

Broad Spectrum Awareness: Strengthening Public Knowledge on Antimicrobial Resistance in Canada

Summary

Antimicrobial Resistance is well recognized as a massive global health threat. Despite its importance, misconceptions surrounding antibiotics are staggeringly common in the Canadian population. Inappropriate and excessive antibiotics use stemming from incorrect knowledge can fuel the rise of further resistant infections and therefore healthcare costs, compounding the problem in years to come. This policy focuses on empowering healthcare professionals to effectively inform patients of the threats of antimicrobial resistance while supporting their effective antimicrobial prescribing. Through a combination of a broad public awareness campaign, along with strategies targeting the sectors that are most vulnerable, this policy aims to strengthen the public's knowledge of antimicrobial resistance. This multi-layered approach attempts to properly prepare Canada for the antimicrobial resistance crisis.

Recommendations

Healthcare Professionals (HCP)

Canada should integrate standardized ready-to-use tools directly into clinical workflows. Concise, practical guideline summaries on antibiotic use could be made easily accessible during clinical practice to support decision-making. In addition, pre-prepared, adaptable patient communication materials should be developed for common scenarios to explain why antibiotics are prescribed or not. To address educational gaps, communication training on antimicrobial resistance (AMR) should be further integrated into continuing professional development. Such interventions should be reinforced over time to ensure retention and integration into practice.

General population

To improve awareness of antimicrobial AMR the primary focus should be the implementation of a sustained, digital-first communication strategy in collaboration with the Public Health Agency of Canada (PHAC), Health Canada, and provincial health authorities. This broad campaign should target the common misconceptions held by the public and will incorporate specific strategies to target integral groups that experience the brunt of antimicrobial misuse and misconception. The overall goal is to correct misinformation, but also to reduce the barriers that make inappropriate antibiotic use more likely. A mix of different channels should be used to reach different vulnerable sectors: social media platforms like TikTok and Instagram for younger audiences, and community-based outlets such as public transit advertising, radio, and clinics for lower-income and immigrant populations.

Immigrants and newcomers

For newcomers, multilingual, culturally responsive messaging that explains the Canadian prescription model and builds trust in non-antibiotic care when antibiotics are unnecessary. Additionally, outreach should be integrated into newcomer education and distributed to important cultural touchstones for immigrants like immigration agencies, and community or religious centres.

Indigenous community

Work with Indigenous Health Authorities, Community Leaders, and Elders to implement approaches such as storytelling, sharing circles, and land-based knowledge. This will help communicate the importance of protecting antibiotics in a way that resonates with community values, particularly the emphasis on protecting future generations.

Young Adults

Visually engaging content is most effective for younger audiences; therefore a portion of the campaign should focus on digital outreach. Digital distribution of knowledge through social media platforms like TikTok and Instagram can be used for targeting these individuals. Additionally, areas where they interact with healthcare such as Walk-in Clinics and university health clinics can stimulate interactions with HCP around antimicrobial stewardship.

Introduction

Antimicrobial resistance (AMR) is recognized as one of the greatest global health threats (WHO, 2023). Misconceptions surrounding antibiotics, particularly the belief that they are effective against viral infections such as the common cold and influenza, continue to drive inappropriate antibiotic use and contribute to the growing burden of antimicrobial resistance (AMR) (Amábile-Cuevas, 2022; Essack et al., 2023). In particular, inappropriate and excessive antibiotics use are the main factors contributing to the emergence of AMR. (Levy & Marshall, 2004). Resistant infections increase the duration and severity of illness, raise mortality rates, and require more complex and costly treatments, thereby placing substantial pressure on healthcare systems worldwide (Laxminarayan et al., 2013).

The economic consequences of AMR are considerable. Across OECD (Organisation for Economic Co-operation and Development) countries, resistant infections are projected to generate approximately \$28.9 billion USD in annual healthcare costs through 2050 (OECD, 2023). In Canada, AMR already imposes a significant burden on the healthcare system, with associated costs estimated at approximately \$1.4 billion CAD in 2018 alone. These costs are projected to increase substantially, reaching between \$6 and 8 billion CAD annually by 2050 (Finlay et al., 2019). The human cost of AMR is equally alarming. Earlier projections estimated that, without effective intervention, AMR could result in up to 10 million deaths annually by 2050 (O'Neill et al., 2014). Despite sustained global efforts over the past

decade, the burden of AMR remains substantial, with recent projections estimating 8.22 million deaths associated with AMR and 1.91 million deaths directly attributable to resistant infections annually by 2050 (Naghavi et al., 2024). Collectively, these impacts highlight AMR as a critical One Health challenge with far-reaching health, economic, and societal consequences.

