

Medicine List for Public Funding From Existing Lists

Dresser à partir des listes existantes une liste de médicaments financés publiquement



RONAN MURPHY, MSc
Medical Student
MAP Centre for Urban Health Solutions
Li Ka Shing Knowledge Institute
St. Michael's Hospital
Unity Health Toronto
Toronto, ON
Royal College of Surgeons in Ireland
Dublin, Ireland

AMAL RIZVI, MSc
Research Assistant
MAP Centre for Urban Health Solutions
Li Ka Shing Knowledge Institute
St. Michael's Hospital
Unity Health Toronto
Toronto, ON

MOIZZA ZIA UL HAQ, MPH
Research Coordinator
MAP Centre for Urban Health Solutions
Li Ka Shing Knowledge Institute
St. Michael's Hospital
Unity Health Toronto
Toronto, ON

NAV PERSAUD, MD, MSc, FCFP
Canada Research Chair
MAP Centre for Urban Health Solutions
St. Michael's Hospital
Unity Health Toronto
Toronto, ON
Department of Family and Community Medicine
University of Toronto
Toronto, ON

Abstract

A Canadian list of essential medicines to be publicly funded is crucial for implementing national universal pharmacare. The federal government maintains multiple medicine lists of publicly funded medicines for specific populations in Canada. Despite significant overlap across these lists, Canada does not yet have a single list that defines a minimum set of publicly funded medicines for everyone in Canada. Instead of creating a list from scratch, extant federal lists could form the basis for a harmonized list for all Canadians. We examined seven federal lists of publicly funded medicines and made recommendations for a potential future Canadian essential medicines list.

Résumé

Dresser une liste de médicaments essentiels financés par le secteur public est crucial pour la mise en œuvre d'un régime d'assurance-médicaments national et universel au Canada. Le gouvernement fédéral tient à jour de multiples listes de médicaments financés par l'État pour des populations particulières. Malgré un chevauchement important entre ces listes, le Canada n'a toujours pas de liste unique définissant un ensemble minimal de médicaments financés par l'État pour tous les Canadiens. Au lieu de créer une liste à partir de zéro, les listes fédérales existantes pourraient constituer la base d'une liste harmonisée pour tous les Canadiens. Nous avons examiné sept listes fédérales de médicaments financés par des fonds publics et nous formulons des recommandations pour une éventuelle liste canadienne de médicaments essentiels.

Introduction

A list of essential medicines to be generally publicly funded was a core recommendation of the 2019 National Advisory Council on Implementing Pharmacare (Health Canada 2019), and An act respecting pharmacare (*Pharmacare Act* 2024) calls for the development of such a list. Despite various efforts, Canada still does not have such a list (CADTH 2024). International guidance indicates that countries should have a rigorous and transparent process of creating and maintaining a list of essential medicines that meet the “priority care health needs” of the population because decisions about which medicines to prioritize for access can have important effects on health and implications for health spending (Laing et al. 2003; WHO 2001, 2024, p. ix). Purposes of such a list include ensuring equitable access to effective treatments or “pharmacoequity,” promoting appropriate prescribing and use of medicines and avoiding overpaying for medicines (Essien et al. 2021, p. 1793). *Bill C-64* calls for the creation of “a list of essential prescription drugs” to inform a future national pharmacare program (*Pharmacare Act* 2024, p. 5).

Here, we compare the existing Canadian lists of publicly funded medicines at the federal level to create a synthesized list of medicines that could define a minimum set of medicines that would be publicly funded for everyone in Canada. Our focus is outpatient medicines since medicines for in-patients are generally publicly funded in Canada.

What Lists of Publicly Funded Medicines Are Used in Canada Now?

The federal government has seven lists of publicly funded medicines for some Indigenous People, military personnel, military veterans, Royal Canadian Mounted Police (RCMP) personnel, refugee claimants and people incarcerated in federal institutions (Table 1). Provinces and territories also maintain their own lists that determine which medicines are publicly funded for specific populations, including older adults and people incarcerated in provincial institutions, and these provincial lists are similar to each other (Patented Medicine Prices Review Board 2017).

