

Age-related Antibiotic Prescribing Trends of Positive *Clostridioides difficile* Incident Cases within Davidson County Tennessee 2012-2020

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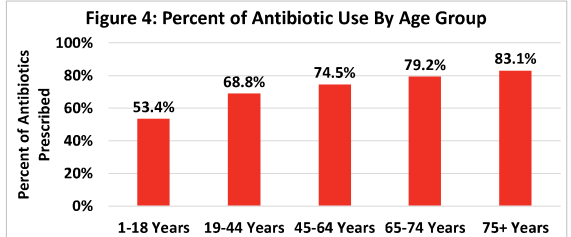
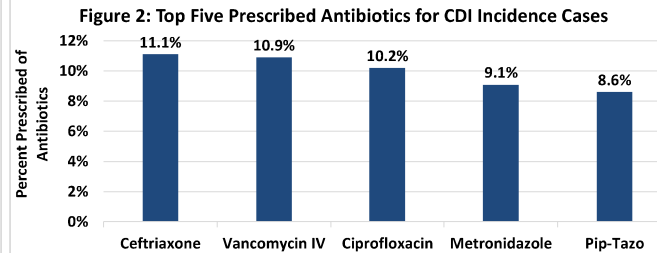
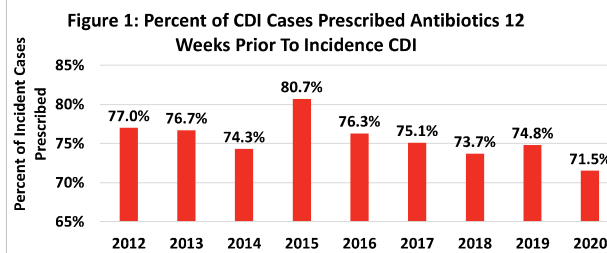
Background

- *Clostridioides difficile* infection (CDI) is one of the most common healthcare-associated infections in the United States.
- Antibiotic use is considered a predisposing factor for CDI.
- The State of Tennessee collaborates with the CDC as part of an ongoing Emerging Infections Program (EIP). Tennessee DOH surveils all cases of CDI in Davidson County.
- We sought to better understand the impact of antimicrobial use prior to the date of incident of CDI within the defined age groups of Davidson County, Tennessee.

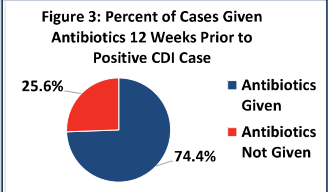
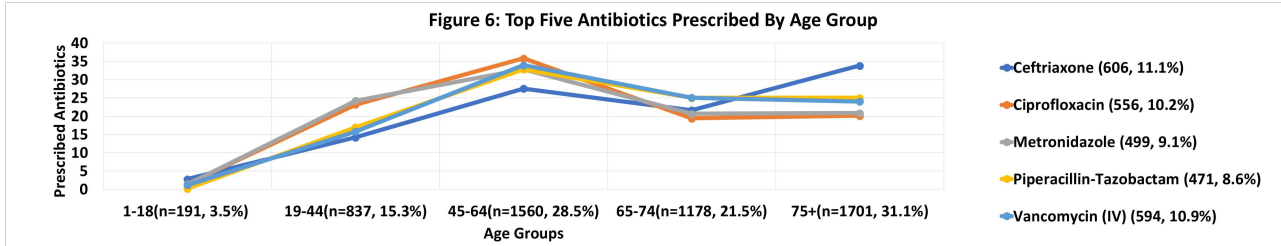
Methods

- Surveillance data from 2012–2020 were examined for all positive CDI cases within Davidson County.
- Incident cases were defined as a laboratory-confirmed *C. difficile* test for a person residing in Davidson county is ≥ 1 year of age.
- Antibiotic use was assessed in the 12 weeks prior to CDI. Trends of overall antibiotic use, including the top five antibiotics prescribed by our defined age groups were examined.
- Only fully abstracted cases are included in the study.
- Analysis was performed using SAS version 9.4.

Results/Figures



Antibiotics prescribed in the 12 weeks prior to CDI	Age Groups					p-value
	1–18 (n=191)	19–44 (n=837)	45–64 (n=1560)	65–74 (n=1178)	75+ (n=1701)	
Ceftriaxone (11.1%)	2.8%	14.2%	27.6%	21.6%	33.8%	0.505
Vancomycin IV (10.9%)	1.2%	15.8%	34.0%	25.0%	24.0%	<0.0001
Ciprofloxacin (10.2%)	1.4%	23.2%	35.8%	19.4%	20.1%	<0.0001
Metronidazole (9.1%)	1.4%	24.3%	32.9%	20.6%	20.8%	<0.0001
Pip-Tazo (8.6%)	0.2%	17.0%	32.8%	25.0%	25.0%	<0.0001



Conclusions

- Almost three quarters of the CDI cases had received antimicrobial therapy in the 12 weeks prior to infection.
- The five most prescribed antibiotics were ceftriaxone, followed by vancomycin IV, ciprofloxacin, metronidazole, and piperacillin.
- The highest prevalence of antibiotic use by age group was found in the 75+ group.
- Antibiotic prescription is a modifiable risk factor; a more in-depth study combined with an antibiotic stewardship program is needed.

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