

WHO Issues 'Urgent' Call to Develop Vaccines for Antibiotic Resistance, as CDC Blames Problem on Pandemic

U.S. deaths from antimicrobial resistance rose 15% in 2020, as drugs were used to treat COVID-19, according to a report released July 12 by the Centers for Disease Control and Prevention. Also on July 12, the World Health Organization issued an "urgent" call to develop more than 150 vaccines to address the global health threat.

By [Suzanne Burdick, Ph.D.](#)

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In a [report](#) issued July 12, the Centers for Disease Control and Prevention (CDC) said U.S. deaths from antibiotic-resistant bacteria — commonly called "[superbugs](#)" — rose 15% in 2020.

The 44-page report examined the impact of COVID-19 on antimicrobial resistance (AMR) in 2020, when — according to the CDC — drugs were widely dispensed to treat [COVID-19](#) and address bacterial infections during hospitalizations.

On the same day — July 12 — the CDC published its report, the World Health Organization (WHO) also issued a [report](#) on AMR — which focused on developing vaccines to address the issue.

In a [press release](#) about the report, the director of the WHO's Immunization, Vaccines and Biologicals Department called for the agency "to leverage the lessons of COVID vaccine development and speed up our search for vaccines to address AMR."

The WHO's 94-page report identified 155 vaccine candidates — 61 in "various stages of clinical development" and 94 in "preclinical development" — the agency said should be "[urgently](#)" developed to combat AMR.

Absent from the CDC and WHO reports was any discussion of what most scientists agree is a [leading cause](#) of antibiotic resistance: the overuse of antibiotics on [industrial factory farms](#).

Ranked among the top 10 global [public health threats to humanity](#) by the WHO, AMR occurs "when germs like bacteria and fungi defeat the drugs designed to kill them," CDC Director Dr. Rochelle Walensky [said](#).

A [study](#) published in January by The Lancet estimated 4.95 million deaths worldwide were associated with bacterial AMR, with 1.27 million attributed to bacterial AMR.

80% of COVID patients given antibiotics in 2020, CDC says

According to the CDC, "During the first year of the pandemic, more than 29,400 people died from antimicrobial-resistant infections commonly associated with healthcare. Of these, nearly 40% got the infection while they were in the hospital."

Almost 80% of patients hospitalized with COVID-19 were given an antibiotic — even though antibiotics aren't useful for viral infections — due to the difficulty in distinguishing COVID-19 from pneumonia when patients first arrived at the hospital, the CDC said.

"Historic gains made on antibiotic stewardship were reversed as antibiotics were often the first option," Walensky said in the report.

The CDC report noted a rise in the following six "superbug" bacterial infections and two fungal infections, with an overall increase of 15%:

- [Carbapenem-resistant Acinetobacter](#): 78% increase in infections.
- [Carbapenem-resistant Enterobacterales](#): 35% increase in infections.
- [Multidrug-resistant Pseudomonas aeruginosa](#): 32% increase in infections.
- [Vancomycin-resistant Enterococcus](#) (VRE): 14% increase in infections.
- [Methicillin-resistant Staphylococcus aureus](#) (MRSA): 13% increase in infections.
- [ESBL-producing Enterobacterales](#): 32% increase in infections.
- [Antifungal-resistant Candida auris](#): 60% increase in infections.
- [Antifungal-resistant Candida](#) (excluding Candida auris): 26% increase in infections.

The CDC [emphasized](#) it "remains committed" to the [U.S. National Action Plan for Combating Antibiotic-Resistant Bacteria](#) and will move forward in addressing gaps in the public health system by "exploring investments" in U.S. healthcare infrastructure in the following areas:

- Enhanced data systems and sharing.
- Antibiotic/Antifungal use and access.
- Environment and sanitation.
- Vaccines, therapeutics and diagnostics.

