

Partnership for Health System Sustainability and Resilience

CANADA

Policy roadmaps for acting early on NCDs



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This report was written on behalf of the PHSSR. The positions and arguments presented are the authors' own. They do not represent the views of the PHSSR partners listed above.

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List of abbreviations



BMI	Body mass index
CDA	Canada Drug Agency
CIHI	Canadian Institute for Health Information
CIHR	Canadian Institutes of Health Research
CMA	Canadian Medical Association
COPD	Chronic obstructive pulmonary disease
CPAC	Canadian Partnership Against Cancer
CPFC	College of Family Physicians of Canada
CPHO	Chief Public Health Officer
CTN	Clinical Trials Navigator
DALY	Disability-adjusted life year
EHR	Electronic health record
EVT	Endovascular thrombectomy
FPT	Federal, provincial and territorial
GBA+	Gender-based analysis plus
GDP	Gross Domestic Product
HiAP	Health in All Policies
NAPHRO	National Alliance of Provincial Research Organizations
NCD	Non-communicable disease
NO ₂	Nitrogen dioxide
OECD	Organisation for Economic Co-operation and Development
OOP	Out-of-pocket
pCPA	pan-Canadian Pharmaceutical Alliance
PHAC	Public Health Agency of Canada
PHN	Pan-Canadian Public Health Network
PHSSR	Partnership for Health System Sustainability and Resilience
PT	Province or Territory; or Provincial and Territorial
SDoH	Social Determinants of Health
SO ₂	Sulfur dioxide
VOCs	Volatile organic compounds
WC	Waist circumference
WHO	World Health Organization

Introduction



This report presents Canada's contribution to the Partnership for Health System Sustainability and Resilience (PHSSR) Policy Roadmaps for Acting Early on Non-Communicable Diseases (NCDs). As the first in a series covering eight countries, it explores how health systems designed for episodic, acute care can adapt to the reality of chronic diseases.

The PHSSR is a non-profit, multi-sector, global collaboration with the goal of building more sustainable and resilient health systems. Member organizations include AstraZeneca, the London School of Economics and Political Science (LSE), Marsh, Roche Diagnostics, Royal Philips, the World Economic Forum, the Centre for Asia-Pacific Resilience & Innovation (CAPRI), IQVIA and the WHO Foundation

PHSSR recognizes that incremental improvements are not enough. Health systems worldwide need fundamental reform: shifting from reactive to preventive, from fragmented to integrated, from volume-based to value-based. This report assesses Canada's current system performance and outlines evidence-based pathways for such change.

In Canada's decentralized health system, provinces and territories (PTs) are primarily responsible for the prevention, early diagnosis, and treatment of NCDs. The federal government plays an important role in developing NCD guidelines, supporting Canada's national data and research infrastructure, and the funding and provision of health services for First Nations peoples on reserve, Inuit residing in Inuit Nunangat, and active members of the Canadian Armed Forces. Although NCD mortality rates in Canada declined between 2014 and 2021, self-reported rates of chronic disease and multimorbidity – especially among older adults – are on the rise, with cancer remaining the leading cause of death. While federal, provincial and territorial (FPT) governments have various prevention and quality improvement strategies, the projected rise in comorbidities and rising prevalence of NCDs will require a greater focus on social determinants of health, sustained investment in upstream NCD prevention and diagnosis, and equitable access to primary care.

The Policy Roadmaps are a new chapter of PHSSR research, which explore key enablers of health system sustainability and resilience emerging from country reports to date. This first PHSSR Policy Roadmaps on "Acting Early on NCDs" focuses on how mature health systems can more effectively address **cardiovascular diseases** (heart failure, stroke, ischaemic heart disease), **renal and metabolic diseases** (chronic kidney disease and diabetes), **cancers** (lung, bowel, prostate, breast, uterine and bladder), and **chronic respiratory diseases** (asthma and chronic obstructive pulmonary disease [COPD]). These four disease groups were chosen as collectively they account for over 80% of all premature deaths from NCDs. While NCDs include and co-exist with a broader range of chronic diseases, such as mental health and musculoskeletal conditions, the principles and strategies discussed here – prevention, early detection, integrated care – apply across all chronic diseases.

To guide the research, LSE developed a framework for developing policy roadmaps for early intervention on NCDs, based on a literature review and expert insight. An expert panel, composed of clinicians, policy experts, and patient advocates, validated the framework. The reports derived from this research will define key measures of country performance and include actionable recommendations cutting across the health system's domains.

Our methodology uses a structured framework to analyze seven key areas of health system performance. Population health analysis highlights disease trends and potential intervention points. Governance assessment reviews policy formulation and implementation processes. Service delivery evaluation detects discrepancies between optimal practices and actual care. Financing review investigates how payment models and incentives influence behaviours within the health system. Workforce analysis tackles human resource issues. Medicines and technology assessment focuses on access to innovations. Environmental sustainability examines the connection between health systems and climate change. For each area, we measure current performance with established indicators, identify measurement gaps, and offer targeted recommendations for improvement.

This report provides a comprehensive overview of Canada's health system's key features across the seven domains of the PHSSR framework.

Canada has a relatively healthy population and is a top spender on health care internationally. However, self-reported rates of chronic disease and multimorbidity – especially among older adults – are on the rise, with cancer remaining the leading cause of death. Other challenges include access to NCD screening and diagnosis services, with millions of Canadians – particularly those in rural, remote, and marginalized communities – lacking consistent access due to geographic concentrations of health care services, persistent health workforce shortages and long specialist wait times, and outdated digital health tools and infrastructure. While targeted screening and prevention initiatives exist, these and other longstanding systemic issues hinder effective and equitable NCD diagnosis and care across Canada.

The key recommendations in this report can be leveraged to advance ongoing NCD-related initiatives, including Canada's commitment to the 2030 Agenda for Sustainable Development. They may also inform federal efforts to modernize evidence-based screening and detection tools (overseen by the Canadian Task Force for Preventative Health Care), as well as current initiatives to modernize Canada's health data landscape, co-led by the Canadian Institute of Health Information (CIHI) and Canada's PTs. Findings are expected to be relevant to upcoming federal and provincial government budgets and, more broadly, to global policy discussions such as the 2026 World Health Assembly.

This report provides policymakers, healthcare leaders, and stakeholders with a comprehensive overview of key challenges and promising strategies. It provides specific, actionable recommendations based on evidence and informed through international comparison. By analyzing what works, recognizing what does not, and suggesting concrete solutions, we aim to support a healthcare system that not only prolongs life but is also accompanied by sustained health and quality of life for everyone.

Methodology and stakeholders consulted



We conducted targeted literature searches between June 2024 and August 2025 using a structured but non systematic approach guided by the PHSSR framework. The review included peer reviewed publications, government reports, and grey literature from major Canadian health organizations, primarily from the past decade, with earlier foundational documents included where relevant. Search strategies were refined iteratively in response to emerging themes and identified evidence gaps.

The PHSSR framework, validated by an expert panel of clinicians, policy specialists, and patient advocates, defines country performance across seven domains: (1) population health, (2) governance, (3) service delivery, (4) financing, (5) workforce, (6) medicines and technology, and (7) environmental sustainability. Information was extracted into a structured datasheet to support cross domain tracking and analysis.

To complement the literature review, we administered a survey to gather expert perspectives across the research domains. Survey development was guided by the PHSSR framework, with selected questions focusing on areas where publicly available data were limited or where jurisdiction-specific insights were needed. The survey was piloted before disseminating to participants and administered via REDCap. The consent process occurred at the beginning of the survey, before any questions were presented. At the end of the survey, participants were asked to share their contact email to participate in future research activities. Invited participants included those identified from relevant task forces, expert working groups, and strategic reports pertaining to the NCDs of interest, or were known to conduct work aligned with at least one of the seven research domains. This included individuals employed by Canadian healthcare organizations or systems, NCD researchers, and health care providers. Invitations to participate were sent via email using a project-specific email account.

A total of 20 surveys were completed. The sample was purposively selected to capture expertise across the seven research domains and included health care providers, researchers, and policy specialists. While not statistically representative, the approach prioritized depth of domain insight. Limitations include potential selection bias and uneven representation across provinces and territories.

Survey responses were used to validate findings from the literature review and provide additional context throughout the report. To further support interpretation and contextualization, LSE identified indicators most relevant to each domain. These were then reviewed and interpreted by the local research team and synthesized in each section to reflect jurisdiction-specific insights. Finally, expert reviewers were asked to review earlier versions of the draft report to validate information, fill in any remaining gaps, and provide feedback on the recommendations.

Expert reviewers

Healthcare Excellence Canada

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Executive summary



Why early action on non-communicable diseases matters now more than ever

Non-communicable diseases (NCDs) account for the majority of deaths and a growing share of disability in Canada. Between 2014 and 2021, total NCD mortality rates declined modestly, yet the share of adults living with chronic conditions continues to rise. In 2015, 41.2% of Canadian adults reported at least one chronic condition. By 2023, this figure reached 46.1%, representing more than 14 million people. For many, this means longer periods living with illness, greater reliance on ongoing care, and higher risk of avoidable complications. Acting earlier in the disease pathway is central to maintaining health system sustainability and population wellbeing.

Several conditions show limited or worsening progress: hospital admissions for COPD and asthma remain above OECD averages, disability adjusted life years (DALYs) attributable to diabetes and chronic kidney disease have increased, and improvements in ischemic heart disease and stroke have slowed. These trends indicate that gains in treatment and survival have not been matched by equivalent gains in prevention and early management.

The burden of NCDs is not evenly distributed among the Canadian population, with unequal rates of NCDs according to geographic household income, sex, gender, sexual orientation, race, and immigration status, reflecting a profound influence of social and structural determinants on health outcomes. The demographic outlook adds urgency. Nearly 80% of adults aged 65 and older report multimorbidity. By 2030, all baby boomers will be over age 65. Without earlier intervention, demand for specialist care, hospital services, and long-term management will continue to grow, placing additional pressure on workforce capacity and public finances.

A substantial share of this burden is preventable, reflecting the broader conditions in which people live, work, and age. Physical activity, substance use (e.g., tobacco and alcohol), food, and environment exposures remain important contributors to disease risk. Because many NCDs develop over time, there is a window to act early through population-level prevention, improved risk identification, screening, timely diagnosis, and early management before complications escalate and care becomes more resource intensive.

The central question for this report is whether Canada's health system is organized to use these opportunities effectively, and where changes in governance, service delivery, financing, workforce, medicines and technology, and environmental sustainability could enable earlier action. While Canada has some disease-specific strategies and high overall health spending, policy efforts are largely organized around individual conditions or sectors. There has been no comprehensive cross-domain assessment of how these system components collectively support or constrain earlier action on NCDs. By applying the PHSSR framework, this report provides an overview of the architecture of the health system and identifies opportunities to improve timely prevention, detection, and management to ultimately improve population health and reduce NCD burden in Canada. It reframes early intervention as a system design challenge with implications for equity, performance, and long-term sustainability.

System context

Canada's health system is decentralized with provincial and territorial governments holding the primary responsibility for addressing NCDs. Canada brings important strengths to the challenge of NCDs. Universal coverage for medically necessary hospital and physician services provides a strong foundation for access. Population based cancer screening programs are well established in many provinces. Research capacity and national public health institutions support surveillance and guideline development. Provinces and territories have introduced some innovations in team-based care, virtual services, and quality improvement.

At the same time, system design often favours acute care and treatment over prevention. Coverage for medicines and other supports is uneven. Payment models reward activity rather than outcomes. Data systems are fragmented across jurisdictions. Primary care access is inconsistent. Diagnostic

capacity and digital infrastructure vary widely by region. National strategies exist for some conditions but not others.

As a result, earlier intervention is not delivered consistently across populations or across the care pathway. Prevention, screening, diagnosis, and follow up depend heavily on where people live and their ability to navigate the system. This contributes to later-stage diagnosis for some cancers, avoidable hospitalizations such as for COPD and asthma, and preventable complications and widening health inequities across regions and populations.

A roadmap for earlier, more effective action on NCDs

This report assesses seven domains of health system performance to identify where current arrangements support early action on NCDs and where reforms could strengthen Canada's capacity to prevent disease, detect conditions sooner, and manage chronic illness more effectively. By identifying cross-domain misalignments and reform priorities, it provides a roadmap to reduce avoidable hospitalizations, support healthier ageing, narrow inequitable outcomes, and moderate long-term fiscal pressures. The findings are intended to inform federal and provincial/territorial priorities, including modernization of screening guidance, health data infrastructure, primary care reform, and Canada's commitments under the *2030 Agenda for Sustainable Development*. Findings draw on a comprehensive literature review guided by the PHSSR framework, complemented by a national expert survey and stakeholder consultations to address data gaps and contextualize results across jurisdictions. Draft analyses were reviewed by experts to validate insights, refine indicators, and strengthen the recommendations. The sections below summarize the key messages and priorities for each domain.

Key messages and recommendations

DOMAIN 1: POPULATION HEALTH

Canada faces a growing and increasingly complex burden of NCDs. While overall NCD mortality rates declined modestly between 2014 and 2021, chronic disease prevalence continues to rise, particularly among older adults where multimorbidity is common and care needs are more complex. The burden of NCDs is not evenly distributed: rates vary substantially across regions and socioeconomic groups, with higher prevalence rates in Atlantic provinces and Manitoba and clear gradients by income, sex, gender, sexual orientation, race, and immigrant status. Indigenous Peoples experience disproportionately high rates of kidney disease, end-stage renal disease, and diabetes, reflecting persistent structural inequities in the social and structural determinants of health.

Behavioural risk factors are major drivers of preventable morbidity and mortality. Tobacco use, alcohol consumption, physical inactivity, and poor diet continue to contribute substantially to NCD burden. While robust federal tobacco control measures exist, no equivalent federal framework addresses alcohol, despite its substantially greater health and socioeconomic burden of approximately 40% (CAD 19.7 billion) of total substance use costs. Environmental factors compound these challenges, with extreme heat events increasingly associated with hospital admissions for respiratory, kidney, and cardiovascular conditions. Heat related deaths among adults over 65 increased by 77% between 2018 and 2022 compared to 2000 and 2004.

Federal and provincial governments have tended to emphasize individual behaviour change rather than structural interventions addressing the root determinants of health. Canada has yet to implement a federal Health in All Policies framework despite robust evidence linking socioeconomic factors to NCD outcomes. Expanding research and development funding, such as through the Canadian Institutes of Health Research (CIHR) offers one pathway to strengthen Canada's capacity for early, community-engaged action on NCD prevention, both within and beyond the traditional medical realm.

RECOMMENDATIONS

1. **Develop pan-Canadian measurement standards:** Current data, including self-reported survey measures and administrative datasets, lack the consistency and granularity needed to track trends across jurisdictions and over time, limiting the ability to identify where the burden is rising and where interventions are having effect. Developing pan-Canadian standards for measuring chronic disease prevalence, multimorbidity, and associated behavioural risk factors could enable consistent tracking across international jurisdictions and support evidence-based priority setting.
2. **Strengthen monitoring of the health system impacts of chronic disease and multimorbidity:** Rising multimorbidity is placing increasing demands on health services that current monitoring frameworks are not fully equipped to capture. Strengthening surveillance to track disease onset, progression, and disparities across populations, including trends related to healthy ageing and real-time indicators of system strain, would provide the evidence base needed to anticipate and respond to growing demand of health services.
3. **Support an Indigenous-led health measurement framework:** Indigenous Peoples experience disproportionate burden of several NCDs, yet existing national surveillance systems do not adequately capture these disparities or their driving factors. Supporting an Indigenous-led framework with a distinctions-based approach that acknowledges the unique rights and circumstances of First Nations, Métis, and Inuit Peoples, and using indicators that reflect community strengths and worldviews, can help address this gap and enable more targeted and equitable policy responses.
4. **Strengthen national alcohol policy:** While Canada has robust federal frameworks for tobacco and cannabis control, there is no equivalent legislation pertaining to beverage alcohol consumption, despite it accounting for approximately 40% of total substance use costs (CAD 19.7 billion annually). Developing a federal Alcohol Control Act, which may be informed by the existing tobacco and cannabis legislation, can provide the regulatory architecture needed to prevent alcohol-related harm, including its burden on NCDs, through federal and provincial policy.
5. **Advance Health in All Policies (HiAP) to address structural determinants:** Canada has a strong legacy in health promotion, yet social and structural determinants of health continue to drive inequitable NCD burden. Currently, HiAP-adjacent tools for integrating health and health equity considerations into federal policy include Gender-Based Analysis Plus and health impact assessment. At the provincial level, like Quebec and Newfoundland and Labrador have demonstrated that legislating health impact assessment is feasible. Establishing a federal approach with an explicit equity focus can align intersectoral policy interventions, strengthen primary prevention, and support Canada's commitments to address upstream drivers of NCD risk among marginalised and underserved populations.

DOMAIN 2: GOVERNANCE

In Canada's decentralized health system, provincial and territorial governments hold the primary responsibility for NCDs, with federal roles focused on leadership, strategic advice, and surveillance through agencies like the Public Health Agency of Canada (PHAC). The Canadian Task Force on Preventive Health Care develops evidence-based preventive guidelines, though PHAC is currently implementing recommendations to modernize the Task Force's governance and processes.

Canada's efforts to address NCDs reflect principles of good practice. Public participation and transparency are facilitated through engagement with the public and people with lived experience, while intergovernmental coordination is supported through mechanisms such as the Pan-Canadian Public Health Network. NCD policies draw on input from patients, researchers, and advocacy groups, supported by initiatives such as the Strategy for Patient-Oriented Research. Healthcare quality

assurance exists but is fragmented across self-regulatory professional colleges, voluntary accreditation, and health technology assessment bodies.

Canada's capacity for NCD surveillance and evaluation is constrained by fragmented data systems, ineffective governance, and outdated data-sharing policies, despite strong provincial assets and national platforms such as CCDSS, CIHI, and Statistics Canada. Recent (2023) federal commitments to modernize health data infrastructure through collaboration with CIHI represents progress, but implementation challenges limit timely, integrated monitoring and evaluation.

Canada has few national strategies for major NCDs aside from cancer (the *Canadian Strategy for Cancer Control, 2019–2029*) and diabetes (the *Framework for Diabetes in Canada, 2022*). Frameworks for heart failure and chronic kidney disease are in development, but no national strategies exist for chronic respiratory diseases, stroke, ischaemic heart disease, or most other high-burden NCDs. Disease registries are similarly sparse, with cancer remaining the only NCD with consistent coverage at both national and provincial levels. The absence of strategic frameworks and registries for major NCD groups limits the ability to set national targets, track progress, and ensure accountability.

RECOMMENDATIONS

- 1. Develop an inventory of national NCD strategies with accountability mechanisms:** The current landscape of national NCD strategies is fragmented and incomplete. Strategies exist for cancer and diabetes but not for cardiovascular disease, chronic respiratory disease, stroke, or most other high-burden conditions. Without a comprehensive, maintained inventory documenting the stated objectives, targets, and monitoring mechanisms of existing frameworks, policymakers cannot assess coverage gaps, avoid duplication, or evaluate whether strategies are working. Developing and coordinating such an inventory would provide a foundation for more coherent national action.
- 2. Make NCDs a standing priority at Federal, Provincial and Territorial Health Ministers' meetings:** The Federal, Provincial and Territorial Health Ministers' meetings are the primary intergovernmental forum for coordinating health policy across jurisdictions, yet NCDs have not featured prominently on recent agendas. Establishing NCDs as a standing priority, with a focus on developing evidence-based strategies with clear targets and monitoring mechanisms across the prevention, management, and care continuum for cardiovascular, renal, metabolic, respiratory, and cancer conditions, may strengthen the political impetus for cross-jurisdictional action.
- 3. Strengthen national NCD data standards through CIHI collaboration:** Interjurisdictional data fragmentation means that comparable NCD indicators are frequently unavailable across provinces, limiting the ability to assess performance, identify inequities, or learn from higher-performing jurisdictions. CIHI's ongoing collaboration with provincial and territorial governments offers a vehicle for establishing standardised NCD indicators and data collection methods.
- 4. Improve evidence-based screening guideline development and implementation:** The Canadian Task Force on Preventive Health Care is currently undergoing modernisation, with recommendations focused on governance, independence, and process quality. Alongside these improvements, consider establishing mechanisms to ensure that high-quality guidelines are consistently implemented across jurisdictions. Without attention to implementation, guideline quality improvements will have limited effect on patient care and outcomes.

