

Next global health crisis may lurk in antibiotic-resistant bacteria
Researchers consider human, animal and environmental factors to identify dangerous bacteria and prevent life-threatening infections

The Ohio State University Wexner Medical Center

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NEWS PACKAGE

SUGGESTED TEASE	EXPERTS WARN THE NEXT GLOBAL HEALTH THREAT COULD ALREADY BE DEVELOPING. COMING UP, NOW RESEARCHERS ARE ATTACKING THE PROBLEM FROM EVERY ANGLE TO PREVENT IT.
ANCHOR LEAD	AFTER A DEVASTATING GLOBAL PANDEMIC, RESEARCHERS ARE WORKING TO PREVENT IT FROM HAPPENING AGAIN. AND WHILE COVID-19 IS A VIRUS, EXPERTS WORRY THAT DRUG-RESISTANT BACTERIA COULD BE THE NEXT BIG THREAT TO PUBLIC HEALTH. BARB CONSIGLIO HAS THE DETAILS ON HOW THE PROBLEM IS BEING APPROACHED FROM AS MANY ANGLES AS POSSIBLE AS RESEARCHERS WORK AGAINST TIME.
(PACKAGE START) ----- CG: Courtesy: The Ohio State University Wexner Medical Center :00 - :03 Shots of pharmacists filling antibiotic prescriptions	(Nats - Sound) :02 BACTERIAL INFECTIONS THAT WOULD NORMALLY BE TREATED WITH ANTIBIOTICS ARE BECOMING MORE RESISTANT TO THESE MEDICATIONS EVERY DAY. :06
CG: Erica Reed, PharmD Ohio State Wexner Medical Center Shots of antibiotic pills	<i>"We do encounter patients with bugs that we have very limited drugs left to treat." :06</i> WHILE ANTIBIOTICS ARE CRITICAL, LIFE-SAVING DRUGS, THEY ARE TOO OFTEN USED FOR EVERY COUGH AND RUNNY NOSE. :05
Erica Reed (CG'd earlier) Shots of Erica putting on PPE	<i>"The more you show your cards to the bacteria, the easier it is for them to have practice figuring out how to get around that drug." :09</i> AND THESE ANTIBIOTIC RESISTANT BACTERIA

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<p>CG: Thomas Wittum, PhD Ohio State College of Veterinary Medicine</p> <p>Shots of researchers in lab</p> <p>“One Health” graphic showing cycle between people, animals and environment Thomas Wittum(CG’d earlier)</p> <p>Shots of Erica Reed doing rounds</p> <p>Shots of testing animal stalls</p> <p>Shots of gathering water sample from river</p> <p>Shots of lab work and cultures</p> <p>Thomas Wittum(CG’d earlier)</p> <p>Shots of Erica Reed making rounds in PPE, talking to colleagues</p> <p>Erica Reed (CG’d earlier)</p> <p>Shots of antibiotics</p> <p>Shots of Erica Reed entering patient room (PACKAGE END) -----</p>	<p>CAN SPREAD VERY QUICKLY. :04</p> <p><i>“Animals and people can share resistant bacteria, or those bacteria can be spread in other ways, in the environment or in the food that’s produced from food animals.” :10</i></p> <p>IT’S IMPOSSIBLE TO SOLVE THIS PROBLEM WITHOUT CONSIDERING ALL THESE SOURCES OF RESISTANT BACTERIA, WHICH IS WHY RESEARCHERS AT THE OHIO STATE UNIVERSITY WEXNER MEDICAL CENTER AND THE OHIO STATE COLLEGE OF VETERINARY MEDICINE ARE USING AN APPROACH KNOWN AS “ONE HEALTH.” :13</p> <p><i>“One Health is the idea that the health of humans, animals, and the environment are all connected and intertwined.” :06</i></p> <p>THE PROGRAM BRINGS SEVERAL RESEARCH DISCIPLINES TOGETHER, WORKING SIDE-BY-SIDE TO FIND ANSWERS. :04</p> <p>(NATS - testing)</p> <p>THIS INCLUDES TESTING IN VETERINARY CLINICS, ON FARMS AND IN WATERWAYS. :03</p> <p><i>“We grow bacteria out of those samples, right? Then, we look for what we call their resistance phenotype, which represents what antibiotics they actually are resistant to.” :12</i></p> <p>IT ALSO INVOLVES TRACKING DRUG-RESISTANT CASES IN HOSPITALS, DEVELOPING NEW TREATMENTS AND EDUCATING PROVIDERS ON RESPONSIBLE PRESCRIBING. :07</p> <p><i>“We help to streamline antibiotic use helping providers to make the right selection for the right patient at the right dose and the right duration.” :10</i></p> <p>IT’S THIS COMPREHENSIVE APPROACH THAT EXPERTS HOPE WILL MAINTAIN THE EFFECTIVENESS OF ANTIBIOTICS AND PREVENT ONE OF THESE BACTERIA FROM BECOMING THE NEXT SUPERBUG.</p> <p>AT THE OHIO STATE WEXNER MEDICAL CENTER, THIS IS BARB CONSIGLIO REPORTING. :11</p> <hr/>
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ANCHOR TAG	<p>SINCE THE PROGRAM'S INCEPTION, OHIO STATE RESEARCHERS HAVE MADE IMPORTANT DISCOVERIES ABOUT HOW MICROORGANISMS BECOME DRUG-RESISTANT.</p> <p>AND, AS A RESULT, NEW DISINFECTING PRACTICES HAVE BEEN PUT INTO PLACE EVERYWHERE FROM HOSPITALS TO PIG FARMS ALL OVER THE WORLD.</p> <p>IT'S THIS SHARING OF INFORMATION THAT WILL HELP SOLVE THIS GLOBAL ISSUE AND PREVENT DANGEROUS INFECTIONS IN THE FUTURE.</p>
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SOCIAL MEDIA