WHO pushes vaccines to prevent AMR, identifies 155 vaccine candidates

The WHO called its 94-page report the "[first-ever](#) ... on the pipeline of the vaccines currently in development to prevent infections caused by antimicrobial-resistant (AMR) bacterial pathogens."

Vaccines can be "highly effective tools" in addressing AMR by preventing infections which, in turn, decreases antibiotic consumption, the WHO said.

"Yet of the top six bacterial pathogens responsible for deaths due to AMR, only one, Pneumococcal disease (*streptococcus pneumoniae*) has a vaccine," [said](#) Dr. Hanan Balkhy, WHO's assistant director-general of antimicrobial resistance.

The WHO report identified four groups of pathogens with vaccine "candidates" in various stages of clinical development for each.

The report focused exclusively only vaccines — not new antibiotics — as tools for mitigating the AMR problem. But this is not surprising, [Kaiser Health News \(KHN\) reported](#).

"[Big Pharma](#) has mostly abandoned antibiotics development, and [seven of the 12 companies](#) that successfully brought a drug to market in the past decade went bankrupt or left the antibiotics business because of poor sales," KHN said.

This is because the more an antibiotic is administered, the faster bacteria evolve to overcome it. So health practitioners are curbing the use of such drugs, with 90% of hospitals setting up [stewardship programs](#) that limit the usage of antibiotics, including new ones.

This suggests potential investors could lose interest in the antibiotic industry. However, the global antibiotics market is projected to grow from \$38.08 billion in 2021 to \$45.30 billion in 2028, [according to Fortune Business Insights](#).

CDC, WHO ignore major cause of AMR: antibiotic use in industrial meat production

Public concern about AMR is nothing new. [According to the WHO](#), AMR has been a world health priority since 2015.

Similarly, the CDC [said](#) it has been “sounding the alarm on this potential pandemic” since 2013.

While the over-administration of antibiotics in humans is a key driver of AMR, the main culprit — previously identified by the CDC and the WHO — was the use of antibiotics in food-producing animals.

In May 2015, the WHO's 68th World Health Assembly adopted a “[global action plan](#)” that proposed interventions to curb AMR. The plan focused on reducing the unnecessary use of antimicrobials in humans and animals.

Working from that plan, the WHO developed a set of [guidelines and best practices](#), which it released in 2017, on the use of medically important antimicrobials in food-producing animals.

“Antimicrobial use in food-producing animals can lead to selection and dissemination of antimicrobial-resistant bacteria in food-producing animals, which can then be transmitted to humans via food and other transmission routes,” WHO [said](#).

“The development of these guidelines was driven by the need to mitigate the adverse human health consequences of use of medically important antimicrobials (i.e. antimicrobials used in humans) in food-producing animals.”

At the time, the WHO recommended:

- An overall reduction in the use of all classes of medically important antimicrobials in food-producing animals.
- A complete restriction of the use of all classes of medically important antimicrobials in food-producing animals for growth promotion.
- A complete restriction of the use of all classes of medically important antimicrobials in food-producing animals for the prevention of infectious diseases that have not yet been clinically diagnosed.
- That antimicrobials classified as “critically important” for human medicine should not be used to control the dissemination of a clinically diagnosed infectious disease identified within a group of food-producing animals.
- That antimicrobials classified as “highest priority critically important” for human medicine should not be used for the treatment of food-producing animals with a clinically diagnosed infectious disease.

The WHO also established two “best practices”:

- Any new class of antimicrobials or new antimicrobial combination developed for use in humans will be considered critically important for human medicine unless categorized otherwise by WHO.
- Medically important antimicrobials that are not currently used in food production should not be used in the future in food production including in food-producing animals or plants.

The U.S. Food and Drug Administration (FDA) in 2017 [banned the use of antibiotics](#) for growth promotion and restricted over-the-counter use of antimicrobials in food-producing animals.

However, the new FDA rules were “complex and don’t ban all antibiotic use,” Newsweek [reported](#) in January 2017.

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