

Antibiotic Usage in Long-Term Care Facilities

Choosing Wisely Canada Recommendation

Multiple recommendations exist for not using antibiotics for upper respiratory infections, sore throat, and otitis media that are most likely viral in origin or for asymptomatic bacteriuria in non-pregnant women.

<https://choosingwiselycanada.org/pamphlet/antibiotics-urinary-tract-infections/>
<https://choosingwiselycanada.org/long-term-care/antibiotics/>
<https://choosingwiselycanada.org/toolkit/choosing-wisely-ltc/>

Practice Points

1. NL has the highest use of antibiotics per capita in Canada.
2. Urinary tract infections are the most common indicators for prescribing antibiotics for residents in long-term care facilities (LTCFs).
3. Up to 50% of long-term care (LTC) residents who have bacteria in their urine do not have a urinary tract infection. Treating asymptomatic bacteriuria with antibiotics is unnecessary, potentially harmful, and contributes to antimicrobial resistance.

Methods

1. Prescriptions provided were recorded by the Newfoundland and Labrador (NL) Pharmacy Network and these data from the community were obtained from the NL Centre for Health Information from 1 Jul 2019 – 31 Jul 2021. Residents of LTCFs were identified through the MediTech-LTC database.
2. The COVID-19 pandemic started in the province on 16 Mar 2020 and continued beyond Jul 2021.

Results

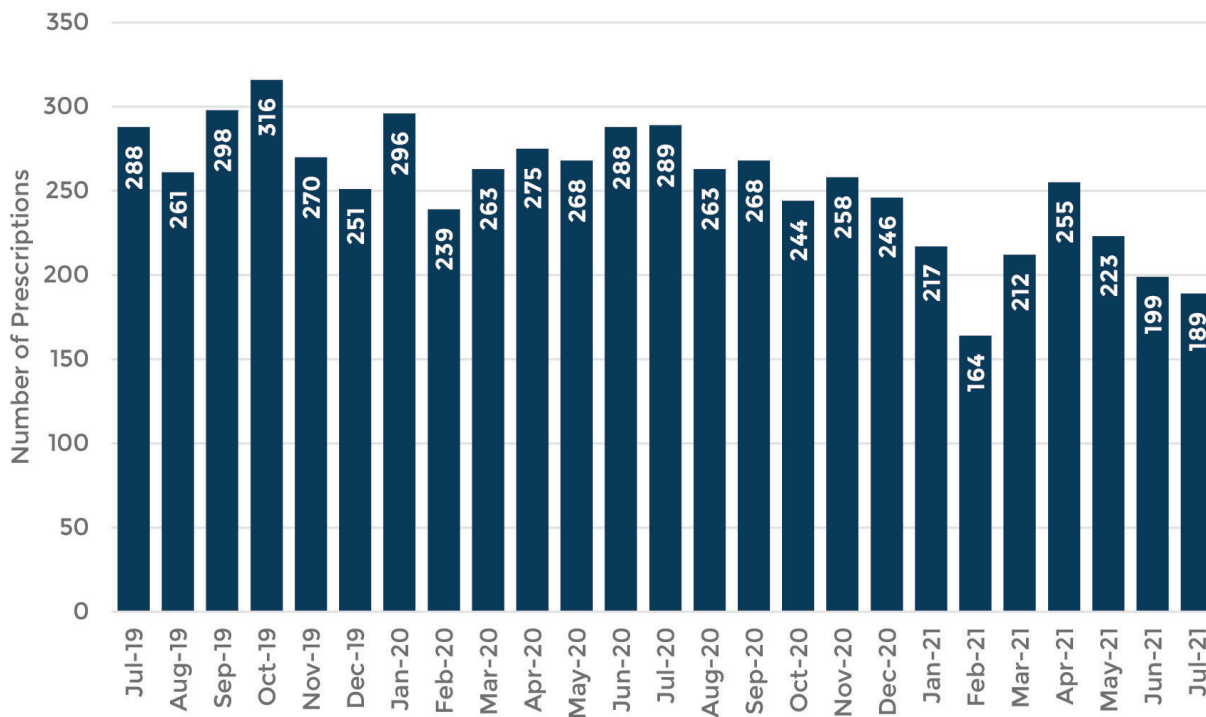


Figure 1. Total Number of Prescriptions/Month for Oral Antibiotics, Jul 2019 – Jul 2021

- As of June 2020 there were approximately 1,900 residents in LTC.
- From 1 Jul 2019 – 31 Mar 2020 a total of 2,482 prescriptions were given to 1,963 residents. This gave an average of 276 prescriptions/month and 1.3 prescriptions/resident who received an antibiotic pre-COVID-19.
- During COVID-19 from 1 Apr 2020 – 31 Jul 2021 a total of 3,858 prescriptions were given to 2,966 residents. This gave an average of 242 prescriptions/month and 1.3 prescriptions/resident who received an antibiotic.