Despite the broad implications of AMR, public understanding of the issue remains limited. Many individuals are unaware of how antibiotic misuse and personal behavior can contribute to this global threat. Evidence suggests that AMR knowledge and antibiotic-use practices vary across sociodemographic groups, with lower levels of awareness reported among youth and minority populations (Crago et al., 2022). Healthcare professionals also face challenges in effectively communicating AMR risk to patients and prescribing appropriate antibiotics (Beach et al., 2017; Smith et al., 2017; PHAC2024; Varsaneux et al., 2026). This gap in awareness represents a major challenge for AMR mitigation efforts and highlights the need for stronger public communication, education and interdisciplinary actions.

The Canadian government has displayed the ability to produce frameworks, portals, educational resources, surveillance systems, and stewardship guidance to engage a broad public response through mass communication befitting the threat that Antimicrobial Resistance poses by introducing the Pan-Canadian Action Plan (2023-2027) and publishing national AMR tracking data using the Canadian Antimicrobial Resistance Surveillance System (CARSS). However, despite having the infrastructure, Canada's AMR awareness efforts are still relatively low visibility compared with other national campaigns such as smoking cessation marketings, food safety messaging and the COVID pandemic public health campaign. Recurring criticisms in audits and public discussions are many Canadians still don't understand AMR, antibiotic stewardship messaging rarely reaches the general public directly, and a fragmented approach to awareness efforts.

As such, we propose a comprehensive, multi-level, communication strategy targeting healthcare professionals and the general public, with specific focus on youth and minority groups to improve awareness of antibiotic risk and promote appropriate use. Through this multi-tiered approach, we aim to reduce misunderstanding in the public related to antibiotic usage and AMR.

Healthcare professionals

Ongoing challenges

Healthcare settings are the predominant environment where AMR emerges and spreads (Laxminarayan et al., 2013). Healthcare professionals (HCP) represent the direct link between prescription and patient use of antibiotics, placing them at the frontline and making them key actors in antimicrobial stewardship (AMS) (Cocker et al., 2024). For the Canadian population, healthcare workers are highly trusted and credible messengers (Crago et al., 2022). As such, they represent a demographic that can greatly contribute to spreading knowledge of AMR to youth, especially hard-

to-reach youth that may be missed by our aforementioned strategies due to conditions such as homelessness (Ellis et al., 2020).

In Canada, healthcare professionals are generally well informed about the risks associated with AMR (Smith et al., 2017; Primeau et al., 2023, Varsaneux et al., 2026). However, important challenges remain within healthcare settings and AMS practices, particularly in patient communication.

At the practitioner level, there is a notable gap in communication between health care professionals and patients regarding practices following antibiotic use. In particular, physicians rarely discuss the proper disposal of unused antibiotics (Smith et al., 2017). Similarly, discussions around the risks of sharing antibiotics or using leftovers without medical supervision remain limited (Smith et al., 2017). Physicians also report difficulties when patients become emotional or strongly insist on receiving antibiotics, sometimes leading to prescriptions being issued to avoid prolonged or challenging consultations (Kain et al., 2026). These communication gaps may also stem from the perception that nurses and pharmacists are addressing these issues with patients (Smith et al., 2017). Medical and veterinary students have also highlighted the need to improve interprofessional communications (Primeau et al., 2023).

Nurses remain underrepresented in AMR mitigation research, and available evidence suggests they experience prescribing pressure and uncertainty regarding their role AMS (Varsaneux et al., 2026). For pharmacists, while some are actively engaged in AMR mitigation, the optimal model for pharmacy support in AMS has yet to be defined (Beach et al., 2017).

