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Drug-resistant TB is best battled at the source

Until a few weeks ago, many Americans had never heard of extensively drug-resistant tuberculosis, or XDR-TB. But a globe-trotting Atlanta lawyer now being treated in Denver has changed all that.

Two congressional hearings and the attention of health officials around the world have focused not only on the details of Andrew Speaker's Greek wedding and aborted European honeymoon, but also on the emergence and spread of a dangerous disease.

During trans-Atlantic flights, one on May 12 from Atlanta to Paris, and another on May 24 from Prague to Montreal, Speaker potentially exposed hundreds of fellow travelers to XDR-TB. Tests indicate he is not highly contagious, but health officials say about 17% of new infections can be traced to people who fit that description.

Nils Daulaire, president of the Global Health Council, says there is no reason to think this was an isolated case. "Most (drug-resistant TB) cases are unknown," he said last week at the Senate hearing. "We probably have dozens, possibly hundreds of people traveling internationally with diseases that are a risk to others."

The incident has raised questions about TB, an ancient disease. The World Health Organization, Centers for Disease Control and Prevention and TB experts answer questions:

Q: How easy is it to catch tuberculosis?

A: Not as easy as catching a cold. When someone has TB in the lungs and coughs or sneezes, the bacteria can be spewed out. Only a few of the TB bacilli, rod-shaped bacteria, need to be inhaled to cause infection, but the risk of infection depends on several factors, including the degree of "infectiousness" of the person with TB, the duration of the exposure, the proximity to the sick person and ventilation. WHO, in its guidelines on TB and air travel, says there is little risk to people on short flights, but the risk increases on flights that last eight hours or more. Once a TB patient is being treated and is responding, he or she usually becomes non-infectious within a few weeks.

Q: What's the difference between TB, multi-drug-resistant TB and extensively drug-resistant TB?

A: TB is usually treated with a six- to nine-month course of anti-TB drugs. If the patient is given the right drugs and takes them for the prescribed time, TB is cured. If not, the bacteria can become resistant, and depending on the degree of resistance, can be classified as multi-drug-resistant or extensively drug-resistant. When it's resistant to at least the two most potent anti-TB drugs, it's considered multi-drug-resistant, or MDR-TB. If MDR-TB is not properly treated, it can become additionally resistant to some of the second-choice drugs. This is extensively drug-resistant, or XDR-TB. Drug-resistant TB can require daily medications, including multiple pills and shots, for up to two years.

Q: Can someone catch drug-resistant TB?

A: Yes. Drug-resistant TB can occur in a person who had improperly treated TB or who never had TB before but caught a drug-resistant strain.

Q: Are MDR-TB and XDR-TB curable?

A: Yes, if doctors are able to figure out which antibiotics are effective in time. But that has not always been possible, and the diagnosis of drug resistance is often made only after the patient has died. In patients who also have HIV/AIDS, drug-resistant TB is especially deadly.

Q: What are the tests for TB?



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A: A skin test can show in two or three days whether a person has been infected. To find out whether someone has active TB, a chest X-ray is given, then sputum or phlegm from the lungs is put onto a slide, stained and examined under a microscope to see whether bacteria are visible. Some of the sputum is put into culture dishes to see whether bacteria will grow and whether they are sensitive to antibiotics. Because TB bacteria grow slowly, these tests can take a couple of weeks.

Q: If I have a positive TB skin test, do I have to take medicines?

A: You may be given preventive therapy, usually a daily pill for nine months or more.

Q: Why isn't everyone with TB in the hospital?

A: One-third of all the people in the world are infected with dormant TB bacteria. They're not sick with TB, but they could become sick if their immune systems are weakened by age, illness or medications. Only people with active TB need to be treated. They may need to stay in the hospital a short time, then continue medications at home.

Q: How serious is drug-resistant TB?

A: Drug-resistant strains spread the same way as drug-sensitive strains do, but they take longer to diagnose and are much more expensive and difficult to treat. In many parts of the world, there are not enough labs, drugs and health workers to control TB, especially where HIV co-infection is common. "As a physician myself," Daulaire said at last week's hearing, "I'd sooner have a diagnosis of cancer than XDR-TB." The cure rate is under 30%, he said, and fewer than half survive more than five years.

The world needs to take action now, he said, or risk the emergence of "TDR-TB" — totally drug-resistant strains. "Unless we address these problems at their source, which is the poor countries, there are no walls high enough to protect the American people."