DOMAIN 3: SERVICE DELIVERY

NCD service delivery in Canada is guided by a mix of national and provincial frameworks and clinical practice guidelines, with few mechanisms to reduce variation in care. Access to primary care, which is fundamental for NCD prevention, detection, and management, remains a significant challenge. An estimated 83% of Canadians report having a regular healthcare provider in 2023, yet access disparities persist across provinces, rural and Indigenous communities, and socio-economic groups. Rural and remote communities experience distinct challenges, with residents travelling more than twice the distance to visit a physician compared to urban counterparts, and Indigenous Peoples living off reserve having significantly lower rates of primary care attachment.

Screening programs across the country are inconsistent in access and availability. Cancer is the only NCD with formal population-based screening programs at both national and provincial levels (including breast, cervical, colorectal, prostate, and, in some jurisdictions, lung cancer). Uptake of existing cancer screening programs is uneven, with lower participation among low-income communities, newcomers, immigrants, those experiencing housing instability, and those without a regular family physician. Risk assessment for NCDs is highly decentralized, with individual providers largely responsible for identifying and managing patient risk. Risk assessment models (such as the BETTER Project target prevention for adults aged 40–65), and federal initiatives (such as the Healthy Canadians and Communities Fund and investments in primary care and culturally safe services) aim to improve such access.

Diagnosis and referral also face significant capacity constraints. Specialist wait times for an appointment reached 30 weeks in 2024, the longest ever recorded. Contributing factors include specialist physician shortages, outdated diagnostic imaging equipment (more than one-third of CT, MRI, and SPECT-CT machines are over 10 years old), and unclear referral processes. Integrated care models, such as primary care heart failure clinics, have demonstrated to lower mortality and fewer hospital admissions. However, system-wide implementation of coordinated care pathways remains limited. Significant data gaps exist in screening, detection among high-risk populations, and wait time trends, with limited centralized access to diagnostic data.

RECOMMENDATIONS

1. **Establish a national coordination hub for clinical guidelines:** Clinical guidelines for NCD prevention, screening, and management are developed by different bodies across different jurisdictions, leading to duplication, inconsistency, and slow translation of evidence into practice. A national coordination hub could align guideline development, reduce duplication, and accelerate the adoption of evidence-based protocols in primary and secondary care. Regular updates every three to five years would ensure that guidelines reflect emerging evidence and changing system requirements.
2. **Establish national programmes to improve screening uptake and coverage:** Formal population-based screening exists only for certain cancers, and even when available, uptake is markedly lower among low-income groups, newcomers, and those without a regular primary care provider. No formally organised screening programs exist for prostate or bladder cancer, or for cardiovascular, respiratory, or metabolic diseases. Establishing national, evidence-based programmes to improve uptake, including community-based outreach targeting underserved populations, and developing clear guidelines for the full range of common cancers would extend the reach of early detection to those currently missed.
3. **Enhance primary care attachment by increasing the supply of primary care providers and through rostering:** Gaps in primary care attachment and access have direct consequences for NCD outcomes. One in seven emergency department visits in 2023–2024 could have been managed by a primary care provider, and approximately one-third of patients with hypertension, diabetes, heart disease, or stroke reported that their emergency visit would have been avoidable if they had a regular provider. Strengthening and expanding team-based primary care models,

increasing physician and nurse practitioner supply in underserved areas, and implementing patient rostering systems would reduce preventable emergency use, enhance care continuity, and support earlier and more reliable NCD detection and management.

4. **Modernize diagnostic infrastructure and referral pathways:** More than one-third of CT, MRI, and SPECT-CT machines are over 10 years old, and median specialist wait times reached a record 30 weeks in 2024. Outdated equipment and unclear referral processes create bottlenecks that delay diagnosis and interrupt the early management pathway. Modernising diagnostic infrastructure and implementing centralised booking systems for specialised care would reduce these delays and improve the consistency of diagnostic access across regions.
5. **Scale up integrated care pathways with clear accountability:** System-wide implementation of coordinated care pathways between primary and specialist services remains limited, despite evidence that integrated models can improve outcomes: integrated heart failure clinics in primary care have demonstrated lower mortality and fewer hospital admissions. Scaling up these pathways with clear accountability, ensuring that patients move efficiently from detection through diagnosis to ongoing management, would reduce misdiagnosis, improve continuity, and narrow the current gap between what early detection can achieve and what the system consistently delivers.
6. **Improve equitable access to integrated and accountable primary care teams:** Access to team-based primary care, which brings together physicians, nurses, pharmacists, and allied health professionals to manage complex chronic conditions, remains unevenly distributed across regions and population groups. Optimising skill-mixes within primary care teams and expanding the strategic use of virtual and mobile care options would extend the reach of comprehensive NCD management, particularly to rural, remote, and socioeconomically disadvantaged populations.

DOMAIN 4: FINANCING

Canada's healthcare financing is characterized by provincial and territorial responsibility for raising revenues and paying providers, with the federal government contributing less than one-quarter of health expenditures through the Canada Health Transfer and providing direct care for specific groups such as First Nations, Inuit, veterans, and military personnel. Universal coverage of medically necessary hospital and physician services contrasts sharply with limited coverage of other services essential for NCD management, particularly pharmaceuticals.

Canada is among the highest health spenders internationally (11.3% of GDP in 2024), but allocates a smaller share to primary care than peer countries: 10.9% of total health expenditures compared to the OECD average of 13.4%. Most expenditures go towards hospitals, drugs, residential care, and physician services. Despite high overall spending, coverage varies across PTs and patients with NCDs face significant out-of-pocket costs and financial barriers. Cancer patients face an average of USD 400 per month on out-of-pocket expenses. In 2021, the total societal cost of cancer reached CAD 26.2 billion in 2021, with approximately 30% borne privately by patients and families. For diabetes, annual out-of-pocket costs in 2022 varied widely, ranging from CAD 78 to over CAD 18,000 for type 1 and CAD 76 to over CAD 10,000 for type 2, with more than half of those with type 1 diabetes spending over 3% of household income on care or unable to follow treatment recommendations due to financial constraints.

Cost-related barriers to accessing medications are more prevalent in Canada than in peer countries. Among older adults surveyed in 2024, 6.3% reported not filling or skipping medications due to cost, compared to 3.8% in France and 1.3% in the United Kingdom. While programs exist to protect low-income residents and recent agreements aim to expand pharmaceutical coverage, gaps remain. Provider payment methods, predominantly fee-for-service, have remained largely unchanged and

do not support comprehensive, coordinated NCD care, instead incentivizing volume over quality or outcomes. Bonus payments to primary care practices for cancer screening targets have shown limited effects, suggesting a need to refocus payment reform toward models that support coordinated, evidence-based care across the continuum.

RECOMMENDATIONS

1. **Scale-up evidence-informed prevention and strengthen long-term impact measurement:** Canada allocates a smaller share of total health spending to primary healthcare compared to the OECD average, despite primary care being the principal setting for NCD prevention, screening, and ongoing management. Scaling up initiatives to address social determinants and primary prevention of NCDs (e.g., community-based prevention programmes), and adopting outcome-oriented funding models in primary care would strengthen capacity to prevent, respond to, and treat NCDs. Clear mechanisms should also be in place to monitor long-term impacts on health outcomes and system demand.
2. **Reduce financial barriers to essential NCD medications and supports by expanding equitable access:** Cost-related non-adherence to essential medications, devices, and caregiver supports remains most common in Canada compared to many peer countries. There is also considerable out-of-pocket spending across Canada, with medication spending ranging from 3.3% in Quebec to 8.9% in British Columbia and Newfoundland and Labrador. For people living with diabetes, out-of-pocket costs and closing coverage gaps for the prevention and management of NCDs can exceed CAD 18,000 annually for type 1, with more than half unable to follow treatment recommendations due to financial constraints. Provinces can leverage new federal bilateral funding agreements to reduce these financial barriers by lowering co-payments and deductibles for low-income or high-risk populations, and extending public coverage for high-value preventive medications.
3. **Expand monitoring of financial barriers to care:** Private costs borne by patients with NCDs, including out-of-pocket spending on drugs, devices, caregiver time, and lost productivity, are not systematically monitored across the country, limiting the ability to identify where financial barriers are greatest or evaluate the impact of coverage changes. Expanding CIHI's monitoring of access to essential NCD supports, stratified by income, geography, and other equity factors, would provide the evidence base needed to target policy responses effectively.
4. **Reform provider payment models toward coordinated, outcome-oriented care:** Current provider payment models continue to incentivize volume rather than comprehensive, coordinated care that has potential to act proactively on NCD detection and chronic disease management. Evidence from Ontario and British Columbia suggests that bonus-based incentives for screening and chronic disease management has minimal impact across provinces, underscoring the need for more effective approaches that support staffing and resources. Moving toward mixed payment models, including salary, capitation, and bundled payments, delivered through integrated primary care teams with a clear mandate for coordinated, evidence-based care, would better align financial incentives with earlier and more effective NCD management.

DOMAIN 5: WORKFORCE

Canada faces persistent healthcare workforce shortages that directly impede the prevention, early detection, and management of NCDs. The workforce is aging, with nearly 18% of healthcare workers aged 55 or older in 2024, compared to 9.5% in 1998. Shortages are particularly acute in primary care and nursing. The physician mix has remained relatively stable at approximately 47% generalists and 53% specialists, with the generalist share declining slightly to its lowest point in over a decade.

Workforce challenges are most pronounced in rural and remote communities where access to timely and continuous care is especially limited. Between 2013 and 2022, the proportion of nurses

working in rural areas declined from 11.1% to 9.6%, while nurse practitioners declined from 18% to 14%.

Federal and provincial governments have initiated various responses. Health Workforce Canada was established in 2023 to strengthen workforce data and planning capacity, whereas pan-Canadian labour mobility improvements aim to facilitate movement of health professionals across jurisdictions. Loan forgiveness programs were expanded for physicians and nurses in underserved communities, and financial incentives for rural service have been introduced.

Virtual care has become an increasingly important tool for extending workforce reach. However, Health Canada's 2025 Caring for Canadians study identifies significant capacity gaps projected to worsen over the next decade, emphasizing the need for stronger data systems, integrated workforce modelling, and cross-jurisdictional collaboration. Several provinces have expanded prescribing and treatment authority for pharmacists and nurse practitioners, but these expansions have largely prioritized acute care and minor ailments rather than long-term NCD management, leaving substantial untapped potential. Training and workforce development for NCD care remains fragmented, with no overarching policy promoting education on chronic disease prevention, diagnosis, and treatment. Informal caregivers and patients also play a vital role in ongoing disease management, highlighting the need for better support systems and training in self-management.

RECOMMENDATIONS

- 1. Integrate NCD burden projections into workforce planning:** Current workforce planning does not systematically account for the trajectory of NCD prevalence, multimorbidity, or the specific service demands these generate. Incorporating NCD-specific projections into workforce planning tools at federal and provincial levels would enable better anticipation of those demands and guide training investments toward the disciplines where gaps will be most acute, particularly primary care, nursing, and chronic disease management.
- 2. Expand interdisciplinary, team-based training for NCD care:** Training and workforce development for NCD care remains fragmented, with no overarching policy promoting education on chronic disease prevention, diagnosis, and treatment. Establishing collaborative, interdisciplinary education that reflects the team-based care required for chronic disease management, across medical, nursing, and allied health programmes, has the potential to strengthen collaboration, networks for shared care, and improve care continuity.
- 3. Expand and evaluate scope of practice for non-physician providers in NCD care:** Several provinces have broadened prescribing and treatment authority for pharmacists and nurse practitioners, but these changes have largely focused on acute care and minor ailments rather than long-term NCD prevention and management. Given persistent workforce pressures and uneven access to primary care, there is an opportunity to broaden non-physician provider roles into structured chronic disease management. Rigorous and ongoing evaluation of these expanded roles, including their impact on access, quality of care, and patient outcomes, would help guide future workforce planning and reduce overall gaps in NCD care.

DOMAIN 6: MEDICINES AND TECHNOLOGY

Beyond financial barriers discussed in Domain 4, Canada faces structural and regulatory gaps in access to essential diagnostics, therapies and digital tools for NCDs. These gaps reflect uneven distribution of diagnostic capacity, delays in integrating new therapies, and persistent drug shortages.

Access to essential diagnostics varies substantially across provinces. For example, spirometry, fundamental for diagnosing COPD and asthma, is not consistently available, contributing to diagnostic gaps in some regions. A 2017 geospatial analysis found marked provincial variation

in access to hyperacute stroke services: over 90% of Alberta and Ontario residents lived within 4.5 hours of a stroke centre, whereas in Saskatchewan and Newfoundland and Labrador only half of residents could reach a stroke centre even within 3.5 hours. Drug shortages pose additional challenges, with Health Canada reporting nearly 4,000 shortages in 2023 and 2024.

While innovations in cancer and stroke care show promise and have contributed to substantial improvements in survival and life expectancy over time, fragmented regulatory and funding processes hinder their timely and equitable implementation. Canada's multi-step pharmaceutical regulatory framework contributes to delays in accessing new therapies. Studies indicate an average of 29.8 months from Notice of Compliance to public formulary listing, with Canada experiencing approval delays averaging approximately 469 days. Research and development efforts are supported by national strategies and partnerships, but funding remains uneven, with cancer receiving greater financial support than other high-burden conditions like respiratory and kidney diseases.

Clinical trial recruitment faces challenges including inaccessible technical language difficult for the public to navigate, limited internet access in rural and Indigenous communities, and low awareness of trial navigation services.

Digital health technologies offer potential to improve NCD management, but Canada lacks NCD-specific digital strategies and faces fundamental barriers to adoption. Access to electronic health records varies dramatically, from over 50% of residents in Saskatchewan, Alberta, and British Columbia to only 14% in Manitoba and Newfoundland and Labrador. National survey data reveal that 73% of physicians lack system integration, with 54% requiring multiple logins across disconnected platforms. The Pan-Canadian Interoperability Roadmap outlines a vision for improving digital infrastructure, but implementation has been slow, and an estimated 46% of Canadians lack digital literacy, with barriers more pronounced among low-income, newcomer, and rural populations.

RECOMMENDATIONS

- 1. Expand diagnostic capacity in underserved regions:** Geographic disparities in access to diagnostic tools, from spirometry for COPD and asthma to time-sensitive stroke infrastructure, mean that early diagnosis depends significantly on where a patient lives. More than one-third of CT, MRI, and SPECT-CT machines in Canada are over 10 years, compounding these gaps. Targeted investment in priority diagnostic equipment in underserved areas, supported by virtual and remote care to facilitate timely interpretation and follow-up, would reduce the time between early detection and actual diagnosis.
- 2. Ensure equitable access to essential treatments and accelerate the adoption of new therapies:** With an average of 29.8 months between regulatory approval and provincial formulary listing, and approval delays averaging 469 days, patients in Canada, particularly outside major urban centres, face prolonged wait times for some treatments. Streamlining regulatory and pricing processes through coordinated single-window review models, building hyperacute stroke capacity in underserved provinces, and adapting approaches like Ontario's Funding Accelerated for Specific Treatments (FAST) programme, which has shortened access timelines for high-priority cancer drugs by approximately 12 months, could reduce these delays and improve the equitable distribution of therapeutic innovation.
- 3. Enhance clinical trial participation and accessibility:** Canada's clinical trial infrastructure has the potential to accelerate access to new therapies and generate evidence relevant to Canadian populations, but recruitment is hindered by technical language barriers, limited rural internet connectivity, and low awareness of trial navigation services. Targeted campaigns to promote clinical trial navigators through disease networks and healthcare providers, alongside multilingual support and strategies to address connectivity barriers, would improve the diversity and representativeness of trial participation.

4. **Advance digital health equity and the Pan-Canadian Interoperability Roadmap:** With 73% of physicians lacking integrated health information systems and 54% navigating multiple disconnected platforms, fragmented digital infrastructure imposes real costs on the quality and continuity of NCD care. Electronic health record access varies from over 50% in some provinces to 14% in others, and approximately 46% of Canadians face digital literacy barriers. Advancing the Pan-Canadian Interoperability Roadmap, investing in broadband expansion, and supporting AI-driven diagnostic tools, alongside targeted digital literacy programmes, would build the connected information infrastructure that coordinated early NCD management requires.

DOMAIN 7: ENVIRONMENTAL SUSTAINABILITY

Canada's health system is among the most carbon-intensive globally, contributing approximately 5% of national greenhouse gas emissions. The main sources of these emissions are hospital electricity consumption (approximately 30%) and the lifecycle of pharmaceuticals and medical devices (approximately 25%). Despite this substantial environmental footprint, targeted efforts to reduce emissions and waste specifically associated with NCD care remain limited.

Canada's National Adaptation Strategy (2023) acknowledges health impacts of climate change and sets targets for climate-resilient health systems, and Canada joined WHO's Alliance for Transformative Action on Climate and Health in 2021. However, the Strategy does not include comprehensive monitoring nor explicit linkage of environmental exposures to NCD prevention, diagnosis, and treatment. These gaps are compounded by the absence of data identifying which NCDs carry the greatest avoidable environmental burden when diagnosis is delayed.

The relationship between NCDs and climate change is bidirectional. Chronic respiratory and cardiovascular diseases are particularly sensitive to air pollution, with population-level studies linking PM_{2.5} increases to emergency department visits and hospital admissions for COPD, asthma, and heart disease. Extreme heat events and wildfires are intensifying. Heat-related deaths among adults over 65 rose by 77% between 2018 and 2022, while wildfire PM_{2.5} exposure contributed to an estimated 570 to 2,500 premature deaths annually from 2013 to 2018. Conversely, when NCDs go undiagnosed or untreated, patients require more resource-intensive care (hospitalizations, surgeries, advanced imaging) that amplifies healthcare's environmental footprint.

Climate adaptation within healthcare remains limited. A 2018 to 2019 survey found only 21.3% of health authorities had a climate change adaptation strategy, with Heat Alert and Response Systems existing in only six provinces and rural, remote, and Indigenous communities particularly lacking formal plans. Promising strategies are emerging, including lower-carbon clinical technologies and care delivery approaches, expanded virtual care, and reduced operating room waste, where clinically appropriate without compromising patient outcomes. Virtual care has demonstrated substantial environmental benefits: 2021 data indicated savings of approximately 1.2 billion kilometres in travel and 330,000 tonnes of CO₂. However, a 2025 performance audit found critical gaps in the National Adaptation Strategy, including failure to prioritize wildfire smoke exposure and weak progress monitoring.

RECOMMENDATIONS

1. **Develop pan-Canadian climate and health surveillance:** The National Adaptation Strategy sets targets for climate-resilient health systems but lacks the monitoring infrastructure needed to track how climate change is affecting NCD outcomes in practice. Without standardised, jurisdiction-comparable indicators linking environmental exposures to chronic disease morbidity and hospitalisation, health authorities cannot identify where climate-related NCD burdens are greatest or evaluate whether adaptation strategies are working. A dedicated pan-Canadian surveillance system with consistent, standardised indicators would fill this gap.

2. **Strengthen collaboration on climate and health communications:** The health consequences of climate change, from PM2.5-related cardiovascular and respiratory admissions to rising heat-related deaths among older adults with NCDs, are unevenly understood across the healthcare community and among the public. Strengthening collaboration between federal and provincial governments, the healthcare sector, and non-governmental organisations on evidence-based climate and health communications would build the awareness and capacity needed for a more coordinated response.
3. **Improve community preparedness for climate-related health emergencies:** With only 21.3% of health authorities holding a climate change adaptation strategy and Heat Alert and Response Systems in only six provinces, Canada's preparedness for the health consequences of extreme weather events remains limited. Rural, remote, and Indigenous communities, which face higher NCD burdens and fewer healthcare resources, are particularly exposed. Strengthening coordination across government levels, agencies, and communities on emergency response and disaster recovery would reduce the vulnerability of populations already managing chronic disease.
4. **Scale up virtual care with measurable clinical and environmental targets:** Virtual care has already demonstrated tangible environmental benefits, saving approximately 1.2 billion kilometres in travel and 330,000 tonnes of CO₂ in 2021, while also extending NCD management to rural and Indigenous communities with limited in-person access. Scaling virtual care as a core component of NCD management, supported by broadband investment, and aligning expansion with measurable indicators across clinical access, equity, and carbon reduction, would ensure that environmental gains reinforce rather than compromise quality of care.

DOMAIN 1

Population health



Canada ranks among the top 20 countries in the world for life expectancy, with an increase from 81.3 years in 2022 to 81.7 in 2023. While this trend was greater for males than females, the latter maintain a greater overall life expectancy (79.5 versus 83.9 years in 2023). However, overall life expectancy remains lower than pre-pandemic times in 2019 (Statistics Canada, 2025a).