TABLE 1. Description of federal drug benefit programs

Program	Beneficiaries	Medicines included	Latest formulary version	Notes
IFHP	Resettled refugees, refugee claimants, in Canada protected persons and certain other groups that are not eligible for provincial or territorial health insurance	All medicines covered in provincial and territorial formularies + additional drug benefits	Provincial formularies usually updated at least annually	
Public Service Health Care Plan	Eligible employees and retirees of the public service (including RCMP and CAF) and their partners/ children	All approved medicines	Not applicable	
CAF Drug Benefit Program	CAF personnel	995 + 360 (special authorization)	2019	Includes standard benefits and special authorization
VAC Prescription Drug Program (POC 10)	Eligible veterans with a VAC Health Identification Card	969 + 450 (special authorization)	2012	Includes regular benefits and special authorization
Indigenous Services Canada NHIB Program	Eligible First Nations and Inuit clients	1,003	2020	Includes limited use benefits
CSC	Federal inmates	642	2023	Includes medicines that require reason for use
Pan-Canadian Advisory Panel on a Framework for Prescription Drug List	Recommendation	179	2022	

CAF = Canadian Armed Forces; CSC = Correctional Services Canada; IFHP = Interim Federal Health Program; NHIB = Non-Insured Health Benefit; RCMP = Royal Canadian Mounted Police; VAC = Veterans Affairs Canada.

How are medicines added to Canadian lists?

The medicine lists maintained by the federal government are informed by recommendations made by the Canadian Agency for Drugs and Technologies in Health (CADTH) about whether medicines should be publicly funded based on health technology assessments of newer medicines. The final recommendation is made by a committee comprised of clinicians, researchers, patients and other members of the public.

Indigenous Services Canada's Non-Insured Health Benefits (NHIB) Program, Veterans Affairs Canada's (VAC) Health Benefit Program and the Canadian Armed Forces' (CAF) Drug Benefit Program are guided by recommendations by the CADTH as well as their own internal formulary review committees. The Interim Federal Health Program (IFHP) provides access to medicines included in provincial lists for refugee claimants and some others. The RCMP are included in the Public Service Canada Health Plan that does not have a formulary but instead covers all approved medicines (as such the RCMP is not included in the analyses below).

What medicines could be on a list of medicines publicly funded in Canada?

Seven federal lists were included in our analysis to synthesize a set of commonly listed medicines. Of these seven, we considered four to be the most important for our purposes of comparing lists as they are used by the largest number of people: Indigenous Services Canada's NHIB Program, Correctional Services Canada (CSC) National Formulary, VAC's Health Benefit Program and CAF Drug Benefit Program. We also considered the special authorization lists of the VAC and CAF formularies but viewed these as separate lists, as the medications included required a higher level of authorization and overview than those on the standard benefit formularies. We considered the recommended essential list from the pan-Canadian Advisory Panel on a Framework for Prescription Drug List, a partial list that covers only three therapeutic areas: cardiovascular, diabetes and mental health treatments (CADTH 2024).

We identified a total of 1,572 unique medicines included in at least one list and 511 medicines that are listed in more than half of national formularies that could be considered the core of a synthesized list (Appendix 1, available online at www.longwoods.com/content/27563). Of the remaining 1,061 that were not included based on being frequently listed, 41 medicines were commonly prescribed, such as dementia treatments, and thus were added back (Morgan et al. 2014). We removed one medicine (for thyroid gland preparations, which is not needed now because levothyroxine is available).