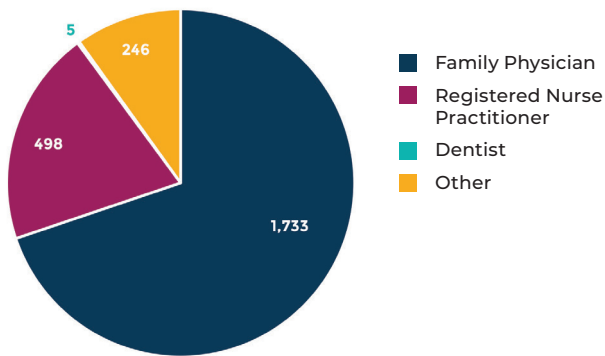


Figure 2A. Prescription by Health Provider Jul 2019 – Mar 2020

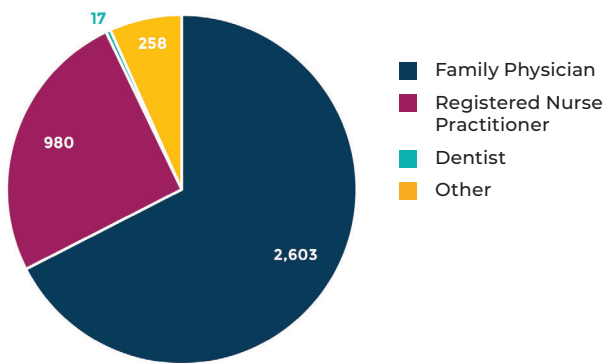


Figure 2B. Prescription by Health Provider Apr 2020 – July 2021

- Pre-COVID-19, 70% of oral antibiotics were prescribed by Family Physicians (FPs) and 20% by Nurse Practitioners (NPs).
- During COVID-19, 67% were prescribed by FPs and 25% by NPs.
- Notably, FPs comprise the majority of providers in the province.

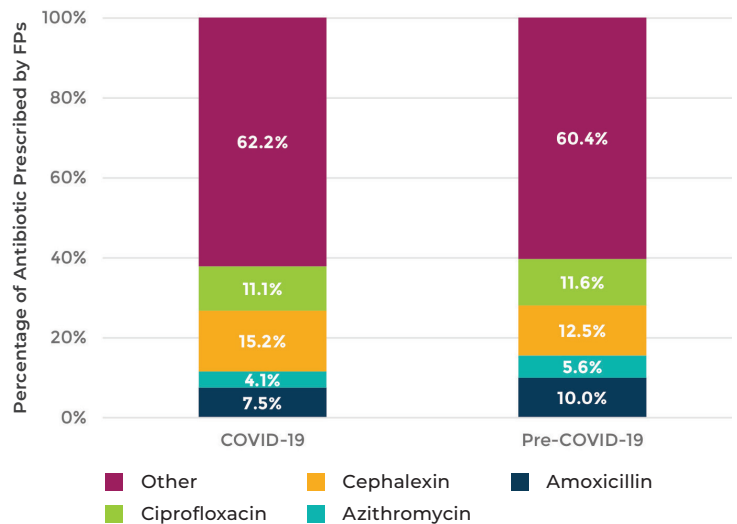


Figure 3A. Type of Antibiotic Prescribed by FPs Before and During COVID-19

- There was no change in the distribution of antibiotic types prescribed by FPs before and during COVID-19.
- Despite the need to limit use of ciprofloxacin because of E. coli resistance, it continued to be prescribed.

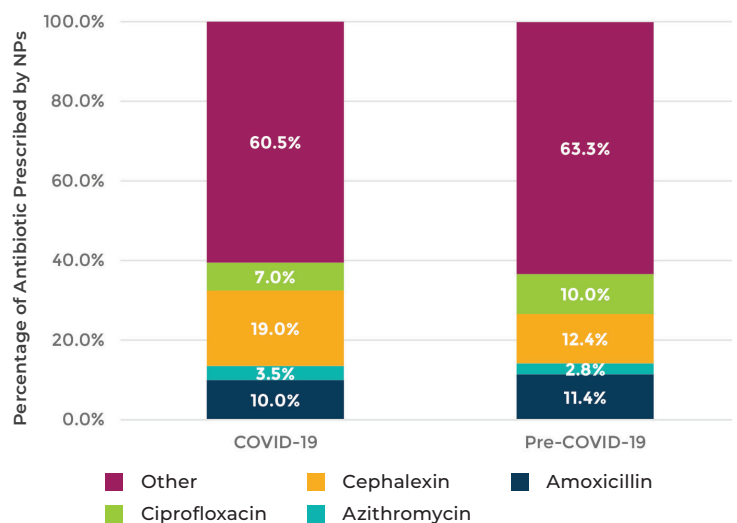


Figure 3B. Type of Antibiotic Prescribed by NPs Before and During COVID-19

- There was a decrease in the proportion of Cephalexin prescribed by NPs during COVID-19.