Within healthcare institutions, time constraints represent a major barrier. High patient volumes and the pressure to deliver rapid care contribute to significant variability in prescribing practices (Kain et al., 2026). In fact, nearly one fifth (18.4%) of community prescriptions were deemed inappropriate or suboptimal in participating Canadian healthcare facilities. (CARSS 2024 findings). Conflicts of interest may further exacerbate this issue, particularly in private clinical settings, where healthcare workers must manage a large number of patients efficiently (Kain et al., 2026). Finally, a lack of structured educational reinforcement and insufficient tools continue to limit healthcare professionals' capacity to effectively discuss AMR with patients (Public Health Agency of Canada, 2017, Varsaneux et al., 2026).

Implementation

First, existing guidelines on when to prescribe antibiotics into a legally binding manual (concise point-of-care tool). Current solutions, such as PHAC's Canadian Antibiotic Treatment Guidance fail due to being too too lengthy or not easily accessible (ie. hidden within the Frontline health app). In contrast, a 1-2 pages guide that a doctor can hang inside of their office so that they can check the guidelines during the patient visit. This will help healthcare professionals, who operate in high-stress and time-sensitive environments. We note that antimicrobial prescription is complex and that not all edge cases will be able to be defined within this document.

As such, the guide should focus on the most common cases where doctors prescribe antibiotics. Additionally, we believe that this document will give physicians the confidence they need to make the choice not to prescribe antibiotics.

In addition, similarly to the physicians' letter proposed by the Public Health Agency initiative in 2014, a pre-prepared letter template should be used by all healthcare professionals. It could explain the rationale for prescribing or non-prescribing decisions, while also including key messages on antibiotic use, such as avoiding sharing medication, not using leftovers, and ensuring proper disposal. Making these tools widely available to all antibiotic prescribers could reduce communication burden and support consistency across professions, while being time effective.

As for effective AMR communication training, for physicians, it could be embedded within the national continuing education framework such as Mainpro+. For pharmacists and nurses, an equivalent content could be incorporated into continuing education requirements mandated by provincial regulatory bodies. Interprofessional platforms could also support shared training initiatives across healthcare sectors, facilitating collaboration and the development of consistent communication tools and helping to bridge institutional and interprofessional differences. These modules should focus specifically on practical communications strategies, including how to explain AMR risks efficiently and how to respond to patient pressure for antibiotics.

In addition, we will also aim to have antibiotic counsellor available for doctors. Antibiotic counsellors will be volunteer former medical professionals that have an interest in reducing AMR. Informational sessions will be regularly provided to antibiotic counsellor to ensure they remain updated on AMR trends and outbreaks. Each antibiotic counsellor should be assigned to no more than 10 physicians. Ideally, physicians and their antibiotic counsellors should be from the same geolocation, but we recognize that this will not always be possible. From a physician's perspective, when they have questions about the treatment of a troublesome patient, they will be able to send relevant patient information to their antibiotic counsellor through a secure platform, like the Riipen platform, which the Government of Canada currently uses to disburse WI-L grants. The antibiotic counsellor will then respond to their concerns through a mutually agreed upon way, such as email, zoom, or in-person.

While this solution may seem novel, and indeed is in the context of AMR, it is based on decades old marketing research that has found people are more likely to take advice from people of 1) the same social group as them, 2) perceived authority, and 3) people they have a social bond with (Garfield & Levy, 2013). The proposed antibiotic counsellors meet the first two of these conditions. The third condition is met by ensuring that each counsellor has a limited number of doctors they serve - thus ensuring personalization. This is why the antibiotic counsellors must be volunteers, for to have a centralized salaried counsellor would either be far too expensive or would mean that each counsellor has more doctors, and thus that there is less of a counsellor-doctor social bond.

Public outreach

Table 1. Summary of Policy Targets, issues in Antimicrobial Stewardship, and Recommended actions.

