

COMMENTARY

DISEASES IN DEVELOPING COUNTRIES:
THE GAPS TO ACCESSING ESSENTIAL MEDICINES*Ashley Allison, John Chiosi, Anisha Gandhi, Erica Popovsky, Swati Shah*

There is no clean water in Aqua Negra, but there are power lines. There are few latrines, but there is plenty of garbage littered across the shore where the river slowly engulfs the make-shift aluminum houses. These houses will have to be rebuilt after the river's annual flooding.

The members of the Tufts Timmy Foundation recently set foot in this barrio on the outskirts of Puerto Plata during a medical relief trip to the Dominican Republic. For many, this was their first time experiencing the grim realities of extreme poverty. This was their first time putting a face to the living-on-less-than-\$1-a-day statistics. Over the course of five days, they traveled to many villages similar to Aqua Negra and witnessed the hope and desperation associated with medical care. Hope, because the group brought doctors, Children's Tylenol, and toothpaste to those in need. Who knows when the next group would come? Trips such as this one, while charitable, do not provide effective solutions in sustainable healthcare to the global impoverished.

Sustainable healthcare can only be achieved when patients have access to essential medicines. According to the World Health Organization (WHO), essential medicines address the priority health needs of a population.¹ These medicines should be available in health systems at all times, be of assured quality, and be available at a price that the individual and the community can afford. The United Nation's Universal Declaration of Human Rights declares that everyone has a right to the adequate provision of health.² However, ten million people die annually around the globe because of the lack of access to essential medicines for curable diseases.³ This is because many barriers arise between the initial research into a health problem and the actual provision of medicine to a population affected by a particular disease. In order to truly ensure health as a human right, providing access to essential medicines is vital.

The Research Gap

Several roadblocks prevent the development of valuable medication. Research in the university setting often lays the foundation for preclinical research that pharmaceutical companies can use to develop effective medicines. However, little academic research published on neglected diseases actually progresses into useful products.⁴ For example, a Medline search on trypanosomes brings up more than 13,000 papers, demonstrating the abundance of academic knowledge on the parasite; however, new drug developments have stagnated for trypanosomiasis, the disease associated with the parasite.⁴ Pharmaceutical companies do not consider preclinical research for these diseases because of the low profitability in selling these types of medications.⁵

Even if pharmaceutical companies decide to invest in preclinical research on a disease, they lack financial incentives to develop the actual drugs. The costs of further research and production of these medications is greater than estimated profits, because the medications are primarily sold in developing countries. Developing countries lack the resources to purchase enough medications at a certain price, a formula which must be balanced for drug companies to make a profit.⁵ As a result, millions of people around the globe die annually from neglected tropical diseases, such as sleeping sickness and blinding trachoma, which are unheard of in the United States and other developed countries. With the capacity for medical research severely inhibited in many low-income countries, the eradication of neglected diseases will depend heavily on high-income countries or middle-income countries, such as India or Brazil.⁶

The effects of these roadblocks on the developing world are extremely damaging. Currently, 10% of the world's expenditure towards health research and development is being stretched to cover 90% of the

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world's health problems, further perpetuating the health inequality gap between developing and developed nations.³ This imbalance is further illustrated in Figure 1, where Africa, Asia, and the Middle East make up 72% of the world population, but only 13% of the world drug market. From an economic standpoint, the low purchasing power of developing countries combined with high costs in Research & Development encourages drug companies to focus on markets in wealthy countries.⁷ Even when the gap in research is avoided and pharmaceutical companies develop medications for neglected diseases, further barriers prevent essential medicines from reaching the hands that most need it.

The Access Gap

Although there are many major barriers creating the "access gap," the relatively high prices of drugs place a huge financial burden on developing countries. High prices can be traced back to pharmaceutical companies buying the patents of potential drugs from universities.⁸ A patent is a very powerful tool because it gives drug companies the monopolistic rights to manipulate and change prices for a given period of time. Without competition, drug companies' interests are to raise prices and increase profits. These high prices have large opportunity costs for developing countries. For example, when the poor in India living on two dollars per day spend their earnings on medication, they forfeit their ability to purchase food. Sadly, the problem lies in the fact that ability to pay does not match the need for medication. To deepen the burden even further, many poor governments do not provide sustainable public financing for

medicines. Instead, in most low-income countries, individuals pay fifty to ninety percent of the medicinal costs out of their own pockets rather than relying on public insurance. The developing country's government should view essential medicines as a part of a person's right to healthcare and should therefore publicly manage healthcare funding for essential medicines.⁹ In this obstacle, need is again poorly matched with ability

to pay. In order to combat these barriers, there must first be competition to decrease monopolistic pricing and second, the sustainable public financing must be implemented. The introduction of generic drugs creates lower prices that help patients afford the medications they need. The increase in public funding such as the Global Fund to Fight

