. When first-line drugs fail, alternatives are more costly and require greater medical oversight. Curing one patient of extensively drug-resistant TB costs the same as curing 200 patients with ordinary TB.

“Over the past decade, the global community has responded to the rise in drug-resistant organisms with a number of disease- or country-specific initiatives,” Nugent said. “Some have been more successful than others, but none have addressed the problem on a global scale and across diseases.

“The growing threat of drug resistance demands a more extensive and systematic global response,” she said.

To address that threat, CGD in late 2007 convened a Working Group comprised of representatives of governments, foundations and charities, health institutions, the pharmaceutical industry and academia to develop concrete, achievable steps that could make a difference.

Its report, released with a companion film at a National Press Club briefing, identifies for the first time the common drivers of resistance across diseases – a mix of technology gaps, behavior that leads to inappropriate use of medicines, weak health systems, poor drug quality, and excessive use of antibiotics in agriculture.

Because so many forces are at work, the report calls for collective action by a variety of players in a shared global push to fight drug resistance.

For example, drug companies must help to ensure that their products are safe and effective, even after they are sold. Governments must properly regulate drug licensing, manufacturing, distribution and use, and support public health lab facilities and surveillance systems. Donors and philanthropies should ensure that their efforts to increase access to drugs in the developing world are accompanied by measures to protect the continued effectiveness of treatment. Global health institutions, including WHO, should make drug resistance a priority across all treatable diseases. Lastly, patients, prescribers and dispensers must be more diligent in using medicines appropriately.

Stressing a unified and multi-faceted approach involving both the public and private sectors, the Working Group makes four recommendations that, taken together, will go far to contain and reduce drug resistance globally. It recommends:

**Tracking Resistance in Real Time:** Global health donors and technical agencies like WHO should work with developing countries to establish a network of multi-disease surveillance laboratories to track the emergence and spread of resistant strains and quickly share the information with a wide range of audiences.

**Securing the Supply Chain:** The pharmaceutical industry should set voluntary standards to maintain the quality of its products from manufacturing through final delivery to the patient. Global and national partnerships of medicine providers are needed to promote best practices in drug prescribing and dispensing.

**Strengthening Regulation:** A consortium of donors should partner with regional economic commissions to support new regional networks of national drug regulators and enhance existing ones to monitor drug quality and enforce laws.

**Accelerating R&D of New Medicines:** Research funders should create a web-based marketplace for relevant research across diseases that would serve as an innovation showcase and brokerage to provide technical assistance, connect researchers with one another and match good ideas with investors.

“We can no longer afford to be indifferent to the spread of drug-resistant diseases,” Nugent said. “For the sake of all people who seek effective health care, now and in the future, drug resistance must be addressed urgently and aggressively as a global health priority.”

The Center for Global Development is an independent, nonprofit policy research organization dedicated to reducing global poverty and inequality and to making globalization work for the poor. Through a combination of research and strategic outreach, the Center engages policymakers and the public to influence the policies of the United States, other rich countries, and such institutions as the World Bank, the IMF, and the World Trade Organization to improve the economic and social development prospects in poor countries. For more information, visit: [www.cgdev.org](http://www.cgdev.org).

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**CONTACT:**

Rob Doherty, Olivia Doherty  
The Hatcher Group, 301-656-0348  
Ben Edwards, CGD, 202-416-4040