Target group	Why this group is prioritized	Main communication barrier	Recommended communication approach	Key supporting citations
General public	Misconceptions about antibiotics remain common, including the belief that antibiotics work against viruses, colds, flu, and fungal infections.	Low AMR literacy and confusion between antibiotic, antiviral, and antifungal treatment.	Use simple national messaging, myth-versus-fact formats, pharmacy and clinic posters, transit advertisements, and QR-code links to trusted resources.	Crago et al., 2022; Public Health Agency of Canada, 2024
Healthcare professionals	HCPs are trusted messengers and directly influence antibiotic prescribing and patient understanding.	Time pressure, patient demand, inconsistent counselling about leftovers, sharing, and disposal.	Provide short prescribing guides, ready-to-use patient letters, continuing education modules, and communication training for difficult prescribing conversations.	Smith et al., 2017; Kain et al., 2026; Varsaneux et al., 2026
Immigrants and newcomers	AMR messaging may be less accessible to people who do not primarily receive health information in English or French.	Language barriers, unfamiliarity with the Canadian prescription model, and different expectations about antibiotic access.	Develop multilingual materials, integrate antibiotic education into newcomer orientation and ESL/LINC classes, and use community health ambassadors.	Crago et al., 2022; Bajgain et al., 2020; Lescure et al., 2022; Grigoryan et al., 2023
Indigenous communities	Some First Nations, Inuit, and Métis communities face a disproportionate burden of resistant infections, especially CA-MRSA and SSTIs.	Structural inequities, geographic isolation, limited diagnostic access, and underrepresentation in surveillance systems.	Guided by OCAP®, Elders, Knowledge Keepers, and Indigenous health organizations focus on community led AMR education and surveillance,	Jeong et al., 2020; Public Health Agency of Canada, 2023a; Public Health Agency of Canada, 2023b; FNIGC, 2022
Young adults	Young adults report higher levels of antibiotic use and several AMR-related misconceptions.	Lower perceived personal risk and high reliance on digital/social media information.	Use social media (TikTok, Instagram, YouTube Shorts), campus health campaigns, walk-in clinic materials, with AMR messaging.	Crago et al., 2022; Impact Canada, 2025; Glauser, 2018; Lapointe-Shaw et al., 2024

General Public

The Public Health Agency of Canada’s public opinion research (2024) shows that misunderstandings about antibiotics remain common across the general population. In the national survey, 32.5% of respondents believed that antibiotics can kill viruses, 27.9% believed antibiotics are effective against colds and flu, and 45.8% believed they can treat fungal infections (Crago et al., 2022). These misconceptions contribute to increased patient demand for unnecessary antibiotics and normalize inappropriate use. Importantly, the same study found that these inaccurate beliefs were more common among people aged 18–24, individuals with a high school education or less, and households earning under \$60,000 per year (Crago et al.,

2022). This suggests that AMR communication must be designed with accessibility in mind: plain language, multilingual delivery, and community-based outreach are essential components of effective stewardship.

Although antimicrobial resistance (AMR) can affect anyone, its risks and drivers are not evenly distributed across the Canadian population (Government of Canada, 2023; Jeong et al., 2020). For this reason, public education on AMR should not rely solely on broad national messaging. Instead, it should also include targeted, culturally safe, and community-informed communication strategies for equity-deserving communities, including immigrants, newcomers, and Indigenous Peoples (Adebisi & Ogunkola, 2023). These communities may experience structural barriers such as limited language access, challenges navigating a novel healthcare system, income insecurity, geographic isolation, inadequate housing, and unequal access to healthcare services (Adebisi & Ogunkola, 2023; Government of Canada, 2023). In Indigenous contexts, Canadian evidence also shows a disproportionate burden of community-acquired resistant infections, including CA-MRSA and skin and soft tissue infections in some remote First Nations communities (Jeong et al., 2020). A comprehensive AMR communication strategy must therefore also acknowledge the social determinants that influence antibiotic use, rather than focusing solely on individual knowledge or behaviour.

Immigrants and Newcomers

Immigrants and newcomers represent an important audience because AMR messaging may be less accessible to individuals who do not primarily receive health information in English or French. PHAC's survey found lower familiarity with AMR-related terms among respondents who spoke a language other than English or French at home (Crago et al., 2022). For example, familiarity with the term "antimicrobial resistance" was 26.3% among English-speaking households, 23.9% among French-speaking households, and only 14.0% among households speaking another language. This suggests that people may be unable to follow AMR guidance if the concepts are unfamiliar, overly technical, or unavailable in their primary language.