While Canada also ranks among the top 30 countries in terms of disability-adjusted life years (DALYs), its ranking for age-standardized DALYs decreased significantly over nearly 30 years, falling from 9th in 1990 to 24th in 2019 (Kopec et al., 2024). This downward trend has coincided with poor perceptions of individual health among Canadians. In 2023, only 52.2% of adults sampled for the Canadian Community Health Survey reported having "very good" or "excellent" health, compared with 61.1% in 2015 (Statistics Canada, 2025b).

In 2023, cancer and heart disease were the top causes of death, together accounting for 43.7% of all deaths. The top 10 causes of death also include cerebrovascular diseases (ranked 4th), chronic lower respiratory diseases (5th), diabetes mellitus (7th), and chronic liver disease and cirrhosis (10th). Together, the top 10 causes, inclusive of communicable diseases such as COVID-19, accounted for 67.8% of all deaths (Statistics Canada, 2025a).

The prevalence of multimorbidity rose from 41.2% in 2015 to 46.1% in 2023 among adults aged 18 years and older, with the latter representing over 14 million people (Statistics Canada, 2025a). This increase was more pronounced among females (48.9%) than males (43.3%) and adults aged 65 years and older (79.6%) compared to those aged 18–34 years (21.0%) (Statistics Canada, 2025a). Disproportionate rates also occurred regionally, with Canada's Atlantic provinces (Newfoundland and Labrador, Prince Edward Island, Nova Scotia, and New Brunswick) and Manitoba having higher rates than all of Canada, excluding the territories (Statistics Canada, 2025a). Research from 2018 suggests that in Ontario, the number of individuals aged 35–79 with three or more chronic conditions is nearly four times greater than among those aged 80+, suggesting that prevalence measures alone might be masking the absolute burden of multimorbidity in some jurisdictions (Ryan et al., 2018).

Canada's ageing population places significant and increasing pressure on the health system (Ryan et al., 2018). In 2024, Canada had more residents aged 65 years or older (18.9%) compared to those aged 0–14 (15.2%). By 2030, all "baby boomers" will be 65+, and by 2050 they will be 85+ (Statistics Canada, 2024). In 2023, fewer than half of seniors (those aged 65+) perceived their health as "good" or "excellent" (Statistics Canada, 2025a), suggesting a continued rise in multimorbidity and health service demands over the next 25 years (Kopec et al., 2024).

Subdomain 1.1: Burden of disease

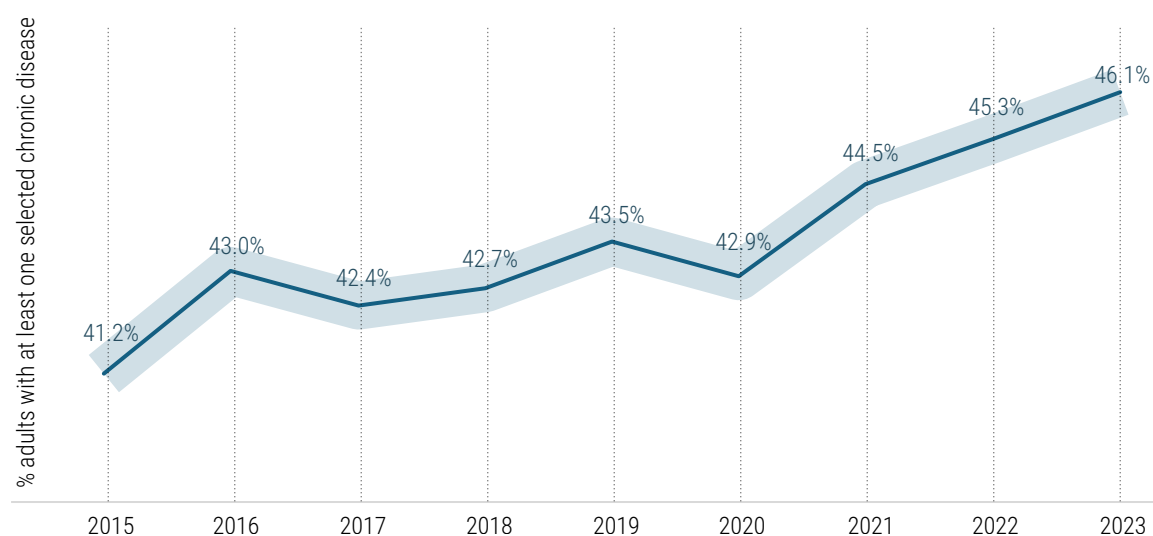
All disease areas

Figure 1 presents self-reported rates of select chronic diseases among Canadian adults between 2015–2023. No data are available for highest and lowest income quintiles. A total of 46.1% of people aged 18+ reported one or more chronic disease in 2023, representing a steady increase from 2015 (41.2%). This is above the 2021 OECD²⁴ average (35.4% of adults aged 16+) and highest among participating PHSSR countries² (except Japan, which has no data).

¹ Based on an average of 24 OECD countries.

² PHSSR countries in scope: Canada, France, Germany, Greece, Italy, Japan, Poland, Spain.

Figure 1. Rates of selected chronic diseases among adults, 2015–2023



Note: Proportion of population aged 18 years and older who reported one or more of the following chronic diseases: arthritis, high blood pressure, diabetes, cancer (ever diagnosed), heart disease (ever diagnosed), stroke, and mood disorders.

Source: Statistics Canada, 2025a.

Indigenous Peoples in Canada experience a disproportionate burden of NCDs compared to the general Canadian population due to the longstanding effects of colonialism, and ongoing systemic barriers to social determinants of health, healthcare and public health services. Among these conditions are kidney disease, end-stage renal disease, and rheumatic disease (National Collaborating Centre for Indigenous Health [NCCIH], 2025). Additionally, both First Nations people living off reserve and Métis populations had higher rates of asthma, obesity, diabetes, arthritis, and COPD compared to non-Indigenous people in 2020/2021. While rates of cardiovascular disease are decreasing among the general Canadian population, they are rising among Indigenous populations and, in particular, Indigenous women, such that this NCD is now considered the leading cause of death among this population (NCCIH, 2025).

Multimorbidity prevalence by age group (both sexes)

The crude prevalence of individuals with two or more chronic conditions in 2022/2023 was reportedly highest among those aged 85+ (87.02%), with a significant decrease in prevalence by age cohort and between oldest and youngest cohort of 40–49-year-olds (8.74%) (Government of Canada, 2024a).

Total NCD mortality rate (per 100,000 population, age standardized)

The total NCD mortality rate (per 100,000 people) in Canada decreased from approximately 320 in 2014 to 310 in 2021 (WHO, 2025a). These rates placed Canada near middle rank among PHSSR countries, with lower rates than Poland, Germany and Greece, but higher rates than France, Italy, Japan, and Spain.

Deaths attributed to NCD

Table 1 presents the top 10 leading causes of death in Canada in 2014 and 2023. Malignant neoplasms and diseases of the heart maintained the highest rankings in terms of leading cause of death among Canadians for both years (Statistics Canada, 2025c). Compared with 2014, the rank of diabetes as a leading cause of death declined in 2023 – possibly due to COVID-19, which was ranked as the 6th leading cause of death in 2023.

Among males, malignant neoplasms were the leading cause of death in both 2014 and 2023, with 40,686 and 44,548 deaths, respectively. A similar trend was observed among females, with 36,323 and 40,081 deaths, respectively (Statistics Canada, 2025c).

Table 1. Top 10 leading causes of deaths, both sexes, 2014 and 2023

Cause of death ^a	Number of deaths (ranking)			
	2014		2023	
Malignant neoplasms	77,009	(1)	84,629	(1)
Diseases of the heart	51,049	(2)	57,890	(2)
Cerebrovascular diseases	13,577	(3)	13,833	(4)
Chronic lower respiratory diseases	11,882	(4)	12,994	(5)
Accidents (unintentional injuries)	11,789	(5)	20,597	(3)
Diabetes mellitus	7,075	(6)	7,273	(7)
Influenza and pneumonia	6,599	(7)	6,363	(8)
Alzheimer's disease	6,411	(8)	5,231	(9)
Intentional self-harm (suicide)	4,292	(9)	nd	
Chronic liver disease and cirrhosis	3,132	(10)	4,374	(10)
COVID-19	nd		7,963	(6)

Notes:

^a Uses the following ICD-10 codes: malignant neoplasms [C00-C97]; diseases of the heart [I00-I09, I11, I13, I20-I151]; cerebrovascular disease [I60-I69]; chronic lower respiratory diseases [J40-J47]; accidents (unintentional injuries) [V01-X59, T85-Y86]; diabetes mellitus [E10-E14]; influenza and pneumonia [J09-J18]; Alzheimer's disease [G30]; intentional self-harm (suicide) [X60-X84, Y87.0]; chronic liver disease and cirrhosis [K70, K73-K74]; and COVID-19 [U07.1, U07.2, U10.9].

nd = no data.

Source: Statistics Canada, 2025c.

Mortality rates from avoidable causes

Mortality rates from both preventable and treatable causes in Canada are lower than the OECD average (OECD, 2023a; see Table 2). Compared to PHSSR countries, Canada has a near middle rank for both measures, with lower mortality rates than Germany, Greece, and Poland, but higher than France, Italy, Spain, and Japan. Table 2 details mortality rate from avoidable (both treatable and preventable) causes in Canada using mortality rates for individuals under 75.

Table 2. Mortality rate from avoidable causes (per 100,000, age-standardized)

		Mortality from preventable causes	Mortality from treatable causes
OECD ^a		158	79
Canada ^a		113	58
Aged under 75 years	Canada ^b	132	61
	British Columbia	116	52
	Yukon	nd	nd
	Alberta	159	65
	Northwest Territories	237	93
	Saskatchewan	185	77
	Manitoba	156	74
	Nunavut	333	109
	Ontario	131	62
	Quebec	117	54
	New Brunswick	135	67
	Nova Scotia	149	75
	Prince Edward Island	123	57
	Newfoundland and Labrador	146	87

Notes:

^a 2021 data, as reported in Health at a Glance 2023, may not utilize age-cutoff of <75 years.

Source: OECD, 2023a.

^b National and province-specific data (2019–2021) utilizes CIHI methodologies. Canadian values reflect the number of deaths at age <75 from avoidable causes, divided by the total mid-year population <75, adjusted for age and multiplied to provide a rate per 100,000 people.

Source: CIHI, 2023a.

Burden of disease: Cancer

In Canada (excluding Quebec), predicted five-year survival rates vary widely across cancer types, with prostate (91%) and breast (89%) cancers showing the highest survival rate, while lung and bronchus are the lowest (22%) (Canadian Cancer Society, 2023). Early-stage diagnosis is most common for breast and prostate cancers, whereas colon and rectum cancers are diagnosed at later stages (Statistics Canada, 2023). Table 3 presents the rates of diagnosis by stage and five-year survival rate.

Table 3. Rates of diagnosis by stage (per 100,000) and five year survival rate (%) for different cancer types, 2017 (both sexes, all of Canada excluding Quebec)

Cancer	Stage at diagnosis (both sexes) ^a					5-year survival rate ^b
	Stage I	Stage II	Stage III	Stage IV	Unknown	
Lung and bronchus	14.3	4.9	12.1	29.1	1.1	22%
Colon and rectum	12.8	21.9	15.3	10.3	2.5	67%
Prostate	13.0	30.5	7.8	8.2	1.2	91%
Breast	28.4	25.1	7.5	3.7	0.8	89%
Cervix uterine	2.1	0.6	0.6	0.4	0.2	74%
Uterine body	nd	nd	nd	nd	nd	82%
Bladder	nd	nd	nd	nd	nd	77%

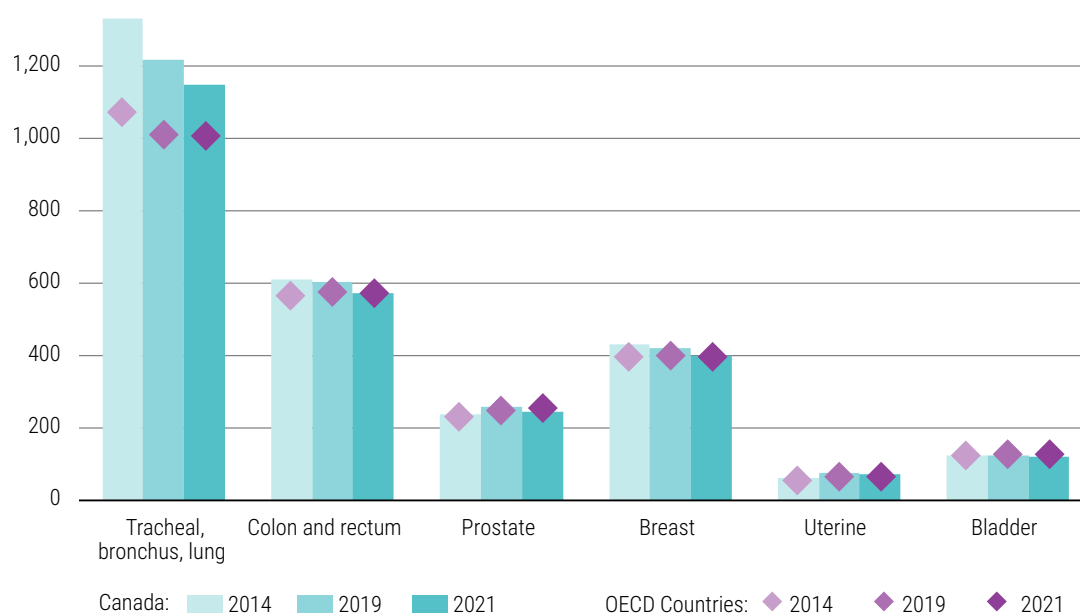
Notes: ^a Uses the following ICD-O-3 code for the cancer types: lung and bronchus [C34.0-C34.9]; colon and rectum [C34.0-C34.9]; prostate [C61.9]; breast [C50.0-C50.9]; cervix uteri [C53.0-53.9]. Source: Statistics Canada, 2023.

^b Data from the Canadian Cancer Registry death-linked analytic file from 2010 to 2017. Source: Canadian Cancer Society, 2023.

nd = no data available.

As of 2021, Canada had a lower burden of disease due to cancer among OECD countries (IHME, 2021). However, certain cancer types present a comparatively higher burden of disease in Canada – namely, tracheal, bronchus and lung, colon and rectum, and breast cancers (see Figure 2).

Figure 2. Burden of disease due to selected cancers (DALYs, per 100,000 people)



Source: IHME, 2021.

In Canada, lung cancer maintained the highest burden of each cancer sub-type across the three years of interest, whereas uterine cancer has maintained the lowest. Across each year, the burden of cancer for both sexes decreased for each sub-type, except for prostate, bladder, and uterine cancers, for which respective burdens increased from 2014 to 2019 before decreasing in 2021. The burden of prostate and uterine cancer remained higher in 2021 than 2014, whereas rates decreased for bladder cancer between these years (IHME, 2021).

Cancer incidence and mortality rates, crude and age-standardized rates

Crude and age-standardized mortality and incidence rates for select cancers in Canada are shown in Table 4. Mortality is highest for trachea, bronchus and lung cancers (21.5) and breast cancer (13.4), and incidence rates are highest for both prostate cancer (60.1) and breast cancer (88.6).

Table 4. Crude and age-standardized mortality and incidence rates for selected cancers in Canada, 2022 (per 100,000, both sexes)

Cancer	Crude mortality ^a	Age-standardized mortality rate ^b	Crude incidence rate ^c	Age-standardized incidence rate ^d
Trachea, bronchus, and lung	59.8	21.5	81.2	32.4
Colon and rectum	30.0	10.6	61.8	28.6
Prostate	30.7	10.0	134.1	60.1
Breast	35.3	13.4	164.7	88.6
Uterine	8.3	3.3	40.9	21.1
Bladder	9.1	2.8	39.4	15.6

Sources:

^a WHO International Agency for Research on Cancer, 2024a.

^b WHO International Agency for Research on Cancer, 2024b.

^c WHO International Agency for Research on Cancer, 2024c.

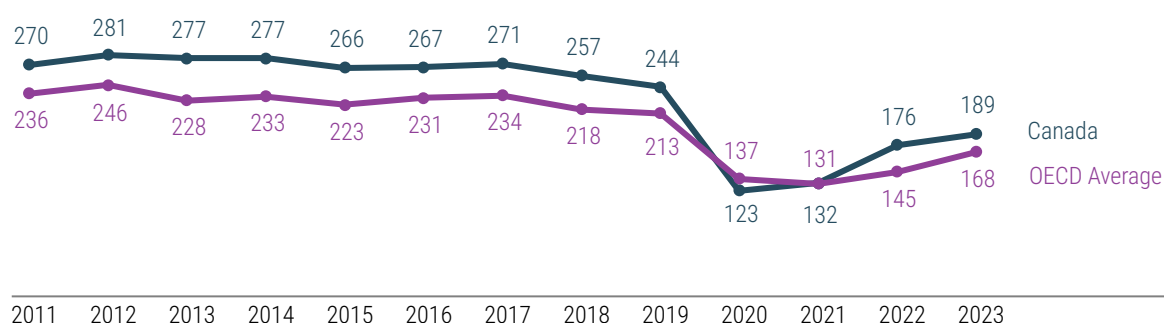
^d WHO International Agency for Research on Cancer, 2024d.

Burden of disease: Chronic respiratory disease

Asthma and COPD hospital admission in adults

While hospital admissions for asthma and COPD declined during the COVID-19 pandemic, they have remained consistently higher than those of the OECD since 2011 (OECD, 2023a; see Figure 3). The relatively higher rates in Canada may suggest challenges in accessing high-quality care in the community and effective early-stage chronic disease management for these conditions.

Figure 3. Hospital admissions for COPD and asthma in adults (aged 15+, per 100,000)



Source: OECD, 2023a.

Burden of disease: Cardiovascular, kidney and metabolic diseases

Table 5 details the burden of disease for selected NCDs in Canada. Measured through age-standardized DALYs per 100,000 people, the burden of stroke, ischaemic heart disease, and chronic respiratory diseases declined from 2014–2021, albeit modestly for the former two disease categories (IHME, 2021). Over the same period, the burden of diabetes increased (from 431.22 to 463.55), as did the burden of chronic kidney disease (from 239.25 to 245.75). No data are available for the burden of heart failure.

Table 5. Burden of disease for select NCDs, DALYs per 100,000 population, age-standardized

NCD	2014	2019	2021
Chronic respiratory disease ^a	1,004.58	1,028.03	995.62
Ischaemic heart disease (IHD) ^b	1,201.06	1,076.50	1,082.71
Heart failure	nd	nd	nd
Stroke ^c	512.49	495.46	493.00
Chronic kidney disease ^d	239.25	237.44	245.75
Diabetes ^e	431.22	450.56	463.55

Notes:

Uses the following ICD 10 codes:

^a D86-D86.2, D86.9, G47.3, J30-J35.9, J37-J39.9, J41-J46.9, J60-J63.8, J66-J68.9, J70, J70.8-J70.9, J82, J84-J84.9, J91, J91.8-J92.9.

^b I20-I25.9.

^c G45-G46.8, I60-I63.9, I65-I66.9, I67.0-I67.3, I67.5-I67.6, I68.1-I68.2, I69.0-I69.3.

^d D63.1, E10.2, E11.2, I12-I13.9, N02-N08.8, N15.0, N18-N18.9, Q61-Q62.8.

^e E10-E10.1, E10.3-E11.1, E11.3-E11.9, P70.2.

nd = no data available.

Sources: Global Burden of Disease Collaborative Network, 2024; IHME, 2021.

Subdomain 1.2: Behavioural risk factors

Tobacco use, tobacco smoking and cigarette smoking

In Canada, tobacco use remains a leading cause of preventable NCD-related morbidity and mortality and poses a substantial societal burden, including direct healthcare costs and lost productivity, of approximately CAD 11.2 billion annually (Health Canada, 2002). However, rates of cigarette smoking are declining, with just over 11.4% of adults reporting daily or occasional smoking in 2023 compared to 12.5% in 2022 (Statistics Canada, 2025a). Canada also has the lowest rate of tobacco use, tobacco smoking, and cigarette smoking among PHSSR countries (WHO, 2024).

