

INAPPROPRIATE ANTIBIOTIC PRESCRIBING IN ALBERTA

As the effectiveness of antibiotics wanes and fewer new drugs are being developed, patterns in the way primary care teams prescribe these medications have important policy implications

In Canada, the vast majority of antibiotics are prescribed outside of hospitals by family doctors and other members of primary care teams. These community-written antibiotic prescriptions make up 90% of the total volume. [Newly released research](#) from Alberta asks how appropriate these prescriptions are. The question is worth asking because inappropriate use of antibiotics contributes to the rise of *anti-microbial resistance* which occurs when germs adapt, and become immune, to antibiotics. This puts us at risk of entering a [‘post-antibiotic’ era](#) in which now-routine surgeries will be impossible as [relatively minor infections become uncontrollable](#). What, then, do we know about the antibiotic prescribing habits of Alberta’s primary care teams?

National and provincial responses to the threat of anti-microbial resistance have focused on monitoring the rise of resistant germs and improving the [stewardship of antibiotics](#) at the point of prescription. As part of those moves in the fight against resistance there has been a turn to examining whether prescriptions are appropriate or not.

Determining appropriateness involves matching the disease a prescriber is treating when they write a prescription with the potential effectiveness of an antibiotic. An obviously inappropriate match might involve a patient with a sprained ankle receiving a prescription for an antibiotic. [Researchers](#) have developed a standard approach to matching the 13,000 possible diagnostic codes for injuries and diseases with an ‘always’ ‘potentially’ or ‘never’ appropriate designation for antibiotics.

The figure shows how community-based prescribers in Alberta fared as their diagnoses were matched to dispensed antibiotic prescriptions in the three years leading up to the pandemic.

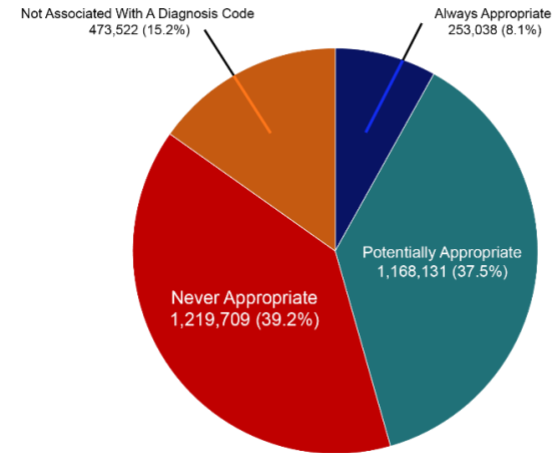


Figure. Community-based adult antibiotic prescriptions as written and filled in Alberta, APR2017-MAR2020

Over 56% of Albertans who were prescribed oral antibiotics received their prescriptions from primary care teams. Nearly 40% of those prescriptions were identified as ‘never appropriate.’

Nearly 40% of community-written antibiotic prescriptions were inappropriate, suggesting policy attention to stewardship practices is necessary if we are to avoid a ‘post antibiotic’ world

Given the importance of antibiotics in maintaining current healthcare capacity, and the scarcity of new antibiotic drugs, policy makers will likely need to recalibrate their approaches to an investment in stewardship programming. Restrictions on community-based prescribing, audit programs to increase prescriber accountability, and other [all-encompassing tweaks](#) to stewardship efforts are policy options to consider.