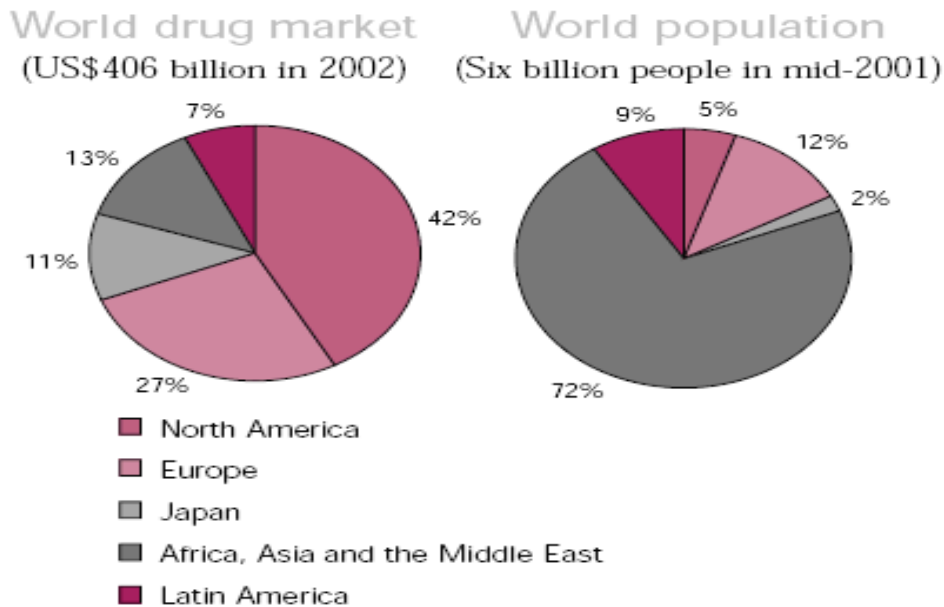


Figure 1. Global Pharmaceutical Market.⁷

AIDS helps individuals pay for needed medications.⁹ The case study of the global AIDS epidemic can explain the benefits of access to essential medicines. Antiretroviral drugs have been proven to prolong lives and stabilize patient health. If institutions worked together, essential medicines could benefit a nation-state. For example, in Brazil, the government introduced a new nationalized healthcare plan for HIV/AIDS essential medicines.¹⁰ Once local manufacturers introduced generic versions of patented medications success rates for HIV/AIDS dramatically improved: there was a fifty percent decrease in AIDS mortality and HIV incidence also decreased.⁶ As hopeful as these possibilities are, measures have already been taken to block these solutions. An example is TRIPS, the Agreement of Trade-Related Aspects on Intellectual Property. TRIPIS protects the patents of

pharmaceutical companies to prevent the creation of generic drugs by any international entity. Countries such as India and South Africa who have attempted to supply their HIV-infected citizens with generic antiviral drugs have been thwarted by TRIPS. This has left few resources and unaffordable pharmaceuticals for patients that have a dire need for the medications.⁶

Bridging the Gaps

Although roadblocks such as TRIPS stand in the way, there are many solutions to the problems of research and access gaps that do not target governments and drug companies alone. One source of research that goes to drug companies is from research universities who develop treatments for diseases. These universities can use their leverage as the source of research to play a role in closing the access gap and the research gap. One such statement that encourages research universities to close these health disparities is the Philadelphia Consensus Statement.¹¹ University signatories to the statement pledge to use their bargaining power to ensure that access is more equitable. One way to do this is through actions such as granting the rights for their research to generic drug companies that will sell the pharmaceuticals at low prices to countries in need. Research universities also pledge to close the research gap by changing their policies when it comes to research of neglected diseases. For example, the universities can create new opportunities for drug development or engage in public-private partnerships.

Both the research and the access gap are huge problems in global health. Millions of people are not receiving the care that they need and at least ten million people are dying a year because of this lack of medication and treatment. Although there are possible solutions, such as creating competition among drug companies and implementing public financing, there are also road blocks such as TRIPS. The Philadelphia Consensus Statement is one way to overcome these road blocks and get on the right track towards overcoming the global health problems of research and access gap. These problems must be addressed so that every human being has the right to health.

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