As Table 6 indicates, the prevalence of both tobacco use/smoking and cigarette smoking has remained higher among males than females over the last 25 years. Also, proportionally more adults in lower income quintiles reported daily or occasional smoking in 2024 (16%) compared to those in the highest quintile (8.3%) (Statistics Canada, 2025a). Regional differences were also observed in 2022 and 2023, with higher rates of cigarette smoking in the territories compared to Canada overall, and within the Eastern provinces of Newfoundland and Labrador, Nova Scotia, and Quebec (Statistics Canada, 2025a).

Table 6. Age-standardized prevalence (%) of current tobacco use, tobacco smoking, and cigarette smoking, stratified by sex

		2000	2005	2007	2010	2015	2020	2021	2022 ^a	2025 ^a
Both sexes	Tobacco use/smoking	28.7	23.5	21.6	19.3	15.8	13.0	12.5	12.0	10.7
	Cigarette smoking	27.1	22.2	20.6	18.2	15.0	12.3	11.8	11.4	10.1
Male	Tobacco use/smoking	30.7	25.8	23.9	21.6	18.2	15.3	14.8	14.3	12.9
	Cigarette smoking	28.8	24.2	22.7	20.4	17.3	14.5	14.0	13.5	12.2
Female	Tobacco use/smoking	26.8	21.2	19.3	17.0	13.5	10.7	10.2	9.7	8.5
	Cigarette smoking	25.3	20.1	18.4	16.0	12.7	10.1	9.7	9.2	8.0

Notes:

^a Projected based on latest data (2021).

Source: WHO, 2024.

Cannabis and vaping

The 2018 enactment of the *Cannabis Act* saw Canada become the first major developed country to legalize cannabis use. Accordingly, several public health and safety measures are overseen at both national and sub-national levels. The government of Canada licenses activities related to the production of cannabis, as well as its possession, distribution, sale, and cannabis-related research. PTs oversee cannabis distribution according to jurisdiction-specific retail models, and governments are authorized to implement control measures pertaining to minimum age for adult possession, personal possession limits, home cultivation, and public consumption restrictions, among other considerations (Rosenberg, 2024).

In 2024, a legislative review of the *Cannabis Act* concluded that more time is needed to accurately gauge the health impacts of cannabis legalization (Rosenberg, 2024). However, the prevalence of daily cannabis use remained low and relatively stable across 2019 (5.8%), 2022 (6.5%), and 2023 (5.7%). Differences in use have been observed between lowest and highest income quintiles (6.7% versus 4.9%), men and women aged 18 to 34 (9.8% versus 6.2%), 2SLGBTQI+ communities and their heterosexual counterparts (16.0% versus 7.1%), and Canadians with a disability and those without (11.5% versus 5.0%) (Statistics Canada, 2025a). Such discrepancies are noteworthy given that, as of 2024, the Cannabis Act had yet to incorporate social equity objectives and explicit measures to protect the health and social wellbeing of marginalized and disadvantaged groups (Rosenberg, 2024).

Similar trends exist with regards to rates of vaping among Canadian adults. In 2021, only 4.5% reported using an e-cigarette or vape product in the previous 30 days, with this proportion increasing to 5.7% in 2022, and 6.2% in 2023. The growing popularity of vaping has been partially driven by the perception that it is less harmful than smoking, as well as relatively weak regulation upon the market introduction of vaping and e-cigarette products (Heart and Stroke Foundation of Canada, 2023). Similar to both tobacco and cannabis, rates of vaping in 2023 were generally higher amongst men (7.4%) than women (5.0%) and 2SLGBTQI+ adults aged 18 to 34 (13.4%) and 35 to 49 (17.4%) compared to their heterosexual counterparts (5.8% and 12.8%, respectively) (Statistics Canada, 2025a).

Alcohol

Alcohol is one of the most widely used psychoactive substances in Canada and a leading cause of preventable morbidity and mortality. Consumption is linked to a range of NCDs through dose-dependent relationships, including liver disease and cardiovascular diseases and conditions (hypertension, heart failure, high blood pressure, and stroke) (Clay et al., 2025). Alcohol is also

classified as a carcinogen and, as such, is associated with increased risk for several cancers, including breast, colon, rectum, mouth and throat, liver, esophageal, and laryngeal (Paradis et al., 2023).

Despite these risks, alcohol consumption has remained stable over time, with 9.9 litres annually consumed per capita among Canadians aged 15 and older in 2014, 2019, and 2020. This ranks Canada in the mid-range among the PHSSR countries, lower than Greece, Italy, and Japan but higher than France, Italy, and Poland (WHO, 2025b). In Canada, higher rates of consumption have also been reported among the 2SLGBTQI+ community (Statistics Canada, 2025a) and heavy drinking unevenly distributed across intersecting sociodemographic groups according to sexual orientation, sex/gender, racial minority status, and income (Gitelman et al., 2025). In 2020, alcohol accounted for approximately 40% (CAD 19.7 billion) of total substance use costs in Canada, constituting a net annual deficit of CAD 6.2 billion against direct alcohol revenue (Naimi et al., 2023).

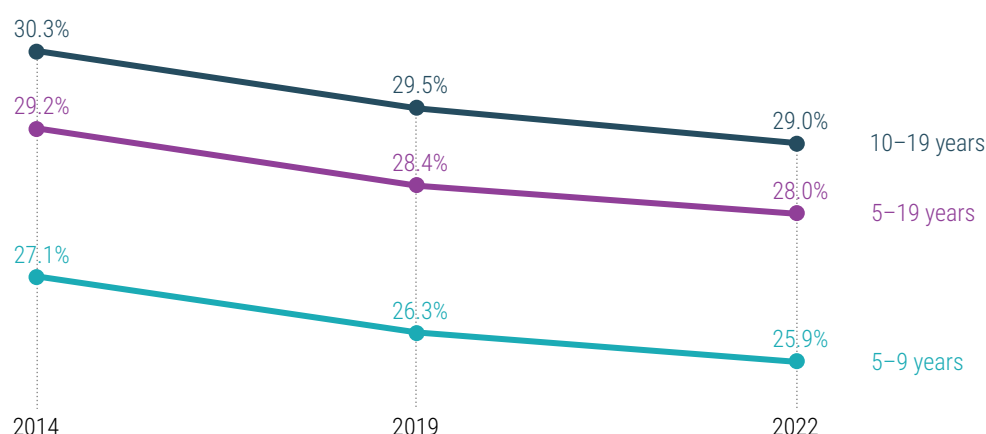
Weight, nutrition and physical activity

The *Canadian Guidelines for Body Weight Classification in Adults* provides indicators of health risk according to Body Mass Index (BMI) and Waist Circumference (WC). Canada's BMI classification system is considered by Health Canada to be the most useful indicator of health risks (Health Canada, 2003)³, and reflects the thresholds used by WHO and other Western societies.

In 2016, Canada's age-standardized mean BMI estimate was 26.9, making it the highest among PHSSR countries. Moreover, the prevalence of adults with a BMI ≥ 25 increased across the years of 2014 (58.8%), 2019 (59%), and 2021 (59.2%). Together these trends indicate that a notable proportion of Canadians are overweight and, as such, are at an increased risk of the onset or exacerbation of NCDs like type 2 diabetes, coronary heart disease, dyslipidaemia, hypertension, and certain cancers (Health Canada, 2003).

By contrast, the prevalence of overweight children and adolescents decreased from 2014–2022, with rates remaining higher within the oldest age cohort (see Figure 4). Despite this downward trend, a notable portion of younger Canadians remained overweight as of 2022 and, consequently, were at increased risk of experiencing NCDs similar to their adult counterparts, including type 2 diabetes, hypertension, and cancer (PHAC, 2024a).

Figure 4. Crude % estimates of overweight children and adolescents (BMI >1 s.d. above the median)

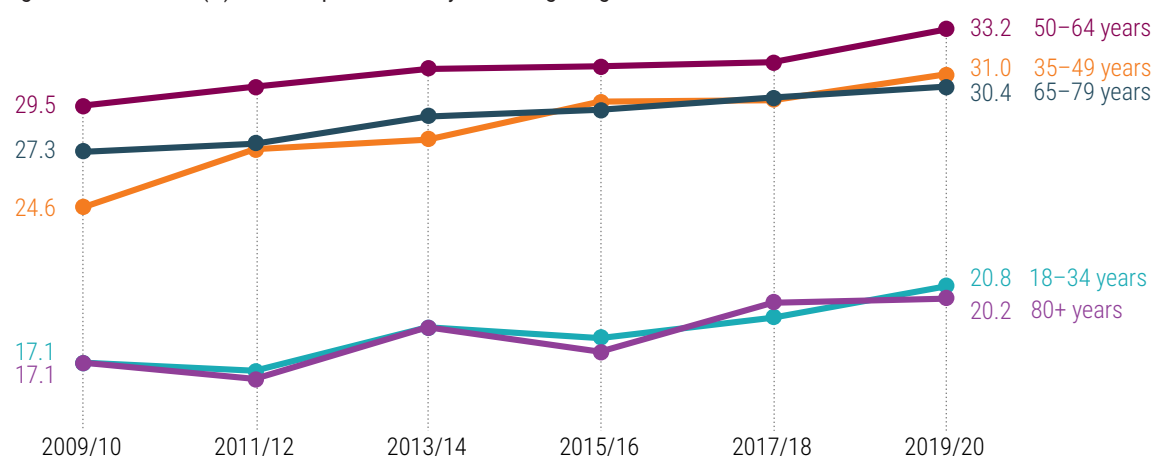


Source: WHO, 2022.

³ BMI classification: underweight (<18.5 kg/m²), normal weight (18.5–24.9/m²), overweight (25.0–29.9/m²) and obese (30.0–≥40.0/m²).

High BMI in childhood and adolescence is strongly associated with adulthood obesity (PHAC, 2024b), defined in Canada according to Class I (BMI 30–34.9 kg/m²), Class II (35.0–39.9), or Class III (≥40.0) (Health Canada, 2003). As the risks for developing health problems range from ‘high’ (Class I) to ‘extremely high’ (Class III) across these thresholds, the increasing prevalence of self-reported obesity, detailed in Figure 5, call attention to a potentially worrisome trend.

Figure 5. Prevalence (%) of self-reported obesity according to age



Note: Estimates exclude territories.

Source: PHAC, 2024b.

Both lifestyle and systemic factors are understood to contribute to unhealthy weight and attendant NCDs in Canada. A 2016 federal Senate Committee report concluded that obesity is primarily attributable to a confluence of socioenvironmental factors that make it “too easy to eat poorly and remain sedentary” (Ogilvie and Eggleton, 2016). These include, for example, changes in eating habits due to a burgeoning ‘fast food’ culture and, similarly, the growing ubiquity of virtual and automated facets of daily living. This conclusion is reflected by more recent trends surrounding nutrition and rates of physical activity in Canada. In 2023, only 21% of Canadians aged 18 years and older reported eating fruits and vegetables five times per day, whereas 45% reached the recommended 150 minutes of physical activity per week (Statistics Canada, 2025a). Accordingly, several national health promotion initiatives exist to encourage healthy diet and exercise, including the *Canadian 24-Hour Movement Guideline for Adults (18–64 years)* (Canadian Society for Exercise Physiology, 2025) and Canada’s Food Guide (Health Canada, 2025a).

And finally, systemic factors are widely understood to have a significant impact on the ability of Canadians to establish and maintain lifestyles conducive to healthy eating, physical activity, and weight (Alberga et al., 2018; Chai et al., 2024). Inequities exist in the consumption of fruits and vegetables, for example, with Canadians in the lowest income quintile (20.4%) eating fewer daily compared to those in the highest (22.8%) in 2023 (Statistics Canada, 2025a). Similar differences exist with regards to the prevalence of obesity among Canadians, with those in the lowest income quintile reporting higher rates than those in the highest between 2009/10–2019/20 (PHAC, 2024b) (see Table 7).

The federal government has acknowledged the social determinants of healthy lifestyle (Ogilvie and Eggleton, 2016). As such, system-level efforts like Canada’s trans-fat ban (Health Canada, 2018) and front-of-package nutrition labelling requirements (Health Canada, 2025b) are in place to support healthy nutritional choices. However, areas for improvement remain, including the need for a greater focus on structural determinants of unhealthy eating and physical inactivity rather than reducing these issues to a matter of individual choice (Amend, 2018; Nilson et al., 2025), substituting BMI as the ‘go to’ indicator of healthy weight (Alberga et al., 2018), addressing longstanding data gaps associated with obesity among Indigenous populations (PHAC, 2024b), and officially recognizing and addressing obesity as a chronic disease (Chen et al., 2025).

Table 7. Prevalence (%) of self-reported obesity according to household income

Income quintile	2009/10	2011/12	2013/14	2015/16	2017/18	2019/20
Quintile 1 (lowest)	23.5	23.7	25.5	26.7	27.3	28.3
Quintile 2	23.4	24.1	26.3	26.3	27.3	28.1
Quintile 3	24.2	25.2	26.9	26.1	28.0	28.1
Quintile 4	23.6	25.0	26.1	26.9	26.9	28.8
Quintile 5 (highest)	24.3	25.8	25.8	26.1	25.1	27.7

Note: Estimates exclude territories.

Source: PHAC, 2024b.

Subdomain 1.3: Environmental impacts on NCDs

Research has consistently demonstrated that air quality, climate change, and urban design each contribute to the development and progression of NCDs within populations. Air pollution has been linked to cardiovascular disease, asthma, lung cancer, and diabetes, and is recognized as a lead driver for respiratory disease and urbanization. The effect of air pollution and other environmental hazards generally results from a combination of factors, such as increases in vehicle emissions, higher temperatures from the urban heat island effect and building materials, and the adoption of Western lifestyle habits – all of which have been linked to the growing rates of respiratory allergies and cardiovascular diseases (PHAC, 2017).

While age-standardized deaths attributable to air pollution have declined from 15 per 100,000 in 2014 to 10.6 per 100,000 in 2021 (Health Canada, 2021a), exposure to pollutants remains a public health concern. Estimates from Environment and Climate Change Canada suggest that average concentrations of nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and volatile organic compounds (VOCs) are trending downward between 2006–2020, but no corresponding trend could be detected in the concentrations of PM_{2.5} or ozone (O₃) (Environment and Climate Change Canada, 2024; see Table 8).

Table 8. Average concentration of selected air pollutants at Canadian Monitoring Stations, 2006–2020

	Fine Particulate Matter (PM _{2.5}) (µg/m ³)	O ₃ (ppb)	NO ₂ (ppb)	SO ₂ (ppb)	VOCs (ppbC)
2006	6.0	32.7	10.7	1.9	106.9
2020	6.0	32.7	6.3	0.7	63.5 ^a
Trend	No trend detected	No trend detected	Downward trend	Downward trend	Downward trend

^a Reflects data from 2019

Source: Environment and Climate Change Canada, 2024.

Additionally, extreme heat events in recent years are driving significant increases in heat-related mortality and have been associated with increased hospital admissions for respiratory, kidney, and heart conditions (PHAC, 2017). Among adults over 65, heat-related deaths rose by 77.42% between 2018 and 2022 compared to 2000–2004, translating to an estimated 1,075 additional deaths annually (Health Canada, 2025c). See also Domain 7: Environmental sustainability.

Subdomain 1.4: Primary prevention

Social and structural determinants of NCDs

Canada has long been considered an international leader in health promotion (Raphael et al., 2020), having developed and endorsed several seminal frameworks calling attention to the impact of the social determinants of health (SDoH) on population health (Lalonde, 1974; WHO, 1986). And while there is robust evidence of the intersection of socioeconomic factors and NCD morbidity and mortality in Canada (Rosella and Buajitti, 2024), the equitable distribution of the SDoH through public policy remains a key area for improvement (Raphael et al., 2020). Notably, Canada has yet to implement a federal HiAP framework through which intersectoral governance may be systematized to prevent and control NCDs (Tonelli et al., 2020).

Notably, Canada has yet to implement a federal Health in All Policies (HiAP) framework through which intersectoral policymaking may be systematized to promote collaboration across health and non-health sectors such as housing, transportation, education, employment and fiscal policy (Tonelli et al., 2020; (WHO, 2023). Endorsed by the World Health Organization, HiAP is an upstream approach to promoting the health benefits of public policies while also mitigating their potential negative health impacts, including those pertaining to chronic disease.

In the absence of a formal HiAP framework, the Government of Canada has adopted several tools to leverage considerations of the SDoH and health equity throughout federal decision processes. These include Gender-Based Analysis Plus (GBA+) to inform policy, program, and legislation development (Government of Canada, 2025a), a *Quality of Life Framework* to support evidence-based budgeting (Statistics Canada, 2025d), and health, social, and economic impact assessment of select federal projects per the *Impact Assessment Act (2024)* (Impact Assessment Agency of Canada, 2020).

Additionally, some progress in advancing HiAP has been made at the provincial level. Quebec remains a notable example given its longstanding, legislated application of Health Impact Assessment to provincial policies and programs. Similarly, the province of Newfoundland and Labrador recently legislated HiAP, including consideration of the SDoH and population health impacts of all policy decisions, through its *Health Protection and Promotion Act* in 2018 (Bernier, 2023; PHAC, 2021a). These and other pan-Canadian efforts are the current focus of the Canadian Network for Health in All Policies (CNHiAP) which, since 2022, has convened professional and academic members interested in expanding HiAP knowledge and capacity across the country, while also learning from and contributing to the global network (GNHiAP) of HiAP leaders (INSPQ, 2025).

Building on the positive potential of these efforts, the systematic implementation of HiAP at both federal and provincial levels may strengthen the primary prevention of NCDs through direct intervention of their social and structural determinants (Tonelli et al., 2020). For example, HiAP has been proposed as a means of advancing Canada's existing commitment to the 2030 Agenda for Sustainable Development given its direct focus on reducing NCD mortality rates (Target 3.4) as well as on the range of SDoH shaping NCD risk factors among people living in Canada (Bernier, 2023).

Addressing behavioural risk factors

Canada's approach to NCDs prevention largely entails policies and incentives to address their known behavioural risk factors. This is particularly well illustrated through its long history of tobacco control measures, including the precedent-setting introduction of picture warnings on cigarette packages in 2000, and a ban on nearly all flavoured cigarettes and cigarillos in 2010 (Canadian Cancer Society, 2025a). Most recently, *Canada's Tobacco Strategy* was launched in 2018 with the aim of reducing tobacco use to less than 5% of the general population by 2035. Recognizing disproportionate rates of smoking among Indigenous populations, *Canada's Tobacco Strategy* also engages First Nations, Inuit and Métis Nation to develop self-determined and culturally appropriate reduction strategies (Health Canada, 2025d).

Despite ongoing control efforts, tobacco use remains a leading cause of preventable disease and death in Canada, and continues to pose a significant societal burden, including direct healthcare costs (Government of Canada, 2025b). These trends, combined with recent increases in the prevalence of vaping, led to the implementation of the federal *Tobacco and Vaping Products Act* in 2018. Key objectives include regulating both tobacco and vaping products, particularly among youth, through age and advertising restrictions and public awareness campaigns (Health Canada, 2024a). Similarly, the 2018 legalization of cannabis was accompanied by the *Cannabis Act*, with public health precautions including restricted access among youth, compliance and enforcement measures, and the provision of health information. A 2024 legislative review of the Act highlighted the importance of future efforts to incorporate the voices of equity-deserving communities in developing non-stigmatizing and culturally appropriate educational and informational materials (Rosenberg, 2024).

By contrast, Canada has yet to implement a federal alcohol policy despite alcohol consumption posing a substantially greater health and socioeconomic burden than both tobacco and cannabis. Consequently, there is notable variability in intergovernmental efforts to curtail both population and per capita alcohol consumption, as well as the effectiveness in doing so. The Federal government provides few incentives to strengthen effective alcohol control policies at the PT level, including pricing and taxation, health and safety messaging, minimum legal drinking age, and alcohol distribution (Farkouh et al., 2024; Naimi et al., 2023); there is variability in the nature and scope of alcohol control policies, alcohol consumption, and harm across Canada (Statistics Canada, 2025a). The 2023 release of *Canada's Guidance on Alcohol and Health* further highlights the country's general 'laissez-faire' attitude toward alcohol consumption. Intended to improve alcohol literacy while specifying a continuum of risk based on per week and per occasion consumption rates (Paradis et al., 2023), the guidance focuses on individual consumption as opposed to evidence-based, low-cost control policies (Naimi et al., 2023). In the absence of a federal alcohol framework, Canada's leading alcohol scientists and scholars have encouraged all PTs to adopt the best policy practices of neighbouring jurisdictions (Naimi et al., 2023) while also considering a health equity basis for all efforts to improve population health (Rosella & Buajitti, 2024).