For some newcomers, expectations around antibiotic access may be shaped by previous experiences in healthcare systems where antibiotics are easier to obtain without a prescription, more commonly prescribed, or where receiving medication is seen as a sign that the clinician is taking the illness seriously (Grigoryan et al., 2023; Lescure et al., 2022). After arrival in Canada, a more restrictive, prescription-based model may therefore feel unfamiliar or frustrating, especially when clinicians recommend rest, fluids, or symptom management instead of antibiotics for a likely viral infection (Bajgain et al., 2020). If this decision is not clearly explained, patients may interpret the lack of antibiotics as dismissal, poor care, or unwillingness to treat (Lescure et al., 2022). This misunderstanding may increase the risk that people turn to leftover antibiotics, shared medication, or antibiotics brought from another country (Zoorob et al., 2016; Grigoryan et al., 2023). Therefore, AMR education for

newcomer communities should not simply say “do not misuse antibiotics.” It should explain why antibiotics do not work for viral infections, how unnecessary antibiotic use can harm both individuals and communities, and when and how to access appropriate care if symptoms worsen (Lescure et al., 2022; Lescure et al., 2024).

Indigenous Communities

First Nations, Inuit, and Métis communities are disproportionately burdened by antimicrobial resistance. The clearest documented example is community-acquired methicillin-resistant *Staphylococcus aureus* (CA-MRSA). A retrospective chart review of 12 First Nations communities across five provinces found that over 60% of patients had received at least one antibiotic prescription in the previous year. Skin and soft tissue infections (SSTIs) accounted for a large share of nursing-station visits, and more than 40% of those SSTIs were attributable to CA-MRSA (Jeong et al., 2020). A separate five-year review in northwestern Ontario found that 56% of *S. aureus* isolates were CA-MRSA, with community infection rates far above the national average (Muileboom et al., 2013).

Critically, these patterns are not the product of individual behaviour or culture. They are driven by structural and historical determinants: crowded and unstable housing, food insecurity, limited access to clean water, geographic isolation from diagnostic and follow-up care, and the ongoing health legacy of colonialism, including intergenerational trauma and discriminatory access to health services (Jeong et al., 2020; Public Health Agency of Canada, 2023a). That these conditions, rather than treatment failures, are the root cause is underscored by high rates of repeat infection: roughly 31% of SSTI cases in the Jeong review were reinfections (Jeong et al., 2020). These point to problems that medical treatment alone cannot resolve. Remoteness compounds the issue: limited laboratory access means most infections are treated empirically without culture, and antibiotics are frequently dispensed directly from nursing-station stock rather than through pharmacies, leaving these communities underrepresented in national surveillance systems (Yau et al., 2021).

This is a long-standing policy gap rather than a recent concern. Canada has convened national discussions on AMR repeatedly since the 1990s, yet for years lacked a comprehensive, integrated, and adequately funded national program, addressing community-acquired MRSA only through a handful of local pilot projects (Nicolle, 2012). The 2023 Pan-Canadian Action Plan on AMR now explicitly frames AMR in Indigenous contexts as inseparable from broader social, economic, and health inequities, rather than as a standalone biomedical issue (Public Health Agency of Canada, 2023a).

For this reason, any government strategy affecting Indigenous communities must be developed *with* Indigenous-governed and Indigenous-serving organizations, not delivered to communities. Relevant national partners already exist and are recognized within federal public-health structures: the Chief Public Health Officer's Health Professional Forum convened an Indigenous Health Sub-Group whose

membership includes: Assembly of First Nations, Métis National Council, Pauktuutit Inuit Women of Canada, Canadian Indigenous Nurses Association, Indigenous Physicians Association of Canada, National Collaborating Centre for Indigenous Health, and Indigenous Services Canada. At the service-delivery level, the First Nations and Inuit Health Branch nursing stations (now under Indigenous Services Canada) are the existing points of contact for most remote primary care and antibiotic dispensing. Data governance is equally well established. The First Nations Information Governance Centre (FNIGC) stewards the First Nations Principles of OCAP® (Ownership, Control, Access, and Possession), which hold that First Nations own and control how data about their communities is collected, used, and shared (FNIGC, 2022).

