

BC physicians reduce unnecessary antibiotic use—and costs

It is rare to find a health intervention that both improves a standard of practice and reduces costs, but this seems to be the case for the Do Bugs Need Drugs? program in BC.

The World Health Organization and the Public Health Agency of Canada recognize the rapid emergence of antibiotic-resistant organisms as being among the most significant threats to health and health care-system sustainability. Wise use and stewardship of antibiotics are essential in mitigating the threat by reducing the pressure for natural selection of resistant organisms and preserving the value of antibiotics for future generations.

Between 80% and 90% of antibiotics used in human populations are prescribed in the community. In 2005 the BC Ministry of Health funded Do Bugs Need Drugs?, a program of professional and public education aimed at reducing the risk of antibiotic resistance and improving prescribing practices at the population level. The BCCDC routinely assesses changes in patterns of antibiotic prescribing in the community by analyzing non-identifying data made available for this purpose from PharmaNet.

Between 2005 and 2014 the rate of antibiotic prescribing fell 15% from 1.79 to 1.53 antibiotic prescriptions per thousand person days (Figure). This drop can be explained by steep declines in prescribing for children and for respiratory infections, which were the original targets of the program. The declines have occurred over a period where many trends in resistance stabilized, though we remain under constant threat of

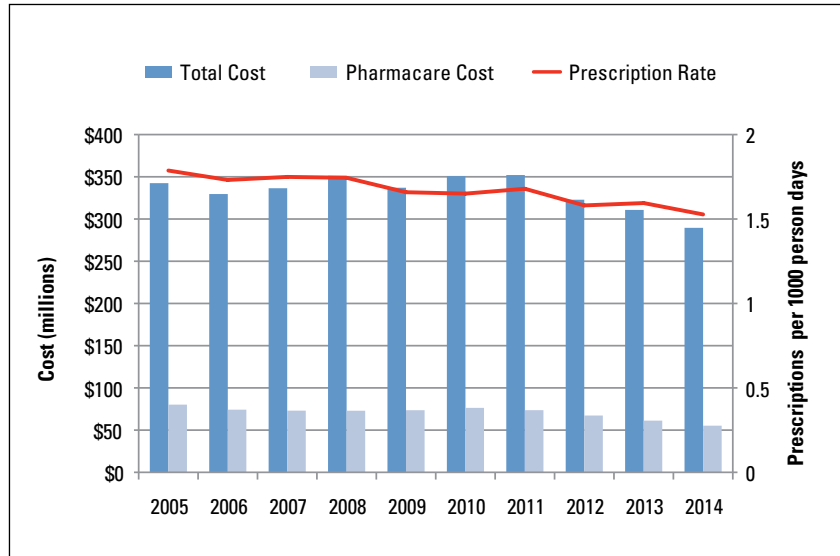


Figure. Prescription rate, total cost, and cost to BC Pharmacare for antibiotics, 2005–2014.

Source: BC Ministry of Health. PharmaNet. Victoria, BC, 2013.

emergence of more resistant strains.

Reduced prescribing is associated with a reduction in costs for BC. Over the first 10 years of the program, the annual cost of community antibiotic prescribing fell by 15.5%, from \$342 million to \$289 million, a difference of \$53 million in 2014 alone. As well, over the same time period, there has been a 31% decrease in annual costs to Pharmacare for antibiotic claims, saving the Ministry of Health \$25 million in 2014 compared with 2005. Other changes have played into costs over time; however, declines in the average cost of a prescription (–10.4%) were of the same order of magnitude as increases in population (+10.4%) over the decade, so these effects tend to cancel each other out. (The cost of a prescription has decreased due to lower costs for generic antibiotic drugs and because of some drug-switching by BC physicians back to first-line, narrower-spectrum agents.) The BC Ministry of Health’s academic detailing program has also put

effort into educating health care professionals on appropriate antibiotic use, and other educational programs have been at play.

But cost reductions are only incidental. The goal of stewardship is to avoid unnecessary antibiotic use in order to slow emergence of resistance and to reduce complications from unnecessary treatments. The country furthest along on this continuum is the Netherlands, which experiences lower rates of antibiotic use with no evident increase in complications from bacterial infections. BC would approach the same success if there were a further 20% to 25% reduction in prescribing.

Can we get there safely? The answer is, almost certainly, yes. We are beginning to see reductions in prescribing for residents of long-term care facilities, where a tendency to overtreat asymptomatic bacteriuria is being slowly reversed. We are also collaborating with our dental

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colleagues, who now account for over 11% of prescriptions in BC. Dental practitioners are identifying the opportunity to reduce unnecessary perioperative prophylaxis as well as prescribing for periapical abscess and other indications. We also laud work being done at the BC Divisions of Family Practice to pilot personalized feedback on antibiotic prescribing for family physicians through an electronic health record platform.

Thanks to many BC practitioners, our province is now moving in the right direction with community antibiotic use.

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