

# Utilization of Antibiotics in Long-Term Care Facilities

## Choosing Wisely Canada Recommendations

Don't use antimicrobials to treat asymptomatic bacteriuria in the elderly. Don't prescribe antibiotics for asymptomatic bacteriuria in non-pregnant patients.

See <https://choosingwiselycanada.org/long-term-care/antibiotics/> for more information.

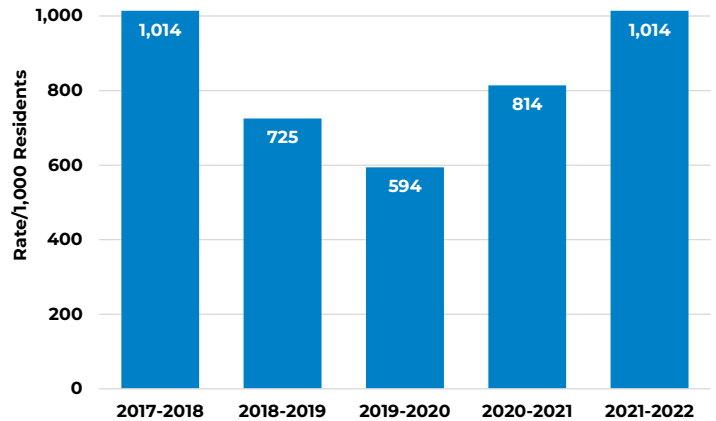
## Practice Points

1. Newfoundland and Labrador (NL) has the highest use of antibiotics per capita in Canada based on federal estimates among selected pharmacies.
2. Since mid-2021, overall rates of antimicrobial prescriptions across Canada have increased without returning to pre-COVID-19 pandemic levels.
3. Urinary tract infections (UTIs) are the most common indications for prescribing antibiotics for residents in long-term care (LTC) facilities.
4. Up to 50% of LTC residents who have bacteria in their urine do not have a UTI. Treating asymptomatic bacteriuria with antibiotics is unnecessary, potentially harmful, and contributes to antimicrobial resistance.

## Methods

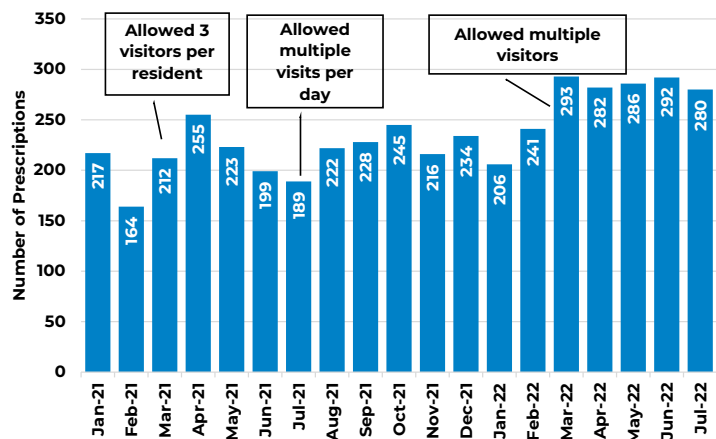
Data on prescriptions for the whole province were collected by the NL Pharmacy Network and made available by the NL Centre for Health Information for the period from 1 Aug 2021–31 Aug 2022. Individuals living in LTC were identified by searching the MediTech-LTC database. This analysis focuses on oral antibiotics.

## Results



**Figure 1. Antibiotic Prescription Rate per 1,000 Residents, Jun 2017–May 2022**

- The annual rate of antibiotic prescriptions in LTC facilities has increased, returning to similar levels as before the COVID-19 pandemic.



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

- From 1 Aug 2021–31 Jul 2022, there were a total of 3,025 prescriptions given to 1,253 residents. This gave an average of 252 prescriptions/month and 2.4 prescriptions/resident in those who received an antibiotic.
- By comparison, the average monthly rate from 1 Apr 2020–31 Jul 2021 was 242, with an average of 1.3 prescriptions/resident among 2,966 residents.
- There was a general upward trend of antibiotic prescribing from Jul 2021 onwards.