Engagement through these bodies should follow the principles already articulated: advancing reconciliation in line with the TRC Calls to Action; respecting Indigenous cultures, knowledge, Elders, and Knowledge Keepers; working with humility and in plain language; and treating health equity as an explicit objective (Public Health Agency of Canada, 2023b). Any surveillance or educational data work should be governed by OCAP®, so that communities determine how their own information is used (FNIGC, 2022). This approach keeps traditional knowledge and community self-determination central, rather than positioning federal messaging as a correction of a "knowledge deficit."

Young Adults (18-34 years old)

Finally, Young individuals (18-34) also stand as an integral target due to the misconceptions they held in regard to AMR and their levels of antimicrobial use. Primarily, young adults hold the most misinformation regarding antibiotic effectiveness, over one third (36%) believed that antibiotics were effective against colds and flus (Impact Canada 2025). This is worse looking at the individuals aged 18-24 and their misconceptions regarding antibiotic effectiveness surrounding viruses (41.9%), colds and flus (54.7%), and fungal infections (58%) (Crago *et al.* 2022). This is likely linked to their lower levels of concerns regarding antibiotic resistance (58%) compared to those aged 65+ (68%) (Impact Canada 2025). Additionally, the younger population is also the most common to use antibiotics. Nearly half (46.2%) of younger adults (18–24) and over one third (36.3%) of those 25–34 years of age have been prescribed antibiotics in the year previous to study (Crago *et al.* 2022). The mix of their misconceptions and their high levels of use lead to a much larger risk factor in the rise of AMR in the future. This feature makes them a prime target within our broad campaign against misinformation.

Specific implementation Strategies

Broad public campaign

To start a broad public awareness campaign can be used to engage all Canadians. Infrastructure like public transportation systems can be used as high-visibility platforms for AMR awareness campaigns. The United Kingdom, United States and Germany have implemented national antibiotic-awareness campaigns that use posters, visual advertisements, and other public-facing messaging to reach broad audiences (McNulty et al., 2010; Cross et al., 2017). These approaches suggest that similar communication strategies could be adapted for use in transit environments, where large and diverse populations can be reached during daily travel. In Canadian cities, transit-based advertising could be incorporated into existing public health communication efforts through subway stations, buses, commuter rail systems, and transit shelters. This would allow for repeated exposure to AMR messaging in everyday settings. Additionally, these broad-spectrum actions can target multiple vulnerable sectors: Youth and lower income individuals who primarily use public transportation.

Messaging should be simple, relatable, and non-technical, using myth-versus-fact formats, real-life scenarios, and clear behavioural guidance. Campaign materials should include simple statements such as “Antibiotics do not treat viral infections,” supported by QR codes linking to trusted educational resources. An additional example message could be “Not every infection needs antibiotics, using them wisely protects everyone.” To improve effectiveness, materials should use clear visuals, minimal text, and consistent branding across platforms, as recommended in evaluations of public antibiotic-awareness campaigns (Burstein et al., 2019; Huttner et al., 2019).

Immigrants and Newcomers

A key priority is the development of multilingual and culturally tailored education campaigns for immigrant communities. Educational materials would be translated into widely spoken languages such as Punjabi, Mandarin, Arabic, and Tagalog, and adapted to reflect different cultural understandings of medicine, including experiences in countries where antibiotics are available without prescriptions. Messaging should be simple, visual, and action-oriented, emphasizing key points such as the ineffectiveness of antibiotics against viruses, the risks of misuse, and the importance of consulting healthcare professionals. These materials could be distributed through immigration agencies, and community or religious centres. In addition, the prepared letters from healthcare professionals explaining the rationale behind prescribing or not prescribing decisions would also be translated into these languages to enhance comprehension.

