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Title

Identifying virtual and in-person antibiotic prescribing behaviors before and during the COVID-19 pandemic

Priority 1 (Research Category)

Population health and epidemiology

Presenters

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Abstract

Context: The majority of antibiotic use in healthcare (90% by volume) occurs in the primary care setting, where, on average, 25% of antibiotic prescriptions are avoidable. Virtual care may lead to a reduction in the number of inappropriate antibiotic prescriptions. Objective: To identify how antibiotic prescribing behavior changed over time during the COVID-19 pandemic in virtual versus in-person primary care visits. Study Design and Analysis: Cross sectional cohort. We examined the proportion of visits that were virtual. For visits where an antibiotic was received, sorted by the following antibiotic indication groups: respiratory tract infections (RTI), skin/soft tissue (SSI), urinary tract infections (UTI) and other infections. Dataset: Canadian Primary Care Sentinel Surveillance Network electronic medical record data from sites across Canada in British Columbia, Alberta, Manitoba, Ontario, Quebec, Nova Scotia and Newfoundland. Population Studied: The cohort was defined as any patient with a healthcare encounter between January 2019 and December 2020. Outcome measure: Percent change in visits in 2020 compared to 2019, for all encounters, and for encounters with an antibiotic prescription, sorted by visit type (virtual versus in-person), and stratified by sex, age group and rurality. Results: There were 901,649 patients with a visit during the 2019 study period, and 839,839 patients with a visit during the 2020 study period. Evaluating visits for these patients, we found that the there was a significant reduction in visits associated with an antibiotic in all indication groups: relative reduction of -38% for RTI, -3.9% for SSI, -2.6% for UTI, and -15.8% for other infections. Looking more closely at the type of visit reveals that in 2019, 2.5% of visits were virtual, compared to 33% in 2020. While the increase in virtual visits was consistent by sex, we found that there were significantly less virtual visits in children (0-18 years), compared to other age groups: 25.33% of all visits were virtual for 0-18 years, compared to 33.58% in 19-39 years, 34.27% in 40-64 years, and 32.75% in 65+ years. In addition, we found urban patients had more virtual visits in 2020 than rural locations (33.34% versus 29.88%, respectively). Conclusions: Virtual visits across Canada in primary care increased tremendously during the COVID-19 pandemic. There was a corresponding reduction in visits where an antibiotic was prescribed.