Of the 1,020 candidate medicines included in at least one list but not commonly prescribed, we included 72 based on our judgements about their importance to some populations (Appendix 3, available online at www.longwoods.com/content/27563). For example, we added famotidine, which was listed in the CAF Drug Benefit Program, VAC Health Benefit Program and Indigenous Services Canada's NHIB Program. Famotidine is used to treat peptic ulcer and gastroesophageal reflux disease, and given that both famotidine and ranitidine were already added, we did not deem it necessary to also add cimetidine (Berardi et al. 1988). In addition, cromolyn, or cromoglicic acid, was listed in only the CSC National Formulary and NHIB Program, but it was added due to its role as a noncorticosteroid treatment for asthma and allergies (Kuzemko 1989).

Finally, we reviewed each class of medicines to remove unnecessary or "me too" medicines and removed 67 medicines, while adding six. Many of the removed medicines were

cancer treatments that are generally publicly funded through other drug plans or used for in-patients. Five medications were added: vitamin B6, calcium gluconate, insulin detemir, magnesium sulfate, benserazide and rituximab. We left some duplicative medicines within the same class as described later.

Our synthesized list included a total of 562 medicines (Appendix 2, available online at www.longwoods.com/content/27563). Diabetes treatments included in the synthesis list include metformin, gliclazide, sitagliptin, saxagliptin, linagliptin and various types of insulin. Seven statins are listed, including atorvastatin and rosuvastatin. Nine angiotensin receptor blockers (ARBs) and 10 angiotensin-converting enzyme inhibitors were included. More than 10 options for depression and anxiety were listed. Abatacept and etanercept were included and so were infliximab, adalimumab, golimumab and ustekinumab. Treatments for multiple sclerosis, including fingolimod and teriflunomide, were included.

The synthesized list could be shortened by reducing the number of medicines in classes where differences are relatively unimportant (Li et al 2014). The ultimate length of the list may strike a balance between acceptability to clinicians and patients (who may prefer more options or for their own favoured medicine to be listed) against evidence that fewer medicines are sufficient and the fact that lists tend to grow over time. The synthesized list is around four times longer than the list of medicines used in a clinical trial of providing free access to essential medicines, mostly because the synthesized list contains more medicines within each class; for example, candesartan was the only ARB provided in the trial while nine are in the synthesized list (Persaud et al. 2020). The shorter list was acceptable to patients and clinicians although qualitative studies showed that more options within classes for diabetes and mental health treatments were suggested (Ally et al. 2022). Providing free access to the shorter list in the trial showed improved medicine adherence to appropriately prescribed medicines, improved financial well-being and reduced overall healthcare costs (Persaud et al. 2020, 2021, 2023). During the trial, patients and clinicians could suggest changes (additions, removals and substitutions) to the list that was peer reviewed by clinicians in different disciplines; such input is also needed on the synthesized list. Provincial, territorial and First Nations health authorities should also provide input on revisions of the list.

How Would a Canadian List Compare With Lists in Other Countries?

The medicines included in the synthesized list were commonly included in lists used in 158 other countries based on an updated international database (median number of countries listing each medicine 47, range 1–154) (Persaud et al. 2019). Those other lists ranged in length from 39 to 955 (median 345.5) and the synthesized list would be ranked at the 85th percentile in length. The synthesized list that could have inherited deficiencies from existing lists and specific medicines, including those rarely listed by others or not recommended by international guidance, could be flagged for further review. Medicines infrequently listed by other countries included brexpiprazole (listed by one country), almotriptan (listed by two countries) and asenapine (listed by three countries). The synthesized list also includes

medicines that were not listed by any other country, such as colestipol, methazolamide, nabilone and sulfapyrazone. There were some medicines that were commonly listed by other countries but not included in our synthesized list: albendazole (85% or 135 countries), benzylpenicillin (81% or 128 countries), chloramphenicol (80% or 127 countries) and doxorubicin (77% or 122 countries). The synthesized list includes 279 medicines that are in the 2023 World Health Organization (WHO) model list of essential medicines, while 254 were listed by the WHO but not the synthesis list and 255 in the synthesis list but not the WHO list (WHO 2023). The synthesized list was more inclusive than the national formulary of the US Veteran's Administration that, for example, lists five ARBs (as opposed to nine in the synthesized list), but overall the two lists are quite similar (U.S. Department of Veterans Affairs 2024).