Pan-Canadian Incentives to address NCDs

Research efforts to address NCDs in Canada are largely supported through funding opportunities overseen by CIHR. Established in 2000, CIHR operates as part of the Federal Health Portfolio and is comprised of 13 virtual institutes which together provide a comprehensive and interdisciplinary overview of health research priorities in Canada. The respective mandate and focus area of each CIHR institute is, to some degree, relevant to addressing NCDs. These include, for example, the Institutes of Population and Public Health (IPPH), Health Services and Policy Research (IHSPR), Indigenous Peoples' Health (IIPH), Cancer Research (ICH), and Nutrition, Metabolism and Diabetes (INMD). CIHR invests nearly CAD 1 billion in health research annually (CIHR, 2025). Additionally, the National Alliance of Provincial Research Organizations (NAPHRO) was created in 2023 to strengthen strategic, inter-provincial convergence in health research funding across Canada. Comprised of representatives from all provinces except Prince Edward Island, NAPHRO members provide substantial support to local and regional academic and clinical research communities and frequently collaborate with CIHR institutes on national-level funding opportunities.

Domain 1: Key findings, summary indicators and recommendations

KEY FINDINGS

- Although total NCD mortality rates in Canada decreased from 2014 to 2018, self-reported rates of chronic disease continue to rise, with lung and breast cancer remaining leading causes of death among the cancers in scope, and overweight and obesity rates signaling concerning trends. Indigenous Peoples in Canada also experience a disproportionate burden of NCDs, including kidney disease, end-stage renal disease, rheumatic disease, and diabetes.

Cardiovascular disease is now the leading cause of death among Indigenous populations and, in particular, Indigenous women, despite declining rates among Canada's general population.

- Multimorbidity is also increasing in Canada, particularly among adults aged 65 years and older. By 2030, all "baby boomers" (i.e., those born between 1946 and 1964) will be aged 65 or older. This demographic shift highlights the need to support healthy aging, improve quality of life, and address disease progression, especially as health systems may need to adapt to evolving needs.
- Tobacco use, alcohol consumption, physical inactivity, and poor diet continue to contribute significantly to preventable morbidity and mortality in Canada. These risk factors influence both the onset and progression of NCDs, along with genetic predisposition and environmental conditions.
- Environmental factors, such as air pollution, climate change, and extreme heat are major drivers of NCDs in Canada. Pollution-related deaths have declined, but exposure remains and extreme heat events are increasingly associated with higher mortality and hospital admissions for respiratory, kidney, and heart conditions.
- Federal and provincial governments employ both system-and individual-level approaches to prevent or modify behavioural risk factors contributing to NCDs. Greater attention to the social and structural determinants of health through supportive, system-level interventions may reduce current and future rates of NCDs and their behavioural risk factors.
- Research and development funding are one means through which pan-Canadian stakeholders are incentivized to address a range of NCD-related topics, including health system and service improvement efforts, the social and structural determinants of NCD onset and the adoption of related behavioural risk factors, and the development of both clinical and population-level interventions, including NCD prevention and diagnosis.

SUMMARY INDICATORS

Summary of existing measures

- Number of deaths attributed to NCDs by type of disease and key determinants, such as sex at birth, gender, age, geography, household income, sexual orientation, disability, immigrant status, racialized groups, and Indigenous populations.
- Prevalence, burden of disease (DALYs), incidence for all disease areas and multi-morbidity.
- Mortality rate from avoidable causes (preventable and amenable/treatable).

Suggested indicators to enhance tracking of health system performance in this domain:

- Culturally appropriate indicators pertaining to the health and wellbeing of Indigenous populations.
- Direct measures (rather than self-reported) of NCD prevalence (e.g., via health administrative data) according to sex, gender, Indigenous status, income quintile, and geographic location.
- Return on Investment of preventative interventions at both the individual level (e.g., health promotion programs) and system level (e.g., Health Impact Assessment, GBA+).

RECOMMENDATIONS

1. **Develop pan-Canadian standards for measurement of chronic disease prevalence, multimorbidity, and associated behavioural risk factors** to enable consistent tracking and trend evaluation across international jurisdictions and over time.

2. **Strengthen efforts to monitor the health system impacts of chronic disease and multimorbidity**, with attention to disease onset, progression, and disparities across populations. This includes tracking trends related to healthy aging and identifying real-time or projected instances of health system strain over time.
3. **Support an Indigenous-led framework to measure and report on the health status of Indigenous populations**, taking a distinctions-based approach that acknowledges the unique rights, interests and circumstances of First Nations, Métis and Inuit Peoples, and using indicators that reflect community strengths, values, and worldviews.
4. **Strengthen national policy on alcohol**, such as through the development of a new Alcohol Control Act, with the aim of preventing alcohol-related harm by drawing on evidence-based, high-impact control measures. Efforts may be informed by analogous federal Acts already in place for cannabis and tobacco control in Canada.
5. **Advance targeted, 'upstream' policy interventions to address the social and structural determinants of NCDs**, such as through a HiAP framework tailored to FPT government contexts. These efforts should prioritize an equity lens to reduce the disproportionate burden of chronic disease among marginalized and underserved populations.

DOMAIN 2

Governance



Subdomain 2.1: Institutions

Institutions with roles and responsibilities relevant to acting early on NCDs

In Canada's decentralized health system, responsibilities for addressing NCDs are shared among FPT governments (Marchildon et al., 2021). At the federal level, the Minister of Health oversees a diverse Health Portfolio under which Health Canada supports the delivery of Canada's healthcare system (Health Canada, 2021b), while also managing the risks and benefits of food, health, and consumer products, as well as environmental factors. These objectives are largely achieved through federal legislation, regulations, and guidelines (Health Canada, 2024b) overseen by several Health Canada branches, including Health Policy, Health Products and Food, and Controlled Substances and Cannabis (Health Canada, 2025e).

Additionally, PHAC reportedly contributes to the coordination of six public health functions, including population health assessment, health promotion, and emergency preparedness and response. The priorities and activities of PHAC are overseen in part by a Chief Public Health Officer (CPHO) who, as Canada's lead public health professional, is said to advise the federal government on key public health issues (PHAC, 2025a). Under the authority of the Ministry of Health, the CPHO also oversees the activities of four PHAC branches and offices, including the Health Promotion and Chronic Disease Prevention branch (PHAC, 2025b).

In 2009, PHAC established the Canadian Task Force on Preventive Health Care (CTFPHC) to lead the development of evidence-based preventive guidelines for a range of health issues, including NCDs and their behavioural risk factors. As of 2025, PHAC is leading the implementation of several 'modernization' recommendations identified through an external review of the governance, mandate, and processes of the Task Force (PHAC, 2025c). Currently, more than 20 published guidelines are available to primary care providers, with forthcoming updates including those pertaining to breast and lung cancer screening (CTFPHC, 2024, 2016), as well as tobacco smoking.

At the sub-national level, Canada's 13 PTs manage, administer, and deliver publicly funded health services with notable variability (Marchildon et al., 2021). Several programs and initiatives to address NCDs, including screening programs, fall within the purview of PT Ministries of Health (MOH). Whereas key NCD-specific programs are delivered via primary care and early interventions through disease-specific pathways, public health branches (or equivalent) within MOH oversee core public health functions including health promotion and population health assessment (NCCHPP, 2018). Additionally, there are approximately 80 regional health authorities and municipal or public health units across Canada, with each delivering health resources according to the needs of their respective populations (Marchildon et al., 2021; PHAC, 2021). Beyond the formal health realm, several sectors within and outside of government contribute to efforts to address NCDs given their direct alignment with the SDoH (NCCHPP, 2018).

Literature on Canadian health policy federalism suggests that NCD prevention and management have received comparatively less sustained federal leadership than acute care or pandemic response (Marchildon et al., 2021; Tonelli et al., 2020). While constitutional authority rests primarily with provinces and territories, scholars note that the federal government could exercise a stronger coordinating role through national frameworks, conditional transfers, and convening mechanisms to support interprovincial alignment (Marchildon et al., 2021). Recent federal-provincial health agreements have prioritized mental health, home care, and digital health infrastructure (Health Canada, 2023), with NCDs receiving comparatively less explicit focus, a pattern reflected in the limited number of national NCD strategies (see Subdomain 2.4).

Principles of good governance: transparency, participation & coordination

Efforts to address NCDs at the national and sub-national levels in Canada adhere to several principles of good governance. Governments and health systems have been noted to operate in a more transparent fashion than in previous decades due in part to their reliance on public consultations and engagement with people with lived experience to inform decision processes (Marchildon et al., 2021). For example, Health Canada utilizes an Open Government Portal (Government of Canada, 2025c) to consult with the public on a range of strategic and operational priorities related to health and health system planning (e.g., Statistics Canada, 2025e). A more detailed overview of efforts to support public participation in NCD-related strategies and initiatives is detailed in Subdomain 2.2.

As intergovernmental relations are a critical feature of Canadian federalism, several mechanisms exist to support the coordination of efforts to address NCDs across FPT jurisdictions. Broadly speaking, First Ministers' Meetings convene Canada's Prime Minister and 13 PT Premiers for decision making on national priorities. Moreover, intergovernmental ministerial meetings are held regularly to advance the policy priorities of specific sectors. In January 2025, for example, the annual meeting of Canada's FPT Ministers of Health addressed shared priorities for health system transformation, including Canada's health workforce, digital health and health data, and substance use (Health Canada, 2025f). Finally, the Pan-Canadian Public Health Network (PHN) is the primary governance mechanism to address public health priorities across Canada. Co-chaired by Canada's CPHO, the PHN is composed of federal, provincial, and Indigenous medical and public health leaders, and is ultimately accountable to FPT Ministers of Health (Pan-Canadian Public Health Network, 2025a). In 2024–2025, the PHN piloted a Health Promotion and Chronic Disease Prevention Steering Committee to integrate Pan-Canadian upstream health promotion and chronic disease prevention initiatives (Pan-Canadian Public Health Network, 2025b).

Healthcare quality assurance

Several mechanisms exist to monitor and sustain healthcare quality in Canada, though these are uncoordinated and vary across the country. PT governments are responsible for regulating healthcare providers, primarily through self-regulatory professional colleges. For example, Canada's 13 medical regulatory authorities function as part of the larger Royal College of Physicians and Surgeons of Canada, with each establishing licensing criteria for their respective PTs (Royal College of Physicians and Surgeons of Canada, 2025), as well as setting standards of professional practice, investigating complaints, and enforcing disciplinary measures (Government of Ontario, 2024). Healthcare accreditation in Canada is voluntary, with Accreditation Canada functioning as a national third-party institution that assesses quality care across health systems, hospitals, long-term care, primary care, and home and community settings (Accreditation Canada, n.d.). Additional quality assurance mechanisms at both national and sub-national levels are detailed in Table 9.

Health technology assessment is conducted at both national and sub-national levels. The Canada Drug Agency (CDA), formerly the Canadian Agency for Drugs and Technologies in Health (CADTH), supports informed decision-making regarding the development, approval and delivery of pharmaceuticals, medical devices, diagnostics and procedures. CDA is pan-Canadian in scope, with assessments conducted across all provincial health systems, except Quebec. Numerous assessments to date pertain to diabetes, heart failure, and chronic kidney disease (CADTH, n.d.). At the sub-national level, the provinces of Quebec, Ontario, Alberta, and British Columbia also conduct their own assessments. For instance, the Ontario Health Technology Assessment Program engages patients, clinicians and industry stakeholders to inform decisions about funding and adopting health care services technology, with published recommendations specific to the diagnosis and management of asthma, COPD, and chronic disease management (Health Quality Ontario, 2025).

Table 9. A snapshot of healthcare quality assurance in Canada

Organization	Approach and objectives	NCD resources
Health Standards Organization (HSO)	Develops standards, assessment programs and quality improvement solutions for health and social services; HSO standards are used by Accreditation Canada.	Leading Practices Library Populations with Chronic Conditions – e.g., Enhanced in-home remote care monitoring program for COPD (2025) (HSO Health Standards Organization, n.d.).
Healthcare Excellence Canada (HEC)	Ensure safe and high-quality healthcare through engaging people with lived experience and healthcare professionals.	Social Prescribing and Community Paramedicine in Canada: A Guide to Promising Practices (2025).
Canadian Medical Association (CMA)	Advances the needs and interests of physicians to optimize patient care.	Improving Accountability in Health Care for Canadians (2023).
Coalition for Responsible Healthcare Guidelines	Advocates for evidence-based policies and practices that prioritize the health of Canadians, including reform of several national healthcare guidelines.	Expert-recommended guidelines – e.g., lung and prostate cancer screening (Responsible Healthcare Guidelines, n.d.).
Offices of the Auditor General of Canada	Improves government accountability and performance through audits of health system and services; reports findings and recommendations to Parliament and/or respective PT legislatures.	National: Oral Health Programs for First Nations and Inuit – Health Canada (2017). Provincial: Chronic Disease Management: Health and Alberta Health Services (2024).
Provincial quality councils/agencies	Several provinces have dedicated agencies or councils supporting quality improvement in the health system, e.g., Health Quality Ontario (now part of Ontario Health).	Health Quality Ontario quality standards and patient guides – e.g., Asthma in Adults (2025), and Diabetes in Pregnancy (2021).

Subdomain 2.2: Expertise and inclusivity

Canada has several avenues through which different types of expertise may inform policies to address NCDs. At the national level, the Canadian Medical Association (CMA) shapes health care policy while also supporting a policy research agenda through specialized medical journals, including the Canadian Medical Association Journal (CMAJ) (Marchildon et al., 2021). Moreover, the Strategy for Patient-Oriented Research (SPOR) was launched by CIHR in 2011 to strengthen patient-engaged health research to inform health policies and health system improvement (CIHR, 2021; SPOR Evidence Alliance, n.d.). SPOR Networks in particular comprise a pan-Canadian ecosystem of people with lived experience (including patients and caregivers), researchers, health professionals, and policymakers focused on specific health priorities, including diabetes and chronic kidney disease (CIHR, 2023). Further, recent updates to several national screening guidelines of the CTFPHC, including those for breast, lung, prostate, and colorectal cancer, have been informed through patient and public consultation efforts (CTFPHC, 2024, n.d.).

National advocacy groups also seek to elevate expert voices throughout NCD policymaking processes (see Table 10). Together these non-governmental organizations comprise a mix of registered charities and/or not-for-profits with varying degrees of policy influence.

For example, whereas federal and provincial budget submissions and ‘policy positions’ are popular advocacy approaches, groups like the HeartLife Foundation have been instrumental in the development and adoption of a national *Heart Failure Policy Framework*. Similarly, the Kidney Foundation of Canada is presently developing a national *Chronic Kidney Disease Framework* in collaboration with health professionals, people with lived experience and their family members (Kidney Foundation, n.d.). A more detailed overview of existing NCD strategies is provided in Subdomain 2.4.

Table 10. A snapshot of the NCD policy contributions among Canadian non-governmental organizations

NCD advocacy group	Example of policy influence
Canadian Cancer Society	In 2024, championed 67 cancer-related policies, engaged over 1000 elected officials, and 10,000 advocates (Canadian Cancer Society, 2024).
Canadian Partnership Against Cancer (CPAC)	Led the modernization and renewal of the Canadian Strategy for Cancer Control (2019–2029) (CPAC, 2019).
Canadian Cardiovascular Society	Regularly submits pre-budget consultations, including the 2020 submission: <i>Improving the Quality of Cardiovascular Care for all Canadians</i> (CCS, 2020).
HeartLife Foundation	Co-led the development of the <i>Heart Failure Policy Framework: A National Action Plan for Change</i> in 2024 (HeartLife Foundation, 2024).
Lung Health Foundation	Regularly submits pre-budget consultations, including the 2025 submission: <i>Transforming Canada's Respiratory Health</i> (National Lung Health Alliance, 2025).
Diabetes Canada	Led the call for a national strategy leading up to the federal tabling of the <i>Framework for Diabetes in Canada</i> in 2022 (Diabetes Canada, 2022).
Asthma Canada	Regularly develops Patient Evidence Submissions for the CDA (Asthma Canada, 2025).

At the sub-national level, all PTs have in place some formal mechanisms to engage people with lived experience in health system decision-making and governance (Allin et al., 2022). For example, whereas Ontario has established requirements for meaningful community engagement to inform the work of all Ontario Health Teams, Newfoundland and Labrador's *Health Services' Engagement Framework* outlines best practices to inform the development and conduct of public polls and discussion forums, surveys, advisory committees, and delegated decision-making (Government of Ontario, 2021; NL Health Services, 2024).

Subdomain 2.3: Data and policy formulation

PHAC supports public health surveillance and research through various data collection initiatives. Together these contribute to *Canada's Federal Implementation Plan* for the 2030 Agenda (Government of Canada, 2021a) by advancing the United Nations Sustainable Development Goal 3: Good Health and Wellbeing through health promotion and chronic disease prevention (PHAC, 2024c). They also address the Health Domain of the *Quality of Life Framework for Canada* (Statistics Canada, 2025d) – in particular, its Health domain (self-rated health, mental health, and health-adjusted life expectancy) and Good Governance domain (“Confidence in Institutions”) (PHAC, 2024c). These and other national health data sources are outlined in Table 11.

Despite these efforts, there are several substantive and longstanding gaps in Canada's health data landscape. In 2022, an Expert Advisory Group noted these to include systemic data fragmentation, ineffective governance, and outdated data sharing policies. Accordingly, the Group proposed a *Pan-Canadian Health Data Strategy* (Government of Canada, n.d.) to address these issues and ultimately strengthen the delivery of high quality, equitable and integrated health programs and services, including public health surveillance and health system evaluation. Implementation of the strategy would be overseen in part by a Health Information Stewardship Council accountable to the FPT Conference of Deputy Ministers of Health. A year later, the federal government invested CAD 196 billion in health care over ten years between 2023–2033, including CAD 19 billion in new funding through the Canada Health Transfer, and CAD 25 billion for bilateral health agreements with PT

governments (Health Canada, 2023). In doing so, a key priority included “modernizing the health care system with standardized health data and digital tools” with PT governments working with CIHI to improve health information collection, dissemination and use (Health Canada, 2023).

Table 11. Pan-Canadian NCD data resources

Data source	Data focus and scope
Public Health Agency of Canada (PHAC)	
Canadian Chronic Disease Surveillance System (CCDSS)	Collaborative network of PT surveillance systems providing national estimates and time trends for 20+ chronic diseases and conditions (Government of Canada, 2024a).
Canadian Chronic Disease Indicators (CCDI)	Pan-Canadian indicators on the burden of chronic diseases and related determinants, by demographic and socioeconomic variables & time trends (Government of Canada, 2021b).
Canadian Risk Factor Atlas (CRFA)	Prevalence of chronic disease risk factors using geographic and sociodemographic breakdowns (Government of Canada, 2024b).
Physical Activity, Sedentary Behaviour & Sleep Indicators (PASS)	61 surveillance indicators grouped by movement behaviours according to individual, family/ social, and built/society environment domains (Government of Canada, 2023).
Other Canadian health data resources	
Canadian Institute for Health Information (CIHI)	Standardized and actionable health information to support evidence-informed health care, system performance, and population health (CIHI, n.d.).
Canada Health Infoway	Digital health information exchange and interoperability across governments and jurisdictions (Canada Health Infoway, n.d.).
Statistics Canada	Collection, analysis and dissemination of statistical information, including health data pertaining to NCD morbidity and mortality, and behavioural risk factors across a range of intersecting factors (Statistics Canada, 2025f).
Terry Fox Research Institute: Digital Health and Discovery Platform (DHDP)	Collaborative network of researchers and data scientists that leverages artificial intelligence and big data to advance precision cancer care (DHDP, n.d.).
Canadian Longitudinal Study on Aging	Canada’s most comprehensive research platform on health and aging enabling rapid access to high quality data by scientists and policymakers (Canadian Longitudinal Study on Aging, n.d.).
Canadian Health Measures Survey (CHMS)	A longitudinal study led by Statistics Canada gathering data on individual health history and lifestyle behaviours to better understand relationships between disease risk factors and risk conditions, the extent to which diseases are undiagnosed, and support health system and public health decision making.

Subdomain 2.4: Strategy and targets

Canada has notably few national strategies to address the NCDs of interest (see Table 12). The *Canadian Strategy for Cancer Control (2019–2029)* (CPAC, 2019) represents a comprehensive effort to address various types of cancer, including lung and breast, across the continuum of prevention, early diagnosis, quality care, and recovery. First launched in 2006, the refreshed strategy consists of eight priority areas informed through extensive engagement with people with lived experience, the public, First Nations, Inuit, and Métis governments, and underserved populations. The Canadian Partnership Against Cancer (CPAC) has assumed the role of the Strategy Steward and works with PT stakeholders to establish common targets and data collection measures, align efforts across Canadian governments and health systems, and monitor and evaluate the strategy's impact (CPAC, 2019).

