Disclosures

This study was sponsored by Pfizer. MD is an employee of Pfizer. MH and DS are employees of IHMA, which received fees from Pfizer for the conduct of the study and abstract and poster preparation. CV and DG are patient advocates who did not receive any financial support for this poster.
Hospitalized patients (often in intensive care units [ICUs]) battles serious medical conditions (e.g., cancer, transplants, dialysis, etc.) often have a reduced ability to fight off bacterial infections. Antibiotics are the primary line of defense for the treatment of these at-risk or infected patients. However, bacteria “fight back” in a manner referred to as “antibiotic (drug) resistance”. Drug resistant infections may make surgery less effective and can lead to post-surgery complications, longer hospital stays, and a higher risk of death. To evaluate the extent to which bacteria are “fighting back” surveillance programs have been undertaken to better understand which antibiotics remain the most reliable treatment choices. Pfizer’s ATLAS (Antimicrobial Testing Leadership and Surveillance) program is one of the premier premiere surveillance programs that track antibiotic resistance among these bacteria. Analysis of ATLAS data allows tracking those bacteria that are resistant to multiple antibiotics (i.e., multiple drug resistant [MDR] strains). Treatment choices for infections caused by MDR bacteria can be limited, therefore tracking MDR trends is highly important. This presentation will demonstrate various analyses from ATLAS that can be done to better understand antibiotic resistance.

**Methods**

- Enterobacterales (N=258,149), Pseudomonas aeruginosa (N=68,877), and Acinetobacter spp. (N=34,967) deemed clinically significant (i.e., multiple drug resistant [MDR] strains).
- Treatment choices for infections caused by MDR bacteria can be limited, therefore tracking MDR trends is highly important.
- This presentation will demonstrate various analyses from ATLAS that can be done to better understand antibiotic resistance.

**Results**

- The key types of bacteria that cause infections in hospitalized patients include three main groups: Enterobacterales, P. aeruginosa, and Acinetobacter spp. Analysis of ATLAS data allows tracking these bacteria that are resistant to multiple antibiotics (i.e., multiple drug resistant [MDR] strains).
- Figure 1 through Figure 3 show the increase in the percent of bacterial isolates from obtained from respiratory tract infections, bloodstream infections, and urinary tract infections that were MDR from 2010 to 2020.
- Figure 4 shows the increase in the percent of MDR bacteria from ICU patients increased from 12.8% in 2010 to 33.9% in 2020, and among non-ICU patients from 7.7% to 22.3% (Figure 4).
- The percentage of MDR bacteria from ICU patients increased from 12.8% in 2010 to 33.9% in 2020, and among non-ICU patients from 7.7% to 22.3% (Figure 4).
- The percentage of MDR bacteria from inpatients increased from 9.3% in 2010 to 26.0% in 2020, and among outpatients increased from 5.8% to 20.1% (Figure 5).

**Conclusions**

- Antibiotic resistant infections are a silent killer, with resistance growing each year.
- Antibiotic stewardship is used to measure and improve how antibiotics are prescribed by physicians and used by the public.
- Notable increases in MDR Bacteria from common infections both in and out of the hospital indicate diminishing therapeutic choices to treat infections.
- Monitoring resistance trends such as MDR rates, provides data for antibiotic stewardship, and helps identify the need for development of new antimicrobial agents.
- Information provided by the ATLAS surveillance program can be used by healthcare professionals to optimize therapeutic choices and help decrease the cost associated with hospitalization, infection, and treatment.
- There are a number of practical steps everyone can take to lower their risk of getting an infection. Taking to your health care team may provide additional steps that can be taken to prevent infections. Discuss with your physician if you can take part in a trial.
- The ATLAS program’s analytical findings can be used to optimize and improve infection management now, and in the future.

**References**


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