

Antibiotics Dispensed in the Community After the COVID-19 Pandemic in Newfoundland and Labrador

Choosing Wisely Canada Recommendation

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

See www.choosingwiselycanada.org/primary-care/antibiotics for more information.

Practice Points

1. Newfoundland and Labrador (NL) has the highest use of antibiotics per capita in Canada based on federal estimates among selected pharmacies (Source: [Canadian Antimicrobial Resistance Surveillance System \(CARSS\) Report 2022](#)).
2. NL and the Atlantic provinces were credited with the one of the largest decreases in antibiotic use from 2017–2021.
3. During the first year the COVID-19 pandemic in NL, the rate of antimicrobial prescriptions/1,000 inhabitants decreased by 30% and remained low for 16 months.
4. Since mid-2021, overall rates of antimicrobial prescriptions across Canada have increased without returning to pre-pandemic levels.

Data

Data on oral antibiotic prescriptions were collected by the NL Pharmacy Network and made available by NL Health Services (NLHS) Digital Health for the period from 1 Aug 2021–31 Aug 2022.

Results

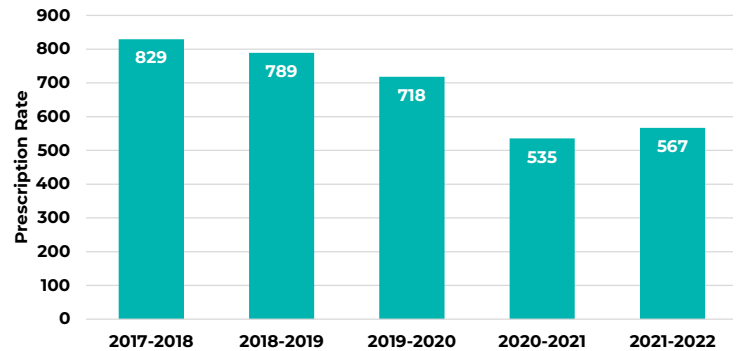


Figure 1. Antibiotic Prescription Rate per 1,000 Population in NL, 2017–2022

- The rate of antibiotic prescriptions increased slightly after the COVID-19 pandemic without returning to pre-pandemic levels.
- There was a 35% decrease in the prescription rate from 2017–18 to 2020–21.

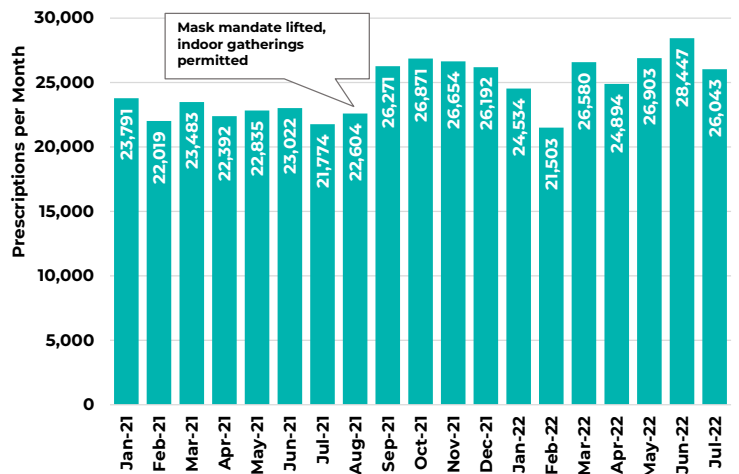


Figure 2. Total Number of Prescriptions per Month for Oral Antibiotics in NL, Jan 2021–Jul 2022

- From 1 Aug 2021–31 Jul 2022, there was a total of 307,496 prescriptions with an average monthly prescription rate of 25,625.
- The overall number of antibiotic prescriptions increased in the second year of the COVID-19 pandemic.

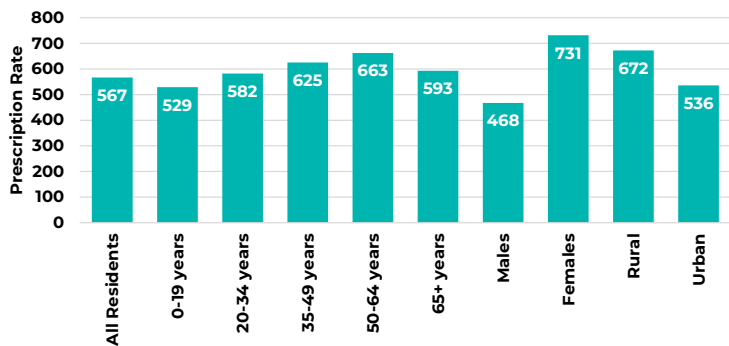


Figure 3. Antibiotic Prescription Rate per 1,000 Population Analyzed by Demographics in NL, Jun 2021–May 2022

- Antibiotic rates were lowest in males and in those aged 0–19 years, and were highest in females and in rural settings.