 Share it! Suggested tweet:  Suggested post:	<p>The next global health threat could be lurking in drug-resistant bacteria. How researchers at @OSUWexMed and @OSUVetCollege are taking a “one health” approach to prevention by considering how people, animals and the environment are all intertwined. https://bit.ly/3nnp799</p> <hr/> <p>Researchers at The Ohio State University Wexner Medical Center and The Ohio State College of Veterinary Medicine believe the next global health threat could come from drug-resistant bacteria and are working together to attack the problem with a “one health” approach, which finds connections between the health of people, animals and the environment. https://bit.ly/3nnp799</p>
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EXTRA BITES

CG: Thomas Wittum, PhD Ohio State College of Veterinary Medicine	<p>Wittum explains the importance of monitoring all bacterial sources: <i>“Whether it's at the wastewater treatment plant or whether it's in the veterinary clinic, or whether it's in the medical center. All play a role in the problem, and all have a potential contribution to the solution. By looking at the larger picture, we can identify the most effective and most appropriate solutions and the best places to intervene.” :19</i></p> <p>Wittum explains how lab testing helps identify threats: <i>“We can look at their bacterial sequence and see what genes are actually allowing them to be resistant to those antibiotics. So, then all that information tells us about the epidemiology of that organism, where it might have come from, what antibiotics it may have been exposed to, how it may have acquired its resistance, and what the risk of spread is.” :21</i></p>
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CG: Thomas Wittum, PhD
Ohio State College of Veterinary Medicine

Wittum describes the scope of departments involved in this research:

“We have a large group of researchers around campus in multiple colleges. So, of course that's here in veterinary medicine and the Wexner Medical Center, but also in pharmacy and nursing and public health and microbiology and in food agriculture, environmental sciences.” :21

Wittum says there are antibiotic-resistant infections that become life-threatening:

“They may be resistant to some or all of what we call our last line of defense drugs. So, when somebody becomes infected with those, it may be very difficult to treat them, and those really can be life-threatening infections.” :17

Reed says we must look at antibiotic resistance from every angle:

“Really, we're all in this together. So we can't look at antimicrobial resistance in a silo in human medicine or in veterinary medicine. We have to consider also the use of antibiotics in other ways, whether it be agriculture or other mechanisms of antibiotic use and exposure.” :18

Reed says we are returning to pre-penicillin era for treating infections:

“We're entering into a post antibiotic era where we're running out of drugs to treat these resistant bugs, similar to the pre antibiotic era of the 1930s and before the advent of penicillin. And it's sad to think we're back there, but in some ways we are.” :15

CG: Erica Reed, PharmD
Ohio State Wexner Medical Center

Reed says COVID brought attention to global health threats:

“I think the COVID pandemic has really brought to light how critically important the management of infections is. And even someone who's been specializing in it my whole career, it gave me a new appreciation for the gravity of what we're doing and how far reaching these problems can be around the globe.” :19

Reed says people often want antibiotics even if it's not the right treatment:

“A lot of times people may think that an antibiotic is going to fix the problem that they have. In reality, they might have a virus which is better managed by symptom relievers that we can get readily at the pharmacy or over the counter.” :14

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CG: Erica Reed, PharmD
Ohio State Wexner Medical Center

Reed says bacteria evolve faster than treatments can be developed:
"Bacteria are way smarter and quicker in some ways than we are at evolving. And so it takes quite some time for us to figure out mechanisms, ways to develop antibiotics that outsmart the bacteria so that they can be effective." :17

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