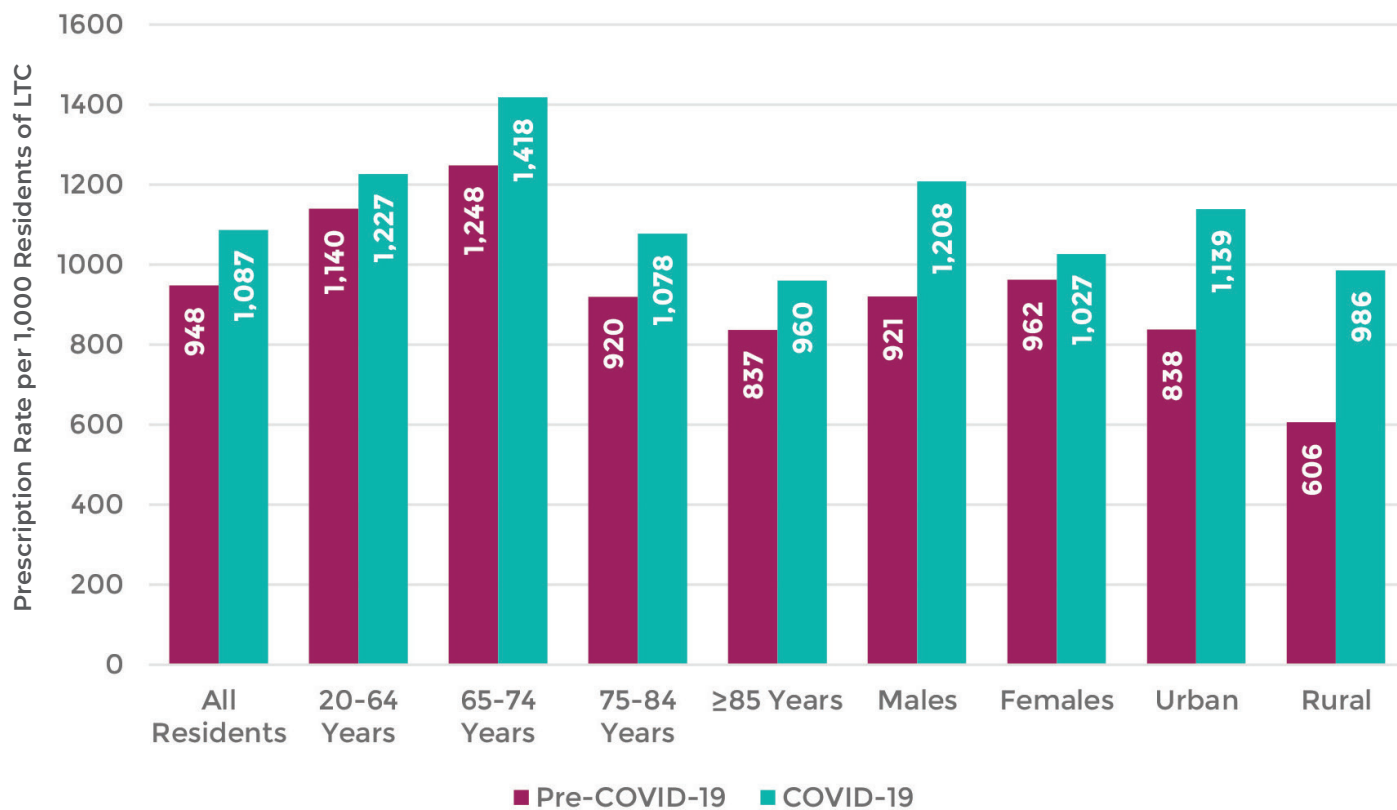


Figure 4. The Rate of Antibiotic Prescriptions Increased Across All Demographic Categories

- The rate of antibiotic prescriptions increased across all demographic categories.

Conclusions

1. Despite the onset of COVID-19 being associated with a large reduction in antibiotic prescriptions in the community, there was only a slight decrease (12%) in average monthly prescriptions in LTC.
2. Despite a slight decrease in the volume of antibiotics in LTC during COVID, the rate of prescriptions increased due to a lower number of residents in the facilities during the pandemic.