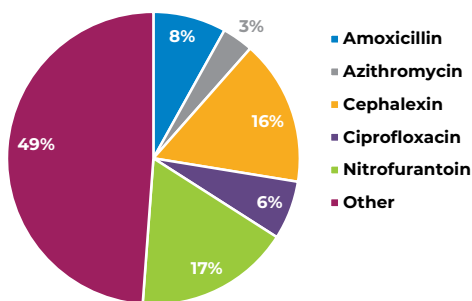


Figure 3. Antibiotic Prescriptions Analyzed by Drug Type, Aug 2021–Jul 2022

- Nitrofurantoin, which would likely be used for suspected UTIs, had the highest percentage of antibiotic prescriptions, accounting for 518 prescriptions overall.

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

Population	No. of Prescriptions	Average Length (Days)
All Residents	3,025	9.11
20–64 years	404	9.28
65–74 years	857	8.9
75–84 years	1,143	9.39
85+ years	621	8.73
Males	1,081	9.51
Females	1,944	8.88

- Prescription length was greatest in males and those aged 75–84 years.

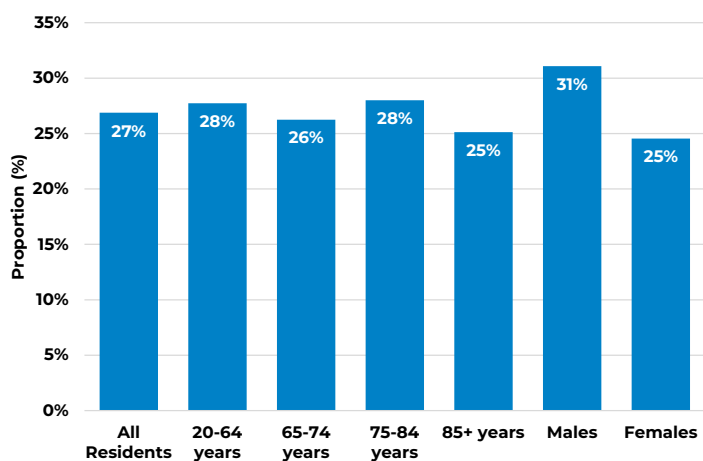


Figure 4. Proportion of Prolonged Antibiotics Courses Analyzed by Demographics, Aug 2021–Jul 2022

- The greatest proportion of prolonged antibiotic prescriptions (i.e., longer than 7 days) was seen in males.
- Males comprised a slightly larger number of prescriptions per number of residents as compared to females.

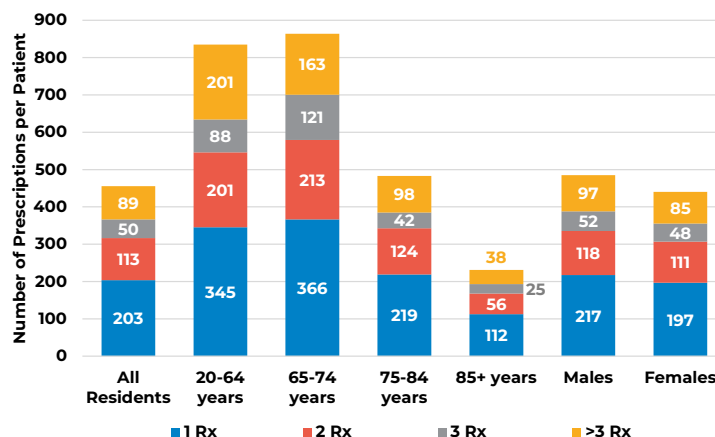


Figure 5. Number of Antibiotic Prescriptions per Patient per 1,000 Residents Analyzed by Demographics, Aug 2021–Jul 2022

- The number of patients who received three or more antibiotic prescriptions generally decreased with increasing age.

## Conclusions

- The rate of antibiotic prescriptions for LTC residents has returned to previous historic levels following COVID-19 public health restrictions being lifted.
- While the number of LTC residents receiving antibiotics in 2021–22 was similar compared to 2020–21, average monthly prescriptions increased by 4.1%.
- Certain demographics, such as those aged 75–84 years and males, had slightly greater proportions of prolonged prescriptions, which may indicate patterns of antibiotic overuse in those groups. Further, antibiotics such as Nitrofurantoin and Ciprofloxacin may have been overused.