The *Framework for Diabetes in Canada* (2022) presents a common policy direction for preventing, managing, and treating all types of diabetes according to five cross-cutting principles and six foundational components (PHAC, 2022a). The framework was informed through engagements with several stakeholder groups, including people with lived experience, Indigenous representatives,

Table 12. Overview of national strategies to address NCDs in Canada

NCDs in scope	Existing strategy	Early intervention	Multimorbidity
Cancer	✓	✓	✓
Lung	✗	n/a	n/a
Bowel	✗	n/a	n/a
Prostate	✗	n/a	n/a
Breast	✗	n/a	n/a
Bladder	✗	n/a	n/a
Uterine	✗	n/a	n/a
Cardiovascular Disease	✗	n/a	n/a
Heart Failure	✓	✓	✗
IHD	✗	n/a	n/a
Stroke	✗	n/a	n/a
Kidney Disease	✗	n/a	n/a
CKD	Pending *		
Metabolic Disease	✗	n/a	n/a
Diabetes	✓	✓	✗
Chronic Respiratory	✗	n/a	n/a
Asthma	✗	n/a	n/a
COPD	✗	n/a	n/a

* A chronic kidney disease (CKD) framework is currently under development by the Kidney Foundation of Canada (Kidney Foundation, n.d.).

researchers and governments, led in part by PHAC. The *National Framework for Diabetes Act* (2021) (Government of Canada, 2021c) requires Canada’s federal Health Minister to report on the Framework’s effectiveness, as well as the state of diabetes prevention and treatment and future recommendations, to Parliament by 2027.

Finally, the HeartLife Foundation recently co-led the development of the *Heart Failure Policy Framework* (2024) (HeartLife Foundation, 2024) as a national standard and policy roadmap to address heart failure at the regional, provincial and national levels. The Framework outlines goals, actions and measures of success across three pillars spanning diagnosis and screening, management care, and patient outcome-driven research and evaluation. In 2024, the *National Framework on Health Failure Act* was tabled in Canadian senate to build on the existing framework in formally establishing a national strategy (Kidney Foundation, n.d.). More information about this framework is described in Domain 6: Medicines and technology.

Subdomain 2.5: Registries

The Canadian Chronic Disease Surveillance System (CCDSS) draws on provincial health coverage records to generate national estimates and trends for more than 20 chronic diseases, including heart failure, ischaemic heart disease, diabetes, stroke, asthma, and COPD, over time. Supported by PHAC, the CCDSS is a primary and comprehensive system for NCD tracking in Canada, with data provided by all 13 PTs (Government of Canada, 2024a). Beyond this system, NCD registries are implemented sporadically at the national and PT levels (see Table 13). To illustrate, general ‘chronic disease’ registries are only maintained by the provinces of Newfoundland and Labrador (Newfoundland & Labrador Centre for Health Information, n.d., n.d.), British Columbia (BC Ministry of Health, n.d.), and Quebec (INSPQ, n.d.), and similar gaps exist for NCD-specific registries across Canada. Cancer is the NCD with the most coverage at both the national and sub-national levels.

Table 13. NCD-focused registries

NCD	National registry	PT registry
Cancer	Canadian Cancer Registry	BC Cancer Registry Alberta Cancer Registry Saskatchewan Cancer Registry Manitoba Cancer Registry Ontario Cancer Registry Quebec Cancer Registry New Brunswick Cancer Registry Newfoundland Cancer Care Registry
Cardiovascular disease	Canadian Stroke Registry	Ontario Stroke Registry BC Stroke Registry Quality Improvement and Clinical Research: Alberta Stroke Program
Metabolic and kidney diseases	n/a	Canadian LMC Diabetes Registry The BETTER Registry Nova Scotia Diabetes Registry
Chronic respiratory diseases	Canadian Severe Asthma Registry	n/a

Domain 2: Key findings, summary indicators and recommendations

KEY FINDINGS

- In Canada's decentralized health system, responsibility for addressing NCDs is primarily at the PT level, with some key functions held at the federal level. Federally, some NCD-related policies are reportedly overseen by several branches of Health Canada, whereas PHAC's stated roles include leadership and the provision of strategic advice in identifying and responding to NCD-related priorities. Canada's 13 PT governments provide core public health functions and deliver NCD-related health services through disease specific pathways.
- Efforts to address NCDs reflect several principles of good governance. Participation and decision transparency are to some extent facilitated through formal engagement with the public and people with lived experience, whereas intergovernmental relations are supported through coordinative mechanisms such as the Pan-Canadian PHN. Healthcare quality is supported through multiple actors, including self-regulatory professional colleges, voluntary accreditation of healthcare organizations, and national and provincial health technology assessment and independent quality assessment organizations.
- NCD-related policies are often informed by the expertise of people with lived experience, researchers, health professionals, and policymakers through initiatives like the SPOR. National advocacy groups also seek to incorporate expert voices throughout NCD policymaking through mechanisms such as federal government budget submissions.
- Several data sources are available to inform NCD policymaking, including that captured by PHAC through the Canadian Chronic Disease Surveillance System, CIHI, Canada Health Infoway, and Statistics Canada. However, many longstanding and substantive gaps have been identified within Canada's health data landscape, including ineffective governance. The federal government has made efforts to improve the collection and use of health data through partnerships between CIHI and PT governments, though major challenges and data gaps remain.
- Despite the various sources of data and expertise available to inform national NCD strategies, few strategies presently exist in Canada. Notable exceptions include the *Strategy for Cancer Control (2019–2029)* and the *Framework for Diabetes in Canada (2022)*. Organizations such as the HeartLife Foundation have endeavoured to fill existing gaps by leading the development of the *Heart Failure Policy Framework*. Similarly, NCD registries are implemented sporadically at both the national and sub-national levels. As a notable exception, the Canadian Chronic Disease Surveillance System reportedly offers a comprehensive means of tracking NCDs.

SUMMARY INDICATORS

Summary of existing measures

- Existence of an operational, multisectoral NCD action plan that integrates several NCDs and their behavioural risk factors at both national and regional levels.
- Existence of national targets for the prevention, diagnosis and outcomes of NCDs founded on the SMART criteria (specific, measurable, realistic, time-bound).

Suggested indicators to enhance tracking of health system performance in this domain

- Indicators assessing the structure, authority, and accountability of governance mechanisms, to establish standards for improvement.
- Measures to assess participation and engagement throughout policy development processes (e.g., across sectors, with patients, families, communities, and members of the public).

RECOMMENDATIONS

1. **Develop and coordinate an up-to-date inventory of national strategies and frameworks to address NCDs** to ensure timely and accurate retrieval among interested stakeholders, including policymakers, practitioners, researchers, and the public.
2. **NCDs that account for a substantial proportion of morbidity and mortality, including cancers and cardiovascular, renal, metabolic, and respiratory diseases, should serve as key focus areas for upcoming FPT Health Ministers' meetings.** Priority should be given to developing evidence-based strategies to address these NCDs across the prevention, management, and care continuum.
3. **CIHI should continue to collaborate with PT governments, as well as other key Canadian health data leaders, to establish NCD indicators and corresponding standardized data collection methods** that strengthen interjurisdictional comparability and inform the development of strategic frameworks at FPT levels.
4. **Improve the development of evidence-based screening guidelines to address NCDs,** including the strengthening of checks and balances to ensure iterative, high quality changes in evidence base and system requirements.

DOMAIN 3

Service delivery



Subdomain 3.1: Guidelines and protocols

Canada's approach to NCD service delivery is guided by a mix of national and provincial frameworks, strategies, and clinical practice guidelines. At the national level, PHAC reportedly sets overarching protocols for chronic disease prevention, data surveillance, and risk mitigation in healthcare settings (see also Domain 2: Governance). Organizations like the Canadian Task Force on Preventive Health Care (CTFPHC), currently being restructured (as of 2025), develop evidence-based guidelines focusing on screening and early intervention for major chronic illnesses, such as cancer, cardiovascular disease, and diabetes. These guidelines are typically high-level rather than specialized, and reviewed and updated every three to five years based on new research and stakeholder input. As well, national medical associations and organizations, such as Diabetes Canada, Hypertension Canada, the CPAC, and the Canadian Cardiovascular Society, produce specific clinical practice guidelines to inform care delivery across the country. Examples are presented in Table 14.

Table 14. Guidelines, frameworks, and protocols for preventing, diagnosing, and acting early on NCDs

NCD	Guideline, framework and/or protocol
Cancer	Breast Cancer (update) – Draft Recommendations , CTFPHC Cervical Cancer , 2013, CTFPHC Colorectal Cancer , 2016, CTFPHC Lung Cancer , 2016, CTFPHC Prostate Cancer , 2014, CTFPHC
Cardiovascular disease	Trousse d'outils cliniques pour l'évaluation des personnes ayant subi un accident vasculaire cérébral (AVC) – Phases hyperaiguë et aiguë de l'AVC Canadian Stroke Best Practices , Heart and Stroke Foundation of Canada 2025 Hypertension Canada Guidelines , Hypertension Canada
Metabolic and kidney diseases	Diabetes, Type 2 , 2012, CTFPHC
Chronic respiratory diseases	Canadian Thoracic Society 2021 Guideline update: Diagnosis and management of asthma in preschoolers, children and adults 2023 Canadian Thoracic Society Guideline on Pharmacotherapy in Patients with Stable COPD
General NCD/chronic disease; Other	A Framework for Action: Primary Prevention of Chronic Diseases in Canada , 2028, CDPAC Chronic Disease Prevention and Management Framework , 2019, Government of Northwest Territories Ontario Health's library of quality standards

Notes: CDPAC = Chronic Disease Prevention Alliance of Canada; CTFPHC = Canadian Task Force on Preventive Health Care.

PT health authorities and organizations also develop their own frameworks, which may draw from national frameworks and guidelines. However, PTs are not required to adopt the recommendations of the CTFPHC or other federal advisory groups. A 2025 report from PHAC outlining recommendations to modernize the CTFPHC encourages the development of a national coordination hub to support guideline development among various stakeholders while also strengthening their alignment, reducing duplication, and accelerating knowledge sharing (PHAC, 2025c). Details on health system governance and national guidelines to address NCDs and their behavioural risk factors are outlined in Domain 2: Governance.

Despite the essential role of primary care providers in preventing and managing chronic diseases, access remains a challenge for many Canadians. National data from 2023 showed that 82.8% of Canadians reported having a regular healthcare provider (i.e., someone who can provide professional health advice, including a family doctor, general practitioner, medical specialist, or nurse practitioner) (Statistics Canada, 2025g). International comparisons revealed similar findings, with 86% of Canadian adults reporting access to a regular doctor or usual place of care, thereby ranking Canada lowest among Commonwealth countries included (CIHI, 2023a).

Within Canada, there are notable differences in reported access between provinces, with rates lower in Newfoundland and Labrador (78.1%), Prince Edward Island (73.1%), Nova Scotia (79.2%), and Quebec (74.2%), compared to higher rates in Ontario (87.6%), Manitoba (84.9%), and Alberta (85.4%). Differences were also observed among the lowest household income (79.9%) compared to the highest (84.1%), and among young adults aged 18–34 (73.6%) compared to all other age groups (Statistics Canada, 2025g). Complementary survey data from 2022 estimated that more than one in five Canadian adults (approximately 6.5 million people) lack regular access to a family physician or nurse practitioner (MAP Centre for Urban Health Solutions, 2024). Findings from the survey revealed similar inequalities across geography, age, and socioeconomic status.

Geographic barriers at the regional and local levels pose significant barriers to primary care access. A 2021 survey reported that rural dwelling Canadians travel more than twice the distance to visit a physician (over 35km) and access the nearest hospital (30km) compared to their urban counterparts (Simms et al., 2022). Rural residents also experience longer wait times, with some reporting delays of up to two weeks to see a healthcare provider (Simms et al., 2022). These challenges are especially pronounced among Indigenous Peoples living off reserve, compared to non-Indigenous populations (Yangzom et al., 2023). Recommended actions to increase rates of primary care attachment in Canada include per capita physician increases, requiring and facilitating patient registration with a general practitioner or practice, and implementing salary-or capitation-based physician payment models (Shahaed et al., 2023). Workforce challenges impacting primary care access are discussed in Domain 5: Workforce.

Policy incentives introduced to reduce unwarranted variation in care

Incentives to reduce unwarranted variation in care remain a notable area for improvement in NCD prevention and management. There are, however, some existing initiatives contributing to care consistency. For example, Choosing Wisely Canada provides specialty-based resources for clinicians in an effort to reduce unnecessary and potentially harmful treatment and testing (Choosing Wisely Canada, n.d). Additionally, the CTFPHC has, since 2009, developed evidence-based clinical practice guidelines to support primary care providers in delivering preventive health care. The CTFPHC conducts several knowledge translation and exchange activities to enhance the widespread dissemination and uptake of its guidelines among practitioners (PHAC, 2022b). However, there is no routine monitoring of adherence to clinical guidelines. Additional healthcare quality assurance organizations and mechanisms at both the national and provincial levels are discussed in Domain 2: Governance.

Subdomain 3.2: Risk assessment

Extent of mechanisms in place to undertake a risk assessment for the NCDs in scope throughout patient pathways

Risk assessment for NCDs is highly decentralized in Canada, with individual providers largely responsible for their own quality improvement in this area. Launched in 2009, the BETTER (Building on Existing Tools to Improve Chronic Disease Prevention and Screening) project seeks to improve chronic disease prevention and screening practices targeting adults aged 40–65 (Grunfeld et al., 2013). As part of this effort, ‘Prevention Practitioners’ were trained to assess individual patients’ risk for cancer (breast, cervical, and colorectal), cardiovascular disease, and diabetes, and other NCDs according to evidence-based guidelines (Campbell-Scherer et al., 2014). The BETTER project has since expanded across Canada and to virtual care settings in select provinces (Lofters et al., 2021; Manca et al., 2015). Its guidelines have also been updated to reflect more recent knowledge for conducting risk assessments in primary care and public health settings (Fernandes et al., 2024). Box 1 shows the risk assessment screening actions performed through the recent BETTER Health trial in Ontario (Lofters et al., 2021).

Box 1. Specific screening actions included generating a composite index for BETTER Health

Domains for screening	
Fasting blood sugar (FBS) or A1C screen	Referral for BMI >=25
Blood pressure screen	Smoking cessation
Blood pressure monitor	Cessation referral
LDL measured	Alcohol control
Breast screening	Alcohol referral
Colorectal screening	Physical activity improved
Pap screening	Activity referral
BMI screening	Healthy diet score
Waist circumference	Nutrition referral
Weight control	

Health system engagement of at-risk populations and the role of primary care physicians

Health system engagement of populations at higher risk of NCDs varies across the country, though is not systematically monitored or evaluated. PHAC’s Healthy Canadians and Communities Fund (HCCF) aims to reduce chronic disease risk among vulnerable groups including Indigenous Peoples, newcomers, individuals with disabilities, 2SLGBTQIA+ communities, those living in poverty, and racialized populations such as Black and South Asian Canadians (PHAC, 2023). The HCCF supports interventions that reduce health disparities and promotes cross-sector collaboration to strengthen chronic disease prevention (PHAC, 2023). Complementing these efforts was the federal government’s 2023 budget commitment of more than CAD 200 billion over 10 years to the *Working Together to Improve Health Care for Canadians Plan*, which includes expanding access to family health services in rural and remote communities and investing CAD 2 billion to improve culturally safe and equitable care for Indigenous populations (Government of Canada, 2024c). Domain 5: Workforce provides more in-depth discussion on the role of the primary care workforce in managing NCDs.

Subdomain 3.3: Screening

Population-based screening programs

Existing national screening programs in Canada primarily focus on cancers (Table 15). However, while other NCDs in scope do not currently have national screening programs, Kidney Check provides screening for kidney health, diabetes, and blood pressure among Indigenous communities across the three provinces of Alberta, Manitoba, and British Columbia (Kidney Check, n.d.).

Table 15. Cancer screening recommendation and implementation of screening programs in PTs

Type of cancer	Recommended screening (Canadian Cancer Society)	Status and implementation in PTs
Lung	Individuals 55–74 years old who currently smoke tobacco or have previously smoked: recommended screening using a low-dose CT scan (Canadian Cancer Society, 2025b).	Organized lung cancer screening programs available in some PTs, including: Alberta, British Columbia, Newfoundland and Labrador, Nova Scotia, Ontario, and Quebec (Canadian Cancer Society, 2025c).
Breast	Individuals 40–74 years old: recommended to have a mammogram every two years. Individuals over 75 years old: recommended to speak to a healthcare provider about the appropriateness of a mammogram (Canadian Cancer Society, 2025d).	Organized breast cancer screening programs available in all PTs except Nunavut. Programs vary by PT by age and risk group: • Ages 40–49: Some PT programs allow self-referral, while others require a referral from a healthcare provider. Screening may not be available for those at average risk without symptoms. • Ages 50–74: Most PTs offer breast cancer screening for those at average risk. • At risk: Some PTs offer specialized programs. Screening recommendations and eligibility differ by region. High-risk individuals may require more frequent or additional tests. (Canadian Cancer Society, 2025e)
Colorectal	Individuals 50–74 years old and not at high risk: stool test every two years. Individuals over 75 years old: consult a healthcare provider about the appropriateness of a stool test. (Canadian Cancer Society, 2025f)	All PTs except Quebec have organized colorectal cancer screening programs. (Canadian Cancer Society, 2025g; The Canadian Press, 2025)
Prostate	Those at average risk: consider testing starting at age 50. Those at high risk: consider testing starting at age 45. Early detection methods include the prostate-specific antigen test and digital rectal exam. (Canadian Cancer Society, n.d.)	Currently no formal organized screening programs in PTs.
Bladder	Increased risk among Caucasian males aged 65+ years. Several testing options, including pelvic or digital rectal exams, urinalysis, cystoscopy, biopsy, complete blood count, blood chemistry tests, intravenous pyelogram, CT scan, MRI, ultrasound, chest x-ray and bone scan. (Canadian Cancer Society, 2025h)	Currently no formal organized screening programs in PTs. Instead, PTs take a risk- and symptom-based approach by individual healthcare providers.

Canada's approach to developing and appraising NCD screening guidelines is discussed in Domain 2: Governance.

Gaps in the uptake of screening programs

Recent data on the uptake of screening for certain NCDs such as breast, cervical, and colorectal cancers are not available in Canada. However, more generally speaking, there is evidence to suggest that screening uptake remains uneven across Canada, particularly among socially disadvantaged populations (Lofters et al., 2023, 2010). For example, a 2021 Ontario-based study found that screening rates for lung cancer are notably lower among low-income communities, newcomers, and individuals experiencing housing instability (Sayani et al., 2021b). In this regard, inflexible work schedules, lack of childcare, disrupted phone service, unfixed mailing addresses, unstable housing, and limited access to technology were identified as key barriers to utilizing preventive treatment programs. The authors further noted these constraints to be compounded by psychosocial factors such as competing life priorities that override the perceived importance of screening, and experiences of stigma within healthcare settings (Sayani et al., 2021a).

Similar access and awareness challenges are evident for breast cancer screening. For example, a 2023 population-based retrospective cohort study of 1,362,453 women in Ontario found that breast cancer screening was less common among those who primarily used walk-in (46.1%) compared to women formally registered with a family physician (67.4%). In addition, non-enrolled women were more likely to be immigrants (32.2%) compared to enrolled women (19.4%) (Lofters et al., 2023). Likewise, a 2021 national survey revealed that, among its 2,530 Canadian respondents, 42% of respondents did not know the eligible age for a mammogram in their province, and nearly one-third had never been advised on the benefits of screening (Dense Breast Canada, 2021). Furthermore, 11% of women aged 40–49 reported being denied a requisition for mammograms, contributing to delays in care (Dense Breast Canada, 2021).

There has also been notable focus on improving breast cancer screening and reducing related inequities surrounding access to screening and disease prevalence for all cancer types. PHAC recently hosted “Closing the Gap: Action for Equity in Breast Cancer Screening” to explore interjurisdictional best practices enhancing screening inclusivity and accessibility, particularly for underserved groups (Government of Canada, 2025d). Findings are expected to inform a resource guide for national distribution. Building on this, PHAC and Statistics Canada will estimate national breast cancer trends to identify disparities by location, age, and ethnicity, with the goal of informing data-driven screening policies (Government of Canada, 2025d). Complementing these efforts, CIHR and partners are developing a multi-disciplinary roadmap to identify existing research gaps in breast cancer screening and provide recommendations to guide future practices (Government of Canada, 2025d).

