

HEALTH AND SCIENCE

# Gearing up to battle 'nightmare bacteria'

Obama's budget seeks more funding

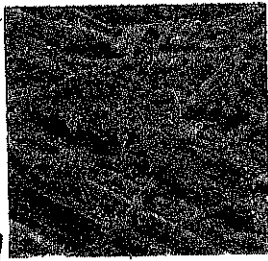
Liz Szabo  
@LizSzabo  
USA TODAY

President Obama is proposing to double spending to combat the threat of "nightmare bacteria" spreading in hospitals.

Obama's proposed budget, released Tuesday, includes \$30 million annually for the next five years to detect and prevent superbug infections, which are resistant to even the strongest antibiotics, according to an announcement from the Department of Health and Human Services.

The money would be used to set up regional labs to identify outbreaks more quickly and to help hospitals collaborate on reducing the bacteria's spread, among other programs.

Combating antibiotic-resistant infections in this way could cut in half the number of hospital-acquired infections with C. difficile, a toxic bacteria that can cause severe diarrhea and death, said Thomas Frieden, director of the Centers for Disease Control and Prevention. That would save 20,000 lives, prevent 150,000 hospitalizations and save \$2 billion in health care costs, according to the CDC. The initiative also could cut the rates of other resistant bacteria, including MRSA, salmonella and CRE, or carbapenem-resistant Enterobacteriaceae.



DUKE UNIVERSITY MEDICAL CENTER  
*Clostridium difficile*, a bacteria that can cause intestinal disease.



**2 million**  
Americans sickened per year by antibiotic-resistant infections

**23,000**  
Number of deaths

Source: Infectious Diseases Society of America

In a statement, the Infectious Diseases Society of America said Obama and Congress should go even further to combat antibiotic resistance. The society said Congress should give the Food and Drug Administration the power to quickly approve antibiotics for patients suffering from resistant infections. Congress also should pass tax credits to spur research and development of new antibiotics, the group says.

The budget announcement came after the CDC released a separate study showing that doctors and hospitals are putting patients at risk of deadly infections because of frequent and sometimes careless use of antibiotics. Antibiotics are a staple of hospital care, and more than half of patients receive one before being discharged, the report found.

Yet, doctors in some hospitals prescribe three times as many antibiotics as in other hospitals, even for patients with similar conditions, based on an analysis of more than 11,000 patients.

Researchers found potential errors in one-third of cases involving urinary tract infections, as well as in the use of a powerful antibiotic called vancomycin. In some cases, doctors prescribed antibiotics without running a urine test or when patients didn't have symptoms. In other cases, doctors gave antibiotics for too long a period.

Previous studies have found the problem of improper prescribing to be even worse, with mistakes made in up to half of cases in which patients got antibiotics.

Although antibiotics can be life saving, using them too frequently promotes antibiotic-resistant bacteria, which are immune to the strongest medications. Patients are already suffering and dying from infections that are untreatable with any medication, Frieden said. The new report

is an effort to "sound the alarm" about the problem.

"Poor prescribing practices put patients at risk," Frieden said. "The bottom line is that we have to protect patients by protecting antibiotics."

Misusing antibiotics also puts patients at serious risk of developing an antibiotic-resistant infection, Frieden said. In the study, hospitalized patients who received broad-acting antibiotics — those that kill a wide variety of bugs — were three times more likely to develop dangerous infections with bacteria called *Clostridium difficile*, or *C. diff*.

Dangerous *C. diff* bacteria can be picked up in hospitals. Although the bugs can often be kept in check by friendly gut bacteria, *C. diff* can multiply if beneficial gut bacteria are killed by antibiotics, which often wipe out the body's so-called "good bugs" along with the bad.

Although doctors and hospitals need to do better, the U.S. health

care industry is working on the problem, said John Combes, senior vice president at the American Hospital Association.

"We recognize we must improve our practices, not only for the benefit of patients under our care but to preserve the effectiveness of antibiotics for future patients," Combes said.



JEFF FRANKO, USA TODAY

**"Poor prescribing practices put patients at risk. The bottom line is that we have to protect patients by protecting antibiotics."**

CDC Director Thomas Frieden

## **Gearing up to Battle Nightmare Bacteria**

**Directions: Follow the directions in order below.**

**Part 1:** As a group read the article, "Gearing up to Battle Nightmare Bacteria." Complete SOAPSTONE for this article.

**Part 2:** Use context clues to identify the meaning of the following vocabulary words. Write the definition and highlight the text where you got your answers.

- superbug

-Vancomycin

-outbreak

-broad-acting antibiotics

-antibiotics

**Part 3:** Write a 6-8 sentence summary using the vocabulary words from part 2. Highlight each word in your paragraph.

**Gearing Up to Battle Nightmare Bacteria**

<b>Subject</b>	The topic	
<b>Occasion</b>	Description of the time period the text was written The circumstances/motivation for the literature/text at the time it was written	
<b>Audience</b>	Who the writing was intended for	
<b>Purpose</b>	The message or reason literature/text was written	
<b>Speaker</b>	The author	
<b>Tone</b>	Author's attitude towards the subject	