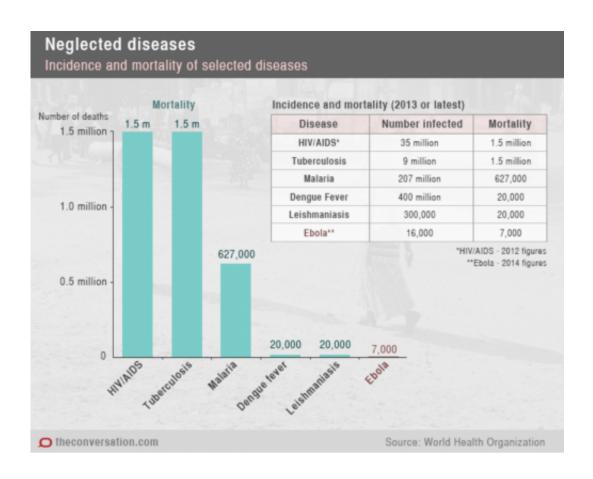


Is Ebola diverting resources from other neglected diseases?

December 8 2014, by Joshua Cohen



Thanks in part to the Ebola crisis, neglected diseases have grabbed the world's attention. These diseases predominantly affect developing nations with limited resources to fund research, pay for treatments, and support public health infrastructure. The commercial prospects for drugs



and treatments targeting neglected diseases are also limited, which in turn means that there is little research and development.

But now some scientists worry that increased <u>funding</u> for Ebola will draw funds away from other research programs <u>targeting diseases</u> such as malaria.

As the outbreak continues, more resources are being poured into Ebola drug and vaccine <u>development</u>. A number of public and private sector stakeholders are now heavily involved in development and clinical trials. But companies like Tekmira and Mapp Biopharmaceutical, the producer of the Ebola treatment ZMapp, need larger partners to move investigational drugs past the early stages of clinical development, and to ramp up production once the Food and Drug Administration (FDA) approves a drug or vaccine for marketing.

With funding for most neglected diseases stagnating instead of growing, the Ebola crisis may, however, be diverting attention away from the resources required to continue to combat diseases with a substantially larger disease incidence.

Moreover, experts say that the Ebola outbreak has produced a "silent killer." Thousands of hidden cases of malaria, tuberculosis, pneumonia, and typhoid are going untreated. Thomas Teuscher of Roll Back Malaria says under-treatment of malaria has been particularly conspicuous amid the Ebola epidemic.

Investing in neglected diseases

Funding increases targeting malaria, HIV/AIDs and tuberculosis have cut infection rates and boosted survival.

In 1999, the global investment in neglected disease drug development



was less than US\$100 million. Around 2000, funding began to increase significantly, due to an influx of resources from governments, philanthropies, product development partnerships (PDPs) between public and <u>private sector</u>, and <u>private industry</u>. By 2008, investment in neglected disease drug development rose to nearly <u>US\$3 billion</u>. Since then, however, funding has plateaued.

Most of this funding has been directed at just three diseases: HIV/AIDS, malaria and tuberculosis. These three diseases are called the "Big Three" as they take up two-thirds of the total number of dollars invested in neglected diseases research. Spending on research for pediatric treatments for HIV/AIDS accounts for about one-third of neglected disease funding. Malaria and tuberculosis account for 17% and 16%, respectively. It's worth noting that resources targeting Ebola drug and vaccine development were negligible through 2012.

This funding increase appears to have produced results. Since 2000, 46 new drugs have been approved, treating a multitude of diseases, including HIV/AIDS, malaria, leishmaniasis, and typhoid. And from 2009 through 2013, regulatory agencies approved 20 new products, ranging from vaccines to tests and treatments for tuberculosis, Chagas disease, and cholera.

Because of these new products and better access to existing drugs, the number of new HIV infections among children worldwide has decreased by over 50% since 2001. The death rate from tuberculosis has decreased by 45% since the World Health Organization declared it a global public health emergency in 1993. Malaria mortality rates have fallen by 42% worldwide since 2000.

But, the inclusion of newly approved products on the World Health Organization's Essential Drug List has been slow and limited, with only 44% of products approved after 2000 added. This list contains drugs that



meet the health care needs of the majority of the population, and therefore should be available at all times in adequate amounts and in appropriate dosage forms. Drug developers could do more to facilitate access, in particular, by working closely with the World Health Organization to expedite assessment of the clinical- and cost-effectiveness of new approvals.

Annually the "Big Three" still cause over 3.5 million deaths across the globe. Other diseases, such as leishmaniasis and Dengue fever, contribute to over 20,000 deaths each.

Malaria and HIV/AIDS appear to have benefited most from increased funding, while there has been much less success in other diseases, such as trachoma, river blindness, Buruli ulcer and Dengue fever. This uneven progress indicates funding could be better targeted.

Moving forward, efforts by product development partnerships, the pharmaceutical industry and governments worldwide to address neglected diseases must expand. Additionally, funding of neglected disease drug development should be a function of both the disease burden (morbidity and mortality) suffered and the lack of treatment alternatives.

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