Subdomain 3.4: Diagnosis and referrals

Primary care and coordinated care pathways integrating primary and specialist care

Efficient, accurate, and timely diagnosis and referral for NCDs in Canada are hindered by gaps in both clinical practice and health system capacity. One challenge surrounding diagnosis and referral lies in the prolonged wait times between receiving a referral from primary care physicians, who normally act as the first point of contact and gatekeepers to specialty care, to booking an appointment with a specialist physician (Marshall et al., 2023). In 2020, Canada had the longest wait times for specialty care among the 11 Commonwealth countries, with 62% of patients waiting one month or longer (Marshall et al., 2023). In 2024, median wait times for specialist appointments following a physician referral reached 30 weeks, representing a 2.3 week increase from 2023 (Moir and Barua, 2024). Canada's specialist physician shortage remains a significant contributor to this issue (see also, Domain 5: Workforce) which was worsened by the acute stress of the COVID-19

pandemic (Wyonch, 2025). For example, there is an ongoing need for oncologists, nurse practitioners, and allied healthcare professionals, including physician assistants, to provide cancer care (Laupacis, 2025). Additionally, there are issues with the referral process itself. A 2017 study examining the integration of provincial and regional cancer programs within several cities in Ontario found that many physicians lacked clarity on referral procedures, including basic details like who to contact and which diagnostic tests were required (Sussman et al., 2017).

In addition to long wait times for specialist appointments (Laupacis, 2025), diagnostic imaging poses an additional capacity challenge. As Table 16 illustrates, national wait times for CT and MRI scans have fluctuated since 2018 and, in 2024, were among the longest recorded over the six years of interest (CIHI, 2024a). Notably, Canada also has less available and significantly older medical

Table 16. National and provincial wait times for select procedures (days, 50% percentile)

	2018	2019	2020	2021	2022	2023	2024
CT Scan							
Canada	12	13	10	11	13	17	16
Alberta	21	23	18	8	14	26	34
British Columbia	23	20	21	21	23	28	24
Manitoba	20	23	21	28	17	36	55
New Brunswick	nd	nd	nd	nd	nd	nd	nd
Newfoundland & Labrador	nd	nd	nd	nd	nd	nd	nd
Nova Scotia	28	26	21	28	31	48	45
Ontario	6	6	3	5	8	9	8
Prince Edward Island	18	27	15	27	24	21	18
Quebec	nd	nd	nd	nd	nd	nd	nd
Saskatchewan	19	25	20	27	31	23	21
MRI Scan							
Canada	42	42	38	36	41	47	57
Alberta	70	69	34	37	44	43	63
British Columbia	45	43	70	42	50	72	86
Manitoba	56	55	83	66	99	110	104
New Brunswick	nd	nd	nd	nd	nd	nd	nd
Newfoundland & Labrador	nd	nd	nd	nd	nd	nd	nd
Nova Scotia	57	50	37	83	91	78	77
Ontario	35	35	26	29	33	38	46
Prince Edward Island	40	45	35	34	41	30	34
Quebec	nd	nd	nd	nd	nd	nd	nd
Saskatchewan	33	48	31	30	49	37	48

Note: nd = no data available.

Source: CIHI, 2024a.

equipment relative to population size compared to OECD comparators, with more than one third of CT, MRI, and SPECT-CT machinery aged 10 years or older (Wyonch, 2025).

Efforts to improve timely diagnosis and referral have included coordinated care pathways focused on integrating primary and specialist care (Laupacis, 2025). While such models exist in Canada, system-wide implementation remains limited. As a notable exception, integrated heart failure clinics within primary care settings have demonstrated benefits including lower mortality, lower hospital admissions, and higher quality of life – particularly among patients with moderate to severe heart failure (Laupacis, 2025). Similarly, Ontario's Best Care program utilizes an integrated care model to link primary and secondary care and enhance management of chronic diseases including asthma, heart failure, and COPD ("Best Care," n.d.). Provinces are also working to expand access to primary care and support integrated care, including through virtual care models (see Box 2). For example, the Ontario government also recently announced its *Primary Care Action Plan* which, through an investment of CAD 1.8 billion, will aim to connect two million residents to a publicly funded doctor or primary care team by 2029 (Ontario Ministry of Health, 2025). This effort is anticipated to complement existing Integrated Clinical Pathways for community-based chronic disease management through Ontario Health Teams (Ontario Ministry of Health, 2022).

Box 2. Virtual Health Hub

In 2027, a Virtual Health Hub facility will begin operations in Saskatchewan, where one-third of the population resides in rural or remote areas.

The innovative, Indigenous-led Hub has been designed to transform healthcare and bridge critical gaps in access to care among Northern residents and vulnerable populations, including Indigenous populations who have long experienced significant disparities in accessing culturally appropriate and sensitive care in Canada.

Accordingly, remote presence technology will be a distinguishing feature and core benefit of the Hub's operations, allowing healthcare providers to connect with patients in real-time via internet, cell networks and low orbiting satellites.

Relationship building and community engagement are identified as key priorities in tailoring appropriate and effective care and building and sustaining meaningful interactions (Virtual Health Hub, 2025).

Stage at diagnosis

While estimates exist for certain NCDs diagnosed through emergency presentations, there is no centralized public repository for such data. A cross-provincial study conducted by McPhail and colleagues (2022) found that the frequency of cancer diagnoses through emergency presentations – defined as those occurring within 30 days of an emergency hospital admission – varied by jurisdiction, ranging from 26.1% in Ontario to 30.5% in British Columbia (for all cancer sites). Rates were highest for pancreatic cancer (35.3–41.4%) and lowest for colorectal cancer (11.0–13.7%), though stage of diagnosis data was inconsistently reported across sites (McPhail et al., 2022).

Socioeconomic disparities further compound these diagnostic challenges. Longitudinal Canadian data from 1990 and 2019 reveal widening inequalities in mortality rates for those with pancreatic and cervical cancers, particularly when adjusted for education and household income (Fay et al., 2024; Kubiseski et al., 2024). Although crude mortality from cervical cancer declined over the 30-year period, the gap between socioeconomic groups grew (Fay et al., 2024). Similar trends were observed for pancreatic cancer (Kubiseski et al., 2024), with both studies suggesting that further research explore how best to improve screening and treatment access across the socioeconomic spectrum.

Subdomain 3.5: Secondary and tertiary prevention

Timely access to care upon diagnosis

Timely access to care following a diagnosis for chronic respiratory conditions is hindered by patient, physician, and system-level factors. In the case of COPD, a 2019 population-based study in Ontario examined which physicians were responsible for caring for people living with the condition (Cho et al., 2019). In this study, among 895,155 individuals with physician-diagnosed COPD identified through health administrative data, only about 10% visited a pulmonologist within a one-year period, while the majority saw primary care physicians or other specialists, including cardiologists (Cho et al., 2019). However, those with more severe COPD, visits to pulmonologists were higher. This pattern is due in part to limited COPD-specific care being offered in primary care and a shortage of pulmonologists relative to other specialists which would influence wait times to see a pulmonologist (Cho et al., 2019).

Asthma management faces similar challenges. Routine evaluations of asthma control are inconsistently performed, often due to limited provider familiarity with control criteria (Boulet et al., 2013). In addition, due to face-to-face time limitations during consultations, patients with asthma may limit themselves from fully reporting the extent of their symptoms, leading to poor control going unnoticed and delayed treatment adjustments (Boulet et al., 2013). Personalized Asthma Action Plans are rarely implemented despite their importance in asthma management, with only 22% of physicians creating them and 11% of patients receiving one (Boulet et al., 2013). See also Domain 6: Medicines and technology.

Variation in access to secondary and tertiary prevention of NCDs

Access to primary care remains fundamental for efficient secondary prevention of NCDs. Specifically, having access to primary care serves as an important first step in receiving adequate care for NCD management, which has been shown to reduce the rate of preventable emergency visits (Weaver et al., 2014). For example, in 2023–2024, one in seven emergency department visits could have been managed by a primary care provider (CIHI, 2024b).

With regards to NCDs at the regional level, a 2014 population-based survey of 1,849 residents of Alberta, British Columbia, Saskatchewan, and Manitoba who had been diagnosed with hypertension, diabetes, heart disease, or stroke revealed that approximately one-third of those who visited emergency departments believed their visit could have been avoided if they had access to a regular doctor (Weaver et al., 2014). Additionally, residents of rural Alberta, people living with diabetes, and the broader Alberta population were more likely than those in British Columbia, Saskatchewan, and Manitoba to receive care involving allied health professionals (Weaver et al., 2014). These regional trends reflect broader national gaps in access to primary care in Canada.

These gaps in access also extend into hospital and specialist care for NCDs. A national study on heart failure hospitalizations in Canada found minimal improvement in admission, readmission, and length-of-stay rates between 2009 and 2019, despite major advances in treatment (Poon et al., 2022). The crude all-cause 30-day readmission rate of patients to hospital following heart failure stayed constant, at 26.1% between 2009 and 2019. Many patients still do not receive the recommended medications or follow-up care after leaving hospital – phenomena documented in other Canadian studies (Huiteima et al., 2020; Jarjour et al., 2020). Cost, distance, and availability of specialists all contribute to this uneven access to appropriate treatment within the country. These findings reflect wider variation in access to secondary and tertiary prevention for chronic conditions, particularly for people living in rural or remote areas, or those without strong connections to the healthcare system.

Domain 3: Key findings, summary indicators and recommendations

KEY FINDINGS

- NCD service delivery is guided by several frameworks, strategies, and guidelines implemented at both the national and sub-national levels. Although mechanisms exist to support both the delivery of quality healthcare and the development of robust, evidence-based NCD screening, detection, and diagnosis guidelines, few policy incentives currently exist to reduce unwarranted variation in care.
- About 83% of Canadians reported having a regular healthcare provider in 2023; access varies across provinces, geographic location (urban vs. rural), age groups, and income levels. Rural and Indigenous populations face additional barriers, including long travel distances and wait times. Proposed solutions include increasing physician supply, facilitating patient registration with a family physician or practice, and expanding virtual care.
- NCD risk assessment models are available for both the general Canadian population and those considered at-risk. Examples include the BETTER Project which, since 2009, has sought to improve chronic disease prevention and screening among adults aged 40-65. PHAC is also working to reduce chronic disease among marginalized populations such as Black and South Asian Canadians and 2SLGBTQIA+ communities, whereas the federal government has made substantial investments to support expanded access to family health services in rural and remote regions.
- Cancer is the only set of NCDs with formal screening programs at both the national and PT levels. Screening uptake is uneven across Canada, with comparatively low rates for lung and breast cancer among socio-economically disadvantaged populations due to structural, psychosocial, and informational barriers. In light of such trends, PHAC is developing best practice recommendations, policies, and resource guides for equitable breast cancer screening across Canada.
- Efficient, accurate, and timely diagnosis and referral for NCDs are hindered by long wait times, limited specialist availability, outdated diagnostic equipment, inadequate or poor use of technological supports, and unclear referral processes. In 2024, median wait times for specialist appointments reached 30 weeks, within Canada continuing to rank poorly among OECD comparators. Integrated care models have shown promise, but system-wide implementation of coordinated care pathways integrating primary and specialist care remains an area for improvement.
- There are several data gaps related to service delivery in Canada, particularly with regards to screening and detection among high-risk populations and wait time trends for tests and procedures like endoscopies, spirometry and echocardiograms. Other relevant data, such as NCD diagnoses resulting from emergency presentations, are not publicly accessible through a central repository, thereby potentially hindering their retrieval and use.

INDICATORS

Summary of existing measures

- Wait time data for specific diagnostic tests (x-rays, CT and MRI scans) and priority procedures at national and provincial levels.
- Access to a regular primary care provider, including measures of number and proportion of patients not rostered with a family doctor, wait times to see a family doctor, and self-reported access to primary healthcare services.

Suggested indicators to enhance tracking of health system performance in this domain

- Disaggregated, clinically validated data on NCD screening uptake rates by population groups and geography (e.g., rural and remote communities, race-based data).
- Wait times for additional diagnostic procedures, such as endoscopies and echocardiograms.
- Availability of routinely collected aggregate-level data measuring patient wait times from initial symptom onset to final diagnosis by a specialist.
- NCD diagnoses resulting from emergency presentation.

RECOMMENDATIONS

1. **Establish a national coordination hub to align clinical guideline development, reduce duplication, and accelerate knowledge sharing across jurisdictions.** This hub should support consistent implementation of evidence-based protocols in primary and secondary care (updated every 3–5 years to reflect emerging research and stakeholder input).
2. **Establish national, evidence-based programmes to improve the uptake of existing screening programs,** including community-based programs targeting underserved communities. Clear guidelines should also be established for targeted and opportunistic screening for the full range of common cancers, including prostate and bladder cancer.
3. **Leverage evidence-based strategies to enhance primary care attachment,** including increasing the supply of physicians, and facilitating patient registration with a general practitioner or practice.
4. **Modernize diagnostic infrastructure** that adapts systems to the new technical health environment while keeping in mind interoperability challenges (refer to Domain 6: Medicines and technology). This may involve, for example, designing and implementing a centralized booking system for specialized care to reduce wait times.
5. **Scale up integrated care pathways with accountability** to ensure seamless connections between primary and specialist services, support timely and accurate diagnosis, improve continuity of care, and reduce wait times for diagnosis and referrals. Current examples that can be built on are integrated heart failure clinics in primary care.
6. **Continue to improve to equitable access to integrated and accountable primary care teams,** including greater optimization of the relative skill-mixes of both physicians and non-physician providers and allied health professionals, and the strategic use of virtual and mobile care options.

DOMAIN 4

Financing



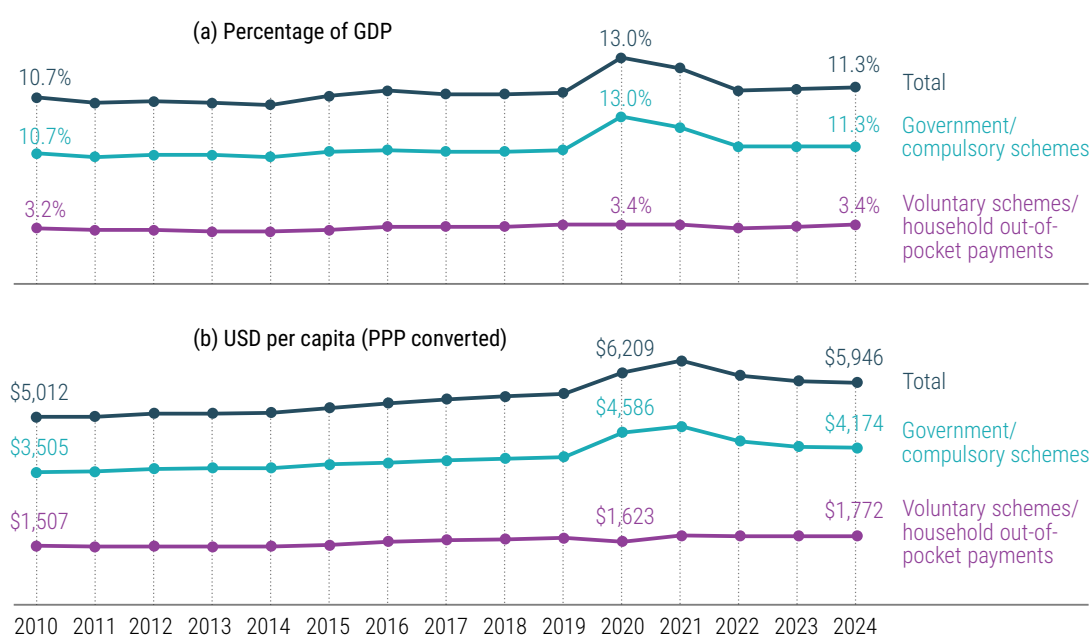
In Canada's decentralized federation, PT governments are primarily responsible for raising revenues for the health system and for paying health providers and organizations. Financing decisions, including the level of funds allocated to NCDs, are made at the PT level. The federal government contributes, through cash transfers in the Canada Health Transfer, less than one-quarter of PT health expenditures. These transfers are conditional on PT health systems meeting the *Canada Health Act (1984)* conditions including that they provide universal coverage of "medically necessary" hospital and physician services, without financial barriers, for their residents. This deep coverage of care provided by physicians and in hospitals contrasts with the relatively limited coverage of all other services, including pharmaceuticals, which constitute a major component of prevention and treatment for NCDs. Notably, the recent FPT agreements have not featured NCDs (other than mental health).

Though roughly two-thirds of the Canadian population have access to private insurance through employers that cover pharmaceuticals, and there are PT public drug programs in place for many population subgroups (e.g., lower income groups, seniors) in all PTs, there are still gaps in coverage. In recognition of this challenge, the federal government has negotiated conditional cash transfers through bilateral agreements with each PT government to support specific health system goals, most recently to expand public coverage of pharmaceuticals. Specifically, recent investments focused on the expansion of public coverage of pharmaceuticals (starting with diabetes and contraception), with agreements signed with four PTs so far (British Columbia, Manitoba, Prince Edward Island, and Yukon), and on expanding coverage of drugs for rare diseases (agreements signed with all PTs as of 2025).

Subdomain 4.1: Health spending

Canada is one of the top spenders on health care internationally, with considerably higher spending than the OECD average as measured both in per capita levels and as a percentage of GDP. In 2024 spending on health in Canada was estimated at 11.3% of GDP, compared to 10.3% in 2014 (Figure 6); the rate of growth in health spending continues to outpace the economic growth of the country.

Figure 6. Health expenditure and financing by financing source (% of GDP)



Source: OECD, 2024a.

Health expenditures data in Canada are reported by health sector, with the largest shares going to hospitals (25.8% of total health spending in 2024), drugs (13.7%), other institutions (mostly residential facilities for older people and those with disabilities) (13.4%), and physicians (13.3%) (CIHI, 2024c). Health spending is not routinely calculated or reported by primary and secondary care, nor by the prevention, diagnosis and treatment of specific conditions. Comparative data on primary care spending by the OECD suggest that spending on primary care in Canada is lower than the average for OECD countries. For example, in 2022, spending on “basic health care services” was 10.9% of total health expenditures in Canada compared to 13.4% on average for the OECD (OECD, 2023a).

Spending data are not disaggregated by primary and secondary prevention, though Canada spends a comparable amount on “public health” with other OECD countries: in 2019, spending on prevention was estimated at 5% for Canada, which was the same as the OECD average in that year (OECD, 2023a). In 2024, national estimates report that spending on “public health” made up 6.1% of total health spending in Canada. A study drawing on these national data for the period 1979 to 2018 found that the level of growth in spending on public health was greater than all other sectors except pharmaceuticals (Amami et al., 2021). Moreover, over the long-run, spending on public health was found to be associated with reductions in preventable mortality (Amami et al., 2024).

Cost of disease studies that estimate the economic burden of NCDs in Canada have mostly focused on cancer. A study estimating the health systems costs of cancer (direct costs to health system) in Ontario and British Columbia using provincial cancer registries linked with administrative health data found higher health care costs in the terminal and initial treatment stages than in the pre-diagnosis and continuing phases, and variations across types of cancer (de Oliveira et al., 2020). A 2022 study combining the cancer incidence and mortality data from the Canadian Cancer Registry with demographic projections from Statistics Canada estimated the total cost of cancer from a societal perspective at CAD 26.2 billion in 2021 (Garaszczuk et al., 2022). Notably, costs were highest in the first year following a cancer diagnosis. Furthermore, about 30% of the total costs were estimated to be private expenditures by patients and their families. These private costs include direct OOP costs, for example, on out-of-hospital pharmaceuticals, as well as indirect costs such as caregiver costs, lost productivity for patients and caregivers (Garaszczuk et al., 2022). Indirect costs were also estimated in an earlier systematic review (Iragorri et al 2020).

Subdomain 4.2: Coverage and financial barriers

Canada’s health systems have achieved a high degree of financial protection, despite relying proportionately more on private financing (private health insurance and out-of-pocket [OOP] payments) than the average for OECD. In 2022 about 29% of spending in Canada was from private sources compared to the OECD average of 25% (CIHI, 2024c).

OOP spending as a percentage of total health spending in Canada was estimated at 14% in 2021 which was lower than the average for OECD countries (18%) (OECD, 2023b) (see Table 17 for trends in household OOP spending over time). Similarly, estimates of OOP spending on health as a percentage of total household consumption was 3.3% in Canada in 2021 (also 3.3% for the OECD average).

