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Outpatients, hospital patients face growing, but different problems with antibiotic resistance

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A new study concludes that problems with antibiotic resistance faced by outpatients may be as bad as those in hospitalized patients, and that more studies of outpatients are needed – both to protect their health and to avoid inappropriate or unnecessary drug use.

Antibiotic resistance is a huge and growing problem in both hospital and outpatient settings. Failure to select an effective antibiotic, without appropriate consideration for this resistance, can increase the risk of continued illness or death.

While 126 million prescriptions a year for antimicrobial drugs are given to people outside of hospitals, less has been done with them, compared to inpatients, to monitor their levels of antibiotic resistance.

The new analysis examined more than 16,000 cultures for resistance to some commonly used antibiotics. It found that outpatients can face resistance issues that sometimes are similar to those of people in hospitals – but that these problems can also be either more or less severe.

The findings were reported in *Diagnostic Microbiology and Infectious Disease* by researchers from Oregon State University, Oregon Health and Science University, and Kaiser Permanente Northwest. The work was supported by the National Institutes of Health.

"Hospitals for some time have been producing what are called antibiograms, a compilation of data to provide insights into local problems with antibiotic resistance," said Jessina McGregor, assistant professor in the OSU College of Pharmacy, who is an expert in antibiotic resistance issues and lead author on this study.

"Traditionally these findings have been shared with doctors to help them select the best antibiotics for their patients' infections," she said. "However, in many outpatient settings this same level of information has not been available. We found there are enough differences that we need to start doing more studies with the outpatient groups, in order to help doctors provide patients with the best possible care for their infections, and prevent the spread of resistance."

The researchers also noted that more than half of all antibiotics prescribed to outpatients for acute respiratory infections are unnecessary. This can speed the resistance of bacteria to antibiotic treatment.

Antibiotic resistance historically began to show up in hospitals before it was found in the larger community, researchers say. Because of this, hospitals have been more aggressive in working to monitor, understand and prevent unnecessary antibiotic use.

As patient records increasingly become electronic, both in the hospital and in outpatient clinics, it will be possible for more health care systems to produce outpatient antibiograms, McGregor said, and that will be "a step in the right direction."

Provided by Oregon State University

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