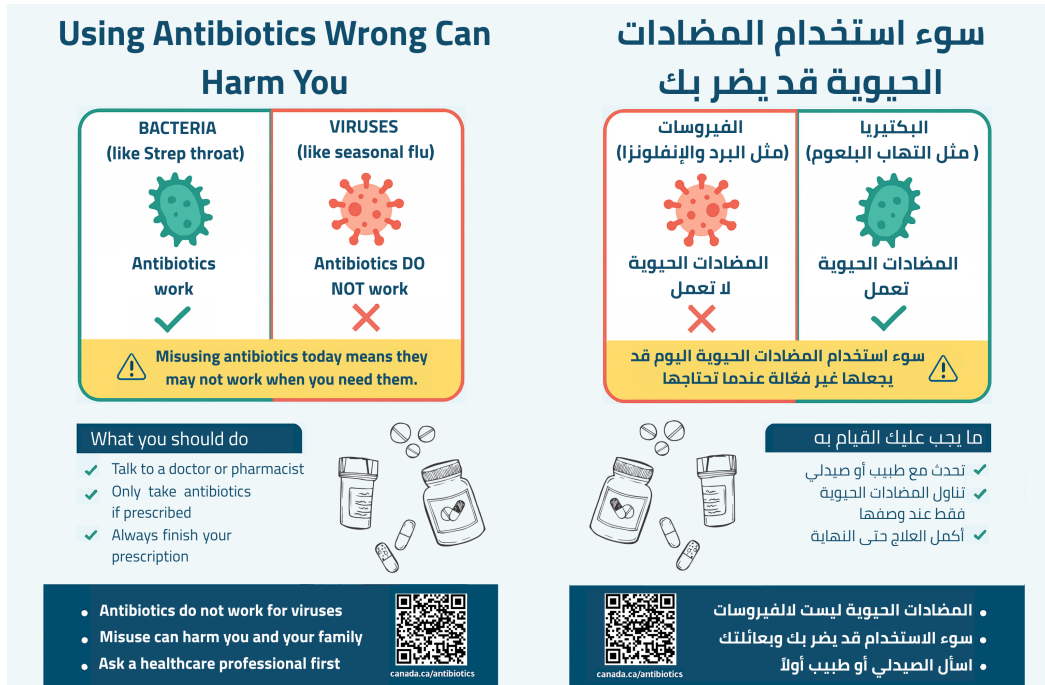


Figure 1. Example of a bilingual (one side in English, alternate side in Arabic) pamphlet targeting immigrants and newcomers.

Integrating antibiotic education into newcomer orientation programs and English as a Second Language (ESL) classes would also ensure that individuals receive accurate information early in their transition to the Canadian healthcare system. In addition to formal education efforts, community-based approaches are essential. Establishing community health ambassador programs would involve training trusted individuals, such as cultural organization leaders or peer educators, to share accurate information and dispel common myths about antibiotic use. These ambassadors can use standardized toolkits with simple visuals and clear messaging to engage their communities. Such peer-driven approaches are particularly effective in building trust and encouraging behavior change in populations that may be less responsive to traditional government led campaigns.

Indigenous Peoples

This proposal deliberately does not specify the content of AMR education materials for First Nations, Inuit, or Métis communities. The federal government's appropriate role is to fund, convene, and protect the space in which Indigenous Peoples design their own programming, in line with the TRC Calls to Action, UNDRIP, and the CPHO engagement principles. We propose that the Government of Canada, through Indigenous Services Canada and the Public Health Agency of Canada:

- Engage on three distinct tracks on program design: with the Assembly of First Nations and First Nations regional health authorities; with Inuit Tapiriit Kanatami and the four Inuit land-claim regions (Nunatsiavut, Nunavik, Nunavut, Inuvialuit); and with the Métis National Council and its governing members.

- Collaborate with and Indigenous-led organizations directly through long-term, flexible funding envelopes.
- Convene, do not direct: PHAC should offer technical support, surveillance data, prescribing patterns, evidence on stewardship interventions when invited.
- Co-develop evaluation indicators with participating Nations, with results returned to communities before public release.

Indigenous-led infrastructure for health education already exists and has been used for other public health work (TB, COVID-19) (Healey Akearok & Rana, 2024; PHAC, 2022). Examples include Indigenous-led broadcasters (APTN, NCI-FM, Wawatay Radio Network); Community Health Representatives, Inuit Community Health Workers, and Aboriginal Midwives (Smylie, 2001); intergenerational programs pairing Elders and youth; and Indigenous-led research frameworks such as the National Inuit Strategy on Research (Gregoire, 2025), Principles of Ethical Metis Research (National Aboriginal Health Organization [NAHO], 2010), and FNIGC's OCAP®-based programming.