Table 1. Antibiotic Prescription Length in Days Analyzed by Demographics in NL, Aug 2021–Jul 2022

Population	Prescriptions	Average Length (Days)
All Residents	307,496	9.66
20–34 years	45,772	8.99
50–64 years	81,521	9.91
65+ years	71,538	10.27
Males	116,916	10.32
Females	190,518	9.25

- Older age groups and males had longer average prescription lengths.

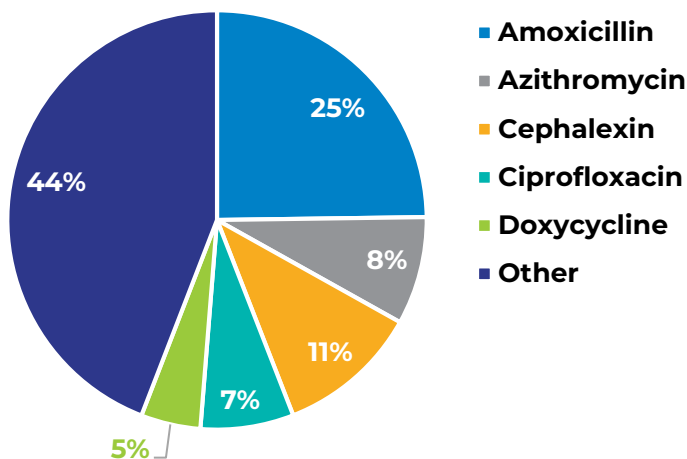


Figure 4. Antibiotic Prescriptions in NL Analyzed by Drug Types, Aug 2021–Jul 2022

- Amoxicillin had the highest proportion of antibiotic prescriptions, accounting for 76,202 prescriptions overall.
- Based on previous data, the proportion of Ciprofloxacin prescriptions decreased by 5% compared to 2020–21.

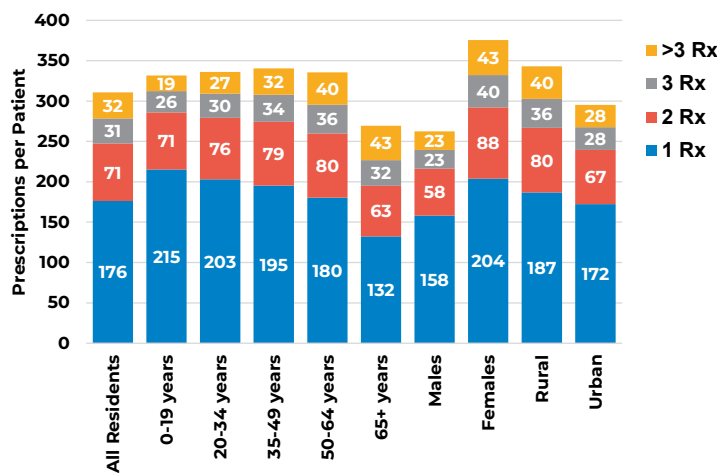


Figure 5. Number of Antibiotic Prescriptions per Patient per 1,000 Population Analyzed by Demographics in NL, Aug 2021–Jul 2022

- There were slightly more patients who received 3 or more prescriptions in older age groups, females and rural settings.

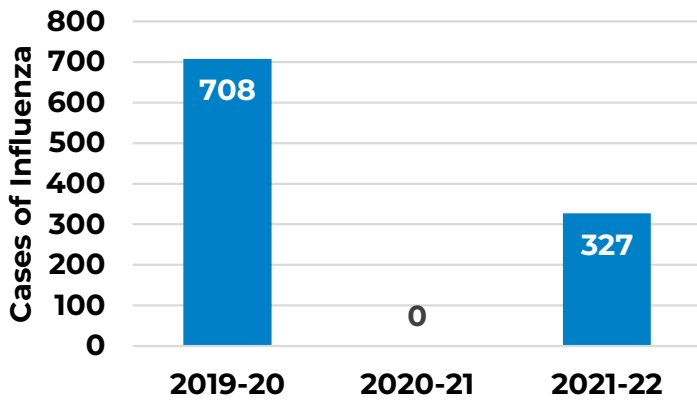


Figure 6. Annual Laboratory-Confirmed Cases of Influenza in NL, 2019–2022

- The number of confirmed influenza cases increased following the COVID-19 pandemic, without returning to pre-pandemic levels.

Conclusions

1. Comparing 2020–21 to 2021–22, there was a 4.6% increase in antibiotic prescribing, amid easing of public health restrictions.
2. It is possible that a resurgence of influenza cases drove up antibiotic prescribing. More data are needed to assess prescribing rates once viral infections reach pre-COVID-19 pandemic levels.
3. When analyzed by prescription length, where older age groups and males had slightly longer prescriptions, the results may indicate appropriate use of antibiotics that require prolonged therapy (e.g., treatment of prostatitis in males).
4. For most common infections where antibiotics are indicated for treatment, short courses are as effective as standard ones (e.g., 3 versus 5 days for community-acquired pneumonia).