Despite comparatively low OOP expenses in Canada, several studies have reported financial barriers patients face in accessing services relevant to preventing, diagnosing and treating NCDs. As noted above, these relate in part to the narrow definition of the universal coverage programs in Canada to hospital and physician services, leaving many other sectors and components of care only partially covered by the PT health systems, notably out-of-hospital pharmaceuticals, medical devices, and care from allied health professions such as physiotherapists.

Table 17. Household expenditure on health per annum: total spending, OOP, and OOP as percentage of total, 2010–2024

	Total spending on health (€ per capita)	OOP spending (€ per capita)	OOP spending (as percentage of total)
2010	3,167.10	494.50	15.6%
2011	3,212.10	487.10	15.2%
2012	3,247.90	486.90	15.0%
2013	3,256.60	474.20	14.6%
2014	3,328.00	489.60	14.7%
2015	3,401.80	500.10	14.7%
2016	3,579.00	558.60	15.6%
2017	3,648.60	577.50	15.8%
2018	3,728.20	580.50	15.6%
2019	3,599.30	555.30	15.4%
2020	4,038.40	551.30	13.7%
2021	4,430.30	630.20	14.2%
2022	4,316.40	645.80	15.0%
2023	4,485.70	682.00	15.2%
2024	4,521.30	690.70	15.3%

Source: OECD, 2024a.

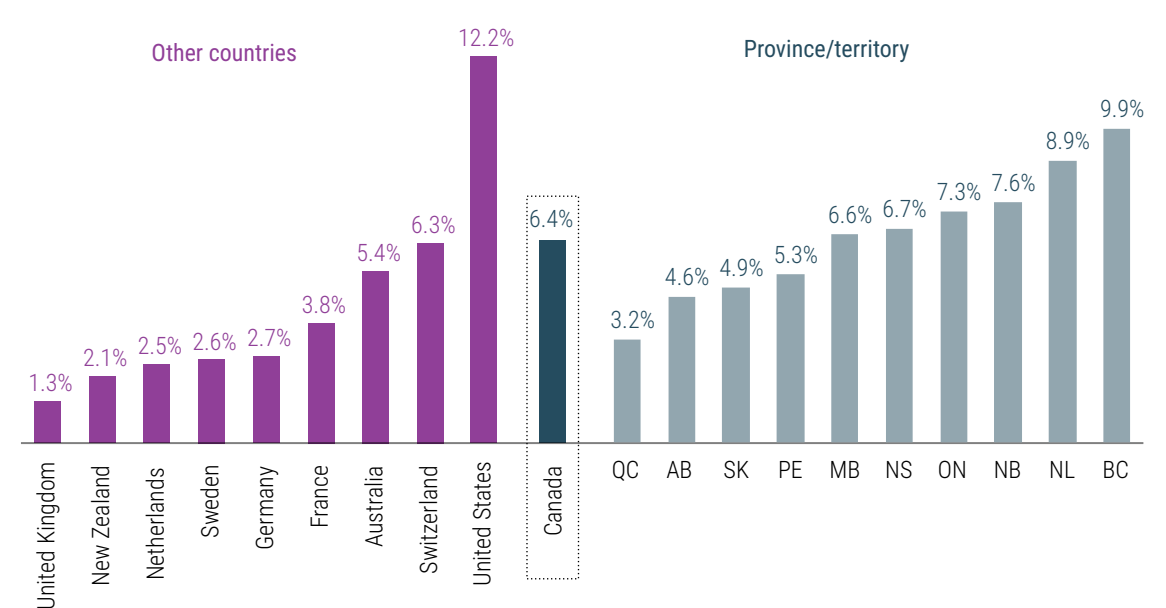
Employer-sponsored private insurance plays a central role in pharmaceutical coverage, with approximately two-thirds of Canadians accessing drug benefits through workplace plans. This employment-linked model creates variability in eligibility, benefit design, and cost sharing across sectors and provinces. Individuals in precarious or part-time employment, or those transitioning between jobs or into retirement, may experience coverage gaps. Deductibles, co-payments, and annual maximums can generate financial barriers for patients requiring ongoing pharmacotherapy for chronic conditions, contributing to cost-related non-adherence and uneven access to essential NCD therapies.

Several studies have estimated the financial burdens to patients with cancer and cardiovascular, renal and metabolic, and respirator. For example, a systematic review of OOP costs for cancer across the world estimated that the monthly cost per patient with cancer (in 2018 USD) was USD 400 in Canada, which was lower than in other high-income countries with available data: USD 438 in Australia, USD 609 in EU/UK and USD 2,598 in the United States (Iragorri et al., 2021). Also, Campbell (2017, 2014) used national survey data from 2012 (a supplement to the Canadian Community Health Survey) to estimate the prevalence and impacts of financial barriers to accessing care among people with cardiovascular-related chronic conditions in western Canada. They found that about 12% of those with at least one cardiovascular-related chronic condition reported financial barriers to access (Campbell et al., 2014), with direct health care costs of pharmaceuticals, devices (e.g., blood glucose monitors for diabetes), rehab, home care, and other costs related to transportation, childcare, and lost income (Campbell et al., 2017).

Diabetes Canada has monitored OOP costs of managing type 1 and 2 diabetes since 2001 and 2003, respectively. Based on modelled “representative case” scenarios in 2022, OOP costs for people living with type 1 diabetes ranged from CAD 78–CAD 18,306 and CAD 76–CAD 10,014 for people living with type 2 diabetes with variation in total costs likely attributed to model inputs such as differences in treatment regimes, provincial drug and device coverage, and income-related eligibility for public programs (Diabetes Canada, 2023).

Cost-related barriers to accessing medications in Canada is more prevalent than in peer countries, owing to the gaps in coverage for medications for some population groups. For instance, among those surveyed by the Commonwealth Fund International Health Policy Survey of Older Adults in 2024, 6.3% of older adults in Canada reported to not fill or skip medications due to cost compared to 5.4% in Australia, 3.8% in France, and 1.3% in the United Kingdom (CIHI, 2025a). Notably there are also variations across the provinces, with the lowest prevalence in Quebec (3.3%), and highest in British Columbia and Newfoundland and Labrador (8.9%) (see Figure 7).

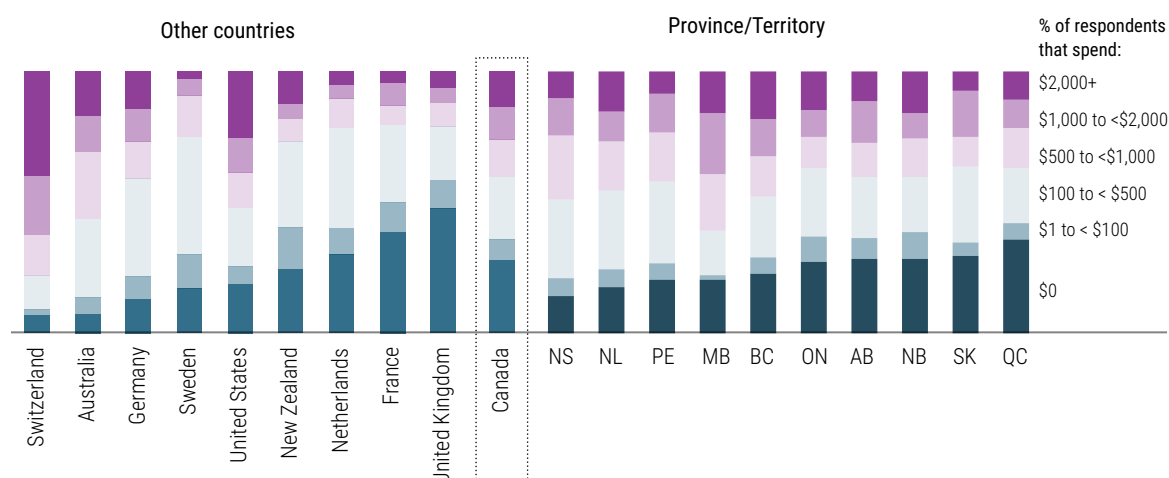
Figure 7. Proportion of survey respondents reporting not filling/collecting a prescription or skipping doses due to cost in Canada and other countries



Source: CIHI, 2025a.

These variations speak to the importance of expanding both breadth of coverage (as Quebec and British Columbia provide drug coverage for all residents but Newfoundland and Labrador does not) and depth of coverage. Notably, British Columbia residents report to spend a higher amount OOP than in Quebec: the same survey reports 18% of older adults spending more than USD2,000 in the past year compared to 10.6% in Quebec and 15% in Newfoundland and Labrador (see Figure 8) (CIHI, 2025a).

Figure 8. OOP spending (USD) on medical treatments/services not covered by public or private insurance in Canada, Canadian PTs, and other countries (% of respondents)



Source: CIHI, 2025a.

Studies from the province of British Columbia, where an income-based drug program provides coverage to all residents, further emphasize the challenge of cost-barriers to access. Recent policy changes in that province included removing cost sharing for lowest income residents, which was shown to lead to increased utilization and expenditures on medication among this population (Sharma et al., 2025). Also, in that province, analyses of medication use revealed generally low levels of adherence to common medications to prevent and treat chronic diseases, including drugs for obstructive airway diseases, renin-angiotensin system agents, diuretics, and lipid modifying agents (Rebić et al., 2025). Comparable data across provinces are not readily available.

Similarly, analyses of the factors associated with cost-related nonadherence (CRNA) to medication drawing on pooled cross-sectional data from the Canadian Community Health Survey (2015, 2016, 2018, 2020) found that, among other things, higher disease burden and living in provinces other than Quebec, were associated with increased CRNA (Rebić et al., 2024).

Subdomain 4.3: Financial incentives

Provider payment methods have to date remained unchanged, with a reliance on historical global budgets for hospitals, fee-for-service for specialist physicians, and a mix of fee-for-service and capitation for primary care physicians (with variation across the PTs). These funding arrangements have not incentivized comprehensive care for people with NCDs, including their coordination across sectors; mostly they incentivize volume or throughput over quality of care or health outcomes. Fee-for-service physician payment models discourage innovative strategies to reduce costs or shift care between sectors (Wyonch, 2025).

Also, financial incentives have been used to only a limited extent to optimize screening and diagnosis of NCDs. For example, in Ontario, there are bonus payments to physician primary care practices for reaching targets in cancer screening (HPV testing, mammogram, and colorectal screening), but evidence of any effects is limited (Allin et al., 2022). Similar findings have been reported in other provinces, such as in British Columbia, where the introduction of bonus payments to primary care physicians to improve continuous comprehensive care for people with multiple chronic conditions has had no observable effects on these outcomes (Lavergne et al., 2018). The varied approaches used across the country, all with minimal impacts, suggest a need to refocus

payment reform efforts away from bonus payments towards a more effective suite of interventions that provide supports for physicians (including sufficient income but also support staff and other resources), to provide quality care and support patient outcomes rather than interventions.

Domain 4: Key findings, summary indicators and recommendations

KEY FINDINGS

- PTs primarily fund and administer healthcare for their residents, including making decisions on NCDs, while the federal government contributes approximately a quarter of health spending through conditional Canada Health Transfer. The federal government additionally funds and delivers healthcare services to First Nations and Inuit populations, veterans, and members of the Canadian Armed Forces.
- Canada spends significantly more on health care than the OECD average, with 2024 health spending estimated at 11.3% of GDP. Most expenditures go towards hospitals, drugs, residential care, and physician services. However, compared with OECD averages, Canada allocates a smaller share of total health spending to primary healthcare services, which encompasses general outpatient and preventative care typically delivered in community settings.
- Private costs to patients for cancer care include OOP spending on drugs, caregiver time, and lost productivity, though these are not systematically monitored across the country. Similarly, studies on cardiovascular conditions and diabetes report significant OOP costs and access barriers, with some patients paying thousands annually for essentials like medications, monitors, and home care due to limited coverage of these services.
- Cost-related barriers to accessing medications in Canada is more prevalent than in peer countries, owing in part to the gaps in coverage for medications for some population groups and between PTs.
- PTs have in place a range of programs to protect lower income residents from financial barriers to care; also, recent federal-provincial agreements represent a move toward expanded public pharmaceutical coverage (though to date limited to drugs for diabetes and contraception).
- Provider payment methods (mostly fee-for-service) and fragmented system organization largely do not support or incentivize comprehensive, coordinated care for people with NCDs.

INDICATORS

Summary of existing measures

- Public health spending as a share of total health expenditure.
- OOP spending on health.
- Cost-related non-adherence to medications – e.g., self-reported data on skipping or not filling prescriptions due to cost.

Suggested indicators to enhance tracking of health system performance in this domain

- Integrated and detailed health expenditure data disaggregated by service type (e.g., primary vs. secondary prevention) and disease type (e.g. diabetes, cardiovascular disease) to assess alignment between spending patterns, prevention strategies, and disease burden.
- National reporting on costs (direct and indirect) borne by patients with NCDs and their care partners, by condition and sociodemographic stratifies.

- Financial barriers to care (e.g., cost-related non-adherence, unmet need due to cost), stratified by socio-demographic variables.
- Standardized definitions and reporting mechanisms for expenditures on preventive services across PTs.

RECOMMENDATIONS

1. **Scale up evidence-informed prevention and measure long-term impact.** Increase investment in programs to address determinants of health and primary prevention of NCDs (such as scaling-up community-based nutrition and NCD-awareness programs, tobacco and alcohol reduction policies, targeted outcome-based funding models or primary care performance incentives, etc.). Establish mechanisms to monitor and evaluate long-term impacts of these investments on health outcomes, including regular robust forecasting to inform service planning.
2. **Reduce financial barriers to essential NCD supports by expanding equitable access to essential medications, devices, and caregiver supports.** This includes reducing OOP costs and closing coverage gaps for the prevention and management of NCDs. PTs can leverage new federal bilateral funding agreements to implement measures that would reduce OOP costs and close coverage gaps. For example, eliminating or reducing co-payments and deductibles for low-income or high-risk populations, and extending public coverage for high-value preventive medications.
3. **Expand monitoring of financial barriers that improve understanding of inequities in access to NCD-related care.** For example, CIHI could track access to essential NCD supports by income, geography, and other equity stratifiers to inform targeted policy responses.
4. **Reform funding models.** PTs can move from provider-specific payments to more mixed models, such as salary, capitation, and bundled payments, delivered through integrated primary care teams with a mandate to provide coordinated, evidence-based care across the continuum for populations at risk for living with NCDs.

DOMAIN 5

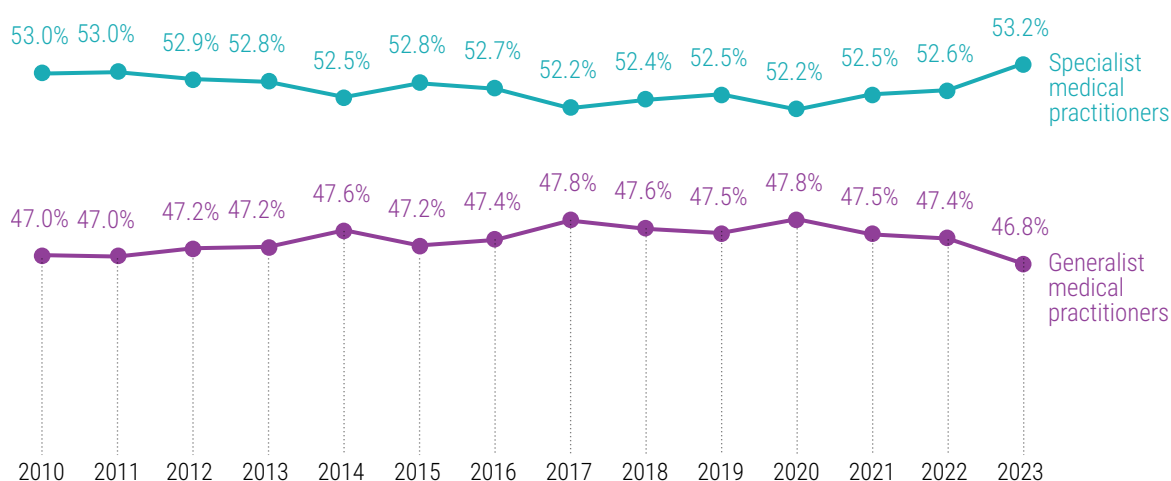
Workforce



Subdomain 5.1: Workforce supply

Improving access to high-quality primary care is a shared priority across FPT governments. Evidence shows that ongoing care from a regular healthcare provider improves health outcomes, especially for chronic disease management. However, Canada's aging healthcare workforce has raised concerns about impending shortages in access to care. Statistics Canada data suggests that nearly 18% of healthcare workers are aged 55+ in 2024, compared with 9.5% in 1998 (Statistics Canada, 2025h). Primary care providers, particularly physicians, are often the first point of contact for patients and play a central role in system diagnosing, treating, managing, and coordinating care (CIHI, 2024d). Primary care physicians (referred to as family physicians) also serve as gatekeepers to specialist services, although such care can also be accessed through emergency presentations (see Domain 3: Service delivery for more detail on roles). Figure 9 shows the proportion of generalist and specialist physicians in Canada between 2010-2023, which has been relatively stable over time at an approximate 53:53 split (OECD, 2024b). The proportion of generalists has not meaningfully increased and slightly declined in 2023 to its lowest point in this period (46.8%).

Figure 9. Proportion of specialist and generalist physicians, Canada



Source: OECD, 2024b.

Workforce challenges are especially pronounced in rural and remote regions due to a smaller and declining pool of workers (CIHI, 2024e). The proportion of nurses in these areas decreased from 11.1% in 2013 to 9.6% in 2022. Nurse practitioners, who play a key role in primary care, also saw a decline from 18% in 2013 to 14% in 2022 (see Table 18). Family physicians have maintained a steady rural presence at 13%, with many regions relying on itinerant physicians. Only about 10% of pharmacists practice in rural areas, with a slight decline over the past decade, though expanded roles could improve access. In the absence of consistent primary care, emergency departments often serve as a key access point for treatments typically provided in urban family practices, particularly in Atlantic provinces (CIHI, 2024f). While virtual care has helped bridge some gaps, findings from the Commonwealth Fund's 2021 International Health Policy Survey of Older Adults found its use among seniors with chronic conditions or higher income is more common, despite similar uptake in urban and rural settings (CIHI, 2022).

Addressing workforce shortages and limitations in NCD prevention and management are priorities in rural and remote areas. Targeted incentives to attract professionals into shortage fields (such as geriatrics, primary care, and mental health) as well as investments in alternative service delivery models such as telemedicine, virtual care, and home-based treatment, are aimed at extending workforce capacity and improving access. For example, the federal government recently expanded its Canada Student Loan Forgiveness program, offering up to CAD 60,000 in loan forgiveness for

physicians and CAD 30,000 for nurses who commit to working in under-served rural and remote communities (Employment and Social Development Canada, 2024). Further discussion of financial incentives is discussed in Domain 4: Financing.

Table 18. Proportion (%) of healthcare providers working in rural or remote areas

Type of professional	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
All nurses	11.1	11.0	10.2	10.3	10.2	10.1	9.9	9.8	9.7	9.6
Nurse practitioners	17.7	17.2	17.1	17.4	16.3	15.7	15.7	14.7	13.9	14.1
Registered nurses	9.7	9.5	9.2	9.3	9.2	9.3	9.1	9.0	8.9	8.8
Licensed practical nurses	14.7	14.7	12.3	12.3	12.1	11.9	11.5	11.4	11.2	11.1
Registered practical nurses	14.4	14.0	13.6	14.3	14.7	13.8	13.8	13.4	12.7	12.2
Family physicians	13.5	13.3	13.4	13.1	13.2	13.2	13.1	12.8	12.9	12.8
Specialist physicians	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2
Pharmacists	11.4	11.0	10.9	10.7	10.4	10.3	10.3	10.2	10.1	9.8
Occupational therapists	5.4	5.5	5.6	5.2	5.4	5.2	5.2	5.2	5.0	5.2
Physiotherapists	6.8	6.4	6.5	6.5	6.7	6.4	6.4	6.4	6.4	6.2

Source: CIHI, 2024e.

Virtual care has become an increasingly important tool for extending the reach of the Canadian health workforce, particularly since COVID-19. Data from the 2022 Commonwealth Fund International Health Policy Survey of Primary Care Physicians show that Canadian physicians are largely supportive of virtual care, with 84% of primary care physicians reporting satisfaction with its use and many observed benefits such as improved timeliness and effectiