

Dearth of new antibiotics reaches crisis level

By ACSH Staff — November 18, 2011

Being able to treat a bacterial infection with an effective antibiotic is something that we in the developed world have come to take for granted. But the ease with which we're currently able to conquer so many bacterial illnesses may soon come to an end, according to [an article](#) ^[1] in *The Lancet Infectious Diseases*. As the discovery of new antibiotic drugs dwindles, and resistance to existing antibiotics steadily increases, we may soon find ourselves facing what for so many years has seemed unfathomable: an increase in untreatable infections.

At the same time as the public has taken easy access to effective antibiotics for granted, there hasn't been any sense of urgency to develop new antimicrobial therapies not among the public, or, more importantly, in the pharmaceutical industry. As ACSH's Dr. Gilbert Ross points out, it's uncommon to have in your circle of acquaintances someone who has been harmed as a result of a lack of effective antibiotics, so people are not generally concerned with the impending scarcity of these vital medications.

But the danger of such apathy is quickly becoming apparent. Two years ago, the World Health Organization (WHO) declared antibiotic resistance to be one of the three biggest health threats. As antibiotic-resistant bacteria continue to develop, even simple medical procedures run the risk of leading to infection with these difficult-to-treat strains.

ACSH's Dr. Josh Bloom notes that vancomycin remains the drug of choice for hospitalized patients with many types of drug-resistant infections, such as MRSA. Although resistance to vancomycin isn't widespread (as is true of MRSA), it does exist. A real nightmare scenario, he says, would be if vancomycin-resistant staph (VRSA) were to become more prevalent. This would force doctors to use what few alternative drugs exist, some of which have toxicity issues.

To keep pace with increasing resistance to antibiotics, it is essential that drug companies develop new antibiotics. Yet companies face many obstacles to accomplishing this task. Compared to drugs that treat chronic conditions such as high cholesterol or blood pressure, antibiotics are generally administered for only a short period of time, most often one to two weeks. Thus the profit margin for these drugs is much lower, which means that pharmaceutical companies have less of an incentive to work on their development. On top of this, antibiotics face an FDA approval process that is difficult, expensive, and time-consuming especially considering the complexity of doing clinical trials using not-yet-approved antibiotics in patients with serious infections.

As ACSH's Dr. Elizabeth Whelan observes, what we need to do is lower the burden of regulation and increase the incentives for developing new antibiotics. Dr. David Shlaes, the former vice president of infectious disease research at Wyeth, [holds a similar opinion](#) ^[2]; he feels that the FDA has abandoned the role of regulator to become a blocked door. Shlaes stresses that the FDA needs to get back to rational regulation, so that we won't face a time when people in Beijing have

access to new antibiotics while those in Washington do not."

Countries worldwide are taking note of the growing problem, although their responses are still unfocused. One highly visible effort, though, is that of the British Society of Antimicrobial Chemotherapy: In order to inspire governments and pharmaceutical companies to place a greater emphasis on antibiotic development, the Society has initiated the Antibiotic Action campaign. This campaign will aim to coordinate support from groups around the world to increase public awareness of the issue and to urge governments to act immediately in order to avoid a potential disaster, should the current trends in antibiotic resistance and scarcity of new drugs continue.

Awareness and coordination are fine, Dr. Bloom concludes, but in the end, it will be necessary to do the long, hard, and expensive work of discovering new antibiotics. We may need novel drugs that work by different mechanisms to slow down resistance. With most major drug companies out of the field entirely, though, it isn't clear where these drugs will come from.

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