Youth

To improve awareness of antimicrobial resistance (AMR) among Canadians aged 18–34, a digital-first communication strategy, paired with the broad physical media information at pharmacies, universities, and municipal transit systems will be integral. This split campaign is a priority due to young adults being highly active on social media, frequently accessing care through walk-in clinics, and are strongly influenced by peer norms and digital creators (Ellis et al., 2020; Glauser, 2018; Kelly et al., 2017; Lapointe-Shaw et al., 2024).

Social media should serve as the primary communication channel for this strategy, given its reach and influence among young adults. Campaigns should focus on TikTok, Instagram, YouTube Shorts, and Spotify, where short-form, visually engaging content is most effective. PHAC should partner with healthcare professionals, pharmacists, and trusted Canadian content creators to produce brief educational videos of less than 5 minutes explaining when antibiotics are necessary, the difference between viral and bacterial infections, and the long-term consequences of antibiotic misuse. Influencer partnerships can be another possible approach for improving trust and engagement, as young adults are more likely to respond to peer-like voices than institutional messaging. The government could try reaching out to Canadian influencers who are licensed healthcare workers or have a scientific background to see if they would be willing to become volunteer ambassadors spreading AMR awareness on their channels. To ensure that the information being shared is aligned with public health objectives, the government should provide the influencers with approved messaging guidelines developed by public health experts. Furthermore, influencers will be required to review content with health officials or communications staff before posting to reduce the risk of

misinformation or misleading claims. Participation would be voluntary and unpaid; however, influencers could benefit by strengthening their credibility, showing leadership in public health, and building stronger connections with their audiences through supporting an important health campaign.

Healthcare settings and post-secondary institutions should also be integrated into the communication strategy as key points of contact for young adults. Walk-in clinics, urgent care centres, pharmacies, and campus health services should display educational posters, digital screens, and QR-code-linked resources that explain when antibiotics are appropriate and how viral infections should be managed without antibiotics. Pharmacists should reinforce responsible antibiotic use at the point of dispensing by briefly advising patients on adherence and the risks of misuse. In addition, antimicrobial resistance education should be incorporated into post-secondary settings through student orientation programs, campus health campaigns, and peer-led initiatives. Embedding AMR messaging within universities and colleges helps reach young adults during a period of increased independence in healthcare decision-making, reinforcing responsible behaviours alongside broader public health messaging.

Given that AMR awareness requires repeated exposure and behavioural reinforcement, this strategy should be implemented as a sustained, multi-year public health campaign over a period of 3–5 years. Ongoing evaluation should be conducted to refine messaging, improve targeting, and optimize communication channels based on engagement metrics and observed behavioural outcomes in the short term.

Measuring success

These proposals will need to be monitored to detect if and how well they are addressing knowledge gaps in the Canadian public. Both short- and long-term indicators targeting healthcare professionals, patients, and the broader community should be used for monitoring. A first essential measure should consist of surveys administered to healthcare workers after approximately 6 months, as they represent frontline actors in AMS and an easily reachable group. These surveys could assess whether prescribing guidelines, educational material, and training initiatives were clear, accessible, and applicable in practice. In parallel, prescribing data should be monitored after 1-2 years to evaluate alterations in inappropriate antibiotic prescriptions.

Patient focused evaluations should be conducted over a longer timeframe (1-2 years) to allow public awareness measures to reach the broader population. Surveys could assess the proportion of respondents who correctly understand AMR, who report willingness to avoid antibiotic use, etc.

To better capture hard to reach populations, longer epidemiological indicators could also be monitored over a 4-5 year period, such as trends in methicillin-resistant *Staphylococcus aureus* prevalence.

The impact of these interventions can be effectively assessed through comparison of these indicators with baseline surveys previously conducted on public awareness and healthcare worker knowledge regarding AMR (Beach et al., 2017; Crago et al., 2022; Kain et al., 2026; Primeau et al., 2023; Smith et al., 2017; Varsaneux et al., 2026).

Final remarks

In conclusion, Canada already has strong antimicrobial stewardship programs and growing HCP prescribing authority, but these existing tools are not fully leveraged for public awareness. Increasing the visibility of stewardship efforts, translating technical data into accessible formats, and promoting the role of HCP can enhance their impact. Through our broad campaign, which focuses on the medical system and vulnerable communities, Canada can make Antimicrobial Resistance knowledge more equitable, more practical, and more likely to change antibiotic-use behaviours in the population.

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