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Do Virtual Visits Have an Effect on Outpatient Antibiotic Prescribing for URIs?

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Background

- A current focus across health care is antibiotic stewardship which includes gaining a better understanding of how antibiotics are prescribed by providers and utilized by patients.
- Antibiotics are only useful in treating bacterial infections and are not beneficial for treating viral upper respiratory infections (URIs).
- Overuse of antibiotics leads to antibiotic resistance which is an important reason why unnecessary or inappropriate antibiotic prescribing should be avoided.
- URIs are often associated with over-prescribing of antibiotics as the majority of URIs are caused by viruses and do not benefit from antibiotics.
- During the COVID-19 pandemic, virtual visits in the form of video visits, E-visits, and billable phone encounters became more prevalent. This study aims to compare virtual encounters and in-person encounters to determine whether the type of visit influenced whether or not antibiotics were prescribed for patients with URIs.

Objective

- To determine if virtual visits have an effect on the prescription of antibiotics in relation to URIs.

Methods

- We conducted a retrospective chart review on patients complaining of URI related symptoms from May 1- May 31, 2021 at LVHN
- Visits were categorized as in person or virtual encounter and determine whether antibiotics were prescribed
- We determined the percentage of overall prescribing of antibiotics with regards to virtual versus in person visits
- A chi-square test of independence was performed to examine the relation between antibiotic prescribing and visit type

Results

- 400 patients were included in the study
 - 335 in-person encounters
 - 65 virtual encounters
- IN PERSON VISITS: 109 patients were prescribed antibiotics (32.54%)
- VIRTUAL VISITS: 22 patients were prescribed antibiotics (33.85%)

	In Person Visit	Virtual Visit
No Antibiotic	226	43
Antibiotic	109	22

Figure 1: The relation between these variables was not significant, $\chi^2(1, N = 400) = 0.09, p = 0.76$.

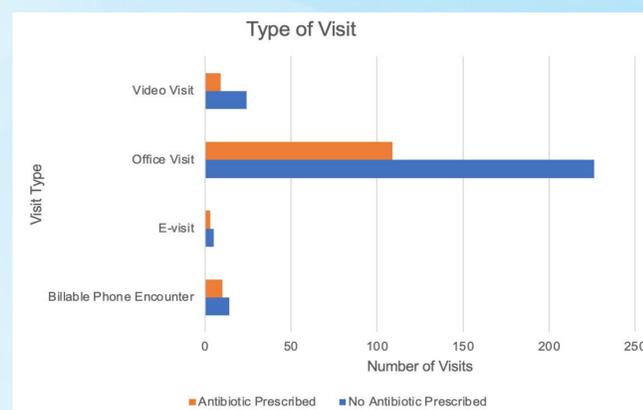


Figure 2: The bar graph shows that no antibiotics were prescribed more frequently than antibiotics were prescribed for video visits, office visits, E-visits, and billable phone encounters.

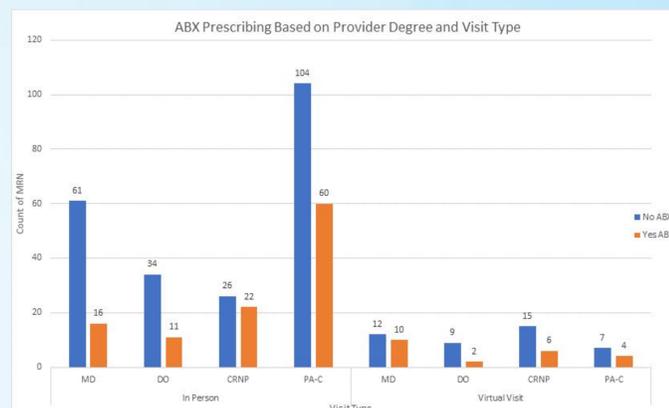


Figure 3: The bar graph shows which providers were more likely to prescribe antibiotics.

Conclusions

- Virtual visits did not have a significant effect on the likelihood of an antibiotic being prescribed as compared to in person visits during the time period reviewed.

Future Directions

- Future research should strive to investigate potential factors that play a role in the likelihood of antibiotic prescribing for URIs.
 - Does type of provider impact likelihood of antibiotic prescription?
 - Does day of week or time of day influence likelihood of antibiotics to be prescribed?
 - Are certain symptoms (e.g. cough, nasal congestion, nasal discharge, sore throat, fever) more likely to lead providers to prescribe patients antibiotics?
 - Are certain encounter departments (e.g. family medicine, express care, internal medicine) more likely to prescribe antibiotics?

References:

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- Johnson, K. M., Dumkow, L. E., Burns, K. W., Yee, M. A., & Egwuatu, N. E. (2019). Comparison of Diagnosis and Prescribing Practices Between Virtual Visits and Office Visits for Adults Diagnosed With Sinusitis Within a Primary Care Network. *Open Forum Infectious Diseases*, 6(9). <https://doi.org/10.1093/ofid/ofz393>
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