Conclusion

Creating a list of medicines to determine which medicines should be publicly funded as part of a national pharmacare program should be relatively easy – a reasonable but imperfect list based on extant lists maintained by the federal government is shown in Appendix 2, available online at www.longwoods.com/content/27563. It is unclear why there are so many separate lists in Canada for populations with similar or the same medicine needs and yet no list for the general population. Presumably, there were historical reasons for different medicine coverage regimes, and all this could eventually be replaced by a national pharmacare program built on a unitary list for everyone.

A rigorous and transparent process must be established to make needed changes to the list and the process can be informed by international experience and guidance (WHO 2001). Based on international experiences and research in Canada, threats to a list of medicines include the perception that the list is a government cost-cutting measure that tends to list cheap or substandard treatments, lack of support by clinicians, skepticism by patients and advocacy or lobbying from the pharmaceutical industry (Ally et al. 2022; Jarvis et al. 2019; Laing et al. 2003). An independent decision-making body is needed to determine which medicine will be publicly funded and which will not, and this could be achieved by appointing an executive director and a selection committee that are insulated from political decision makers (Persaud 2020). The effects of implementing the list within a policy on health outcomes, health equity and healthcare expenditures should be carefully tracked.

Acknowledgment

We do not have any acknowledgments to report.

Funding

We report funding from the Canada Research Chair program and the Canadian Institutes of Health Research.

Conflict of Interest

We have no conflicts of interest to declare.

Ethical Approval

The study did not involve any human participants and therefore did not require ethics approval. Nonetheless, the study fully adhered to the Declaration of Helsinki. The underlying data are available upon request.

Correspondence may be directed to Nav Persaud by e-mail at nav.persaud@utoronto.ca.

References

- Ally, M.Z., H. Woods, I. Adekoya, A. Bali and N. Persaud. 2022. Acceptability of a Short List of Essential Medicines to Patients and Prescribers: Multimethod Study. *Canadian Family Physician* 68(7): e204–14. doi:10.46747/cfp.6807e204.
- Berardi, R.R., R.M. Tankanow and T.T. Nostrant. 1988. Comparison of Famotidine With Cimetidine and Ranitidine. *Clinical Pharmacy* 7(4): 271–84.
- Canadian Agency for Drugs and Technologies in Health (CADTH). 2024. The Pan-Canadian Advisory Panel on a Framework for a Prescription Drug List. Retrieved March 4, 2024. <<https://www.cadth.ca/pan-canadian-advisory-panel-framework-prescription-drug-list>>.
- Essien, U.R., S.B. Duserzina and W.F. Gellad. 2021. A Policy Prescription for Reducing Health Disparities—Achieving Pharmacoequity. *JAMA* 326(18): 1793–94. doi:10.1001/jama.2021.17764.
- Health Canada. 2019, July 2. Advisory Council on the Implementation of National Pharmacare [External Advisory Bodies for Health Canada]. Retrieved March 4, 2024. <<https://www.canada.ca/en/health-canada/corporate/about-health-canada/public-engagement/external-advisory-bodies/implementation-national-pharmacare.html>>.
- Jarvis, J.D., A. Murphy, P. Perel and N. Persaud. 2019. Acceptability and Feasibility of a National Essential Medicines List in Canada: A Qualitative Study of Perceptions of Decision-Makers and Policy Stakeholders. *CMAJ* 191(40): E1093–99. doi:10.1503/cmaj.190567.
- Kuzemko, J.A. 1989. Twenty Years of Sodium Cromoglycate Treatment: A Short Review. *Respiratory Medicine* 83: 11–16. doi:10.1016/s0954-6111(89)80245-8.
- Laing, R., B. Waning, A. Gray, N. Ford and E. 't Hoen. 2003. 25 Years of the WHO Essential Medicines Lists: Progress and Challenges. *The Lancet* 361(9370): 1723–29. doi:10.1016/S0140-6736(03)13375-2.
- Li, E.C.K., B.S. Heran and J.M. Wright. 2014. Angiotensin Converting Enzyme (ACE) Inhibitors Versus Angiotensin Receptor Blockers for Primary Hypertension. *Cochrane Database of Systematic Reviews* 2014(8): CD009096. doi:10.1002/14651858.CD009096.pub2.
- Morgan, S., K. Smolina, D. Mooney, C. Raymond, M.L. Bowen, C. Gorczynski et al. 2014. *The Canadian Rx Atlas (3rd ed.)*. Centre for Health Services and Policy Research.
- Patented Medicine Prices Review Board. 2017. *Alignment Among Public Formularies in Canada, Part 1. General Overview*. Retrieved March 5, 2024. <https://publications.gc.ca/collections/collection_2017/cepmb-pmprb/H82-29-1-2017-eng.pdf>.
- Persaud, N. 2020, June. *How to Create and Update an Essential Medicines List for Canada*. MAP Centre for Urban Health Solutions. Retrieved March 5, 2024. <<https://maphealth.ca/wp-content/uploads/CanadaEMLProcess.pdf>>.
- Persaud, N., M. Bedard, A. Boozary, R.H. Glazier, T. Gomes, S.W. Hwang et al. 2021. Adherence at 2 Years With Distribution of Essential Medicines at No Charge: The CLEAN Meds Randomized Clinical Trial. *PLOS Medicine* 18(5): e1003590. doi:10.1371/journal.pmed.1003590.

Medicine List for Public Funding From Existing Lists

Persaud, N., M. Bedard, A. Boozary, R.H. Glazier, T. Gomes, S.W. Hwang et al. 2023. Effect of Free Medicine Distribution on Health Care Costs in Canada Over 3 Years: A Secondary Analysis of the CLEAN Meds Randomized Clinical Trial. *JAMA Health Forum* 4(5): e231127. doi:10.1001/jamahealthforum.2023.1127.

Persaud, N., M. Bedard, A.S. Boozary, R.H. Glazier, T. Gomes, S.W. Hwang et al. 2020. Effect on Treatment Adherence of Distributing Essential Medicines at No Charge: The CLEAN Meds Randomized Clinical Trial. *JAMA Internal Medicine* 180(1): 27–34. doi:10.1001/jamainternmed.2019.4472.

Persaud, N., M. Jiang, R. Shaikh, A. Bali, E. Oronsaye, H. Woods et al. 2019. Comparison of Essential Medicines Lists in 137 Countries. *Bulletin of the World Health Organization* 97(6): 394–404C. doi:10.2471/BLT.18.222448.

Pharmacare Act. 2024. An Act Respecting Pharmacare, C–64, Government of Canada 1st. Forty-Fourth Parliament.

U.S. Department of Veterans Affairs. 2024. Pharmacy Benefits Management Services: VA National Formulary [Dataset]. Retrieved March 8, 2024. <<https://www.pbm.va.gov/nationalformulary.asp>>.

World Health Organization (WHO). 2001, December 8. *How to Develop and Implement a National Drug Policy* (2nd ed.). Retrieved June 20, 2023. <<https://iris.who.int/bitstream/handle/10665/42423/924154547X.pdf?sequence=1>>.

World Health Organization (WHO). 2023. *World Health Organization Model List of Essential Medicines – 23rd List*. Geneva. Retrieved July 31, 2023. <https://iris.who.int/bitstream/handle/10665/371090/WHO-MHP-HPS-EML-2023.02-eng.pdf?sequence=1>.

World Health Organization (WHO). 2024. *The Selection and Use of Essential Medicines (2023) - TRS 1049: Report of the WHO Expert Committee on Selection and Use of Essential Medicines, 2023 (Including the 23rd WHO Model List of Essential Medicines and the 9th WHO Model List of Essential Medicines for Children)*. Retrieved April 30, 2024. <<https://iris.who.int/bitstream/handle/10665/376570/9789240089266-eng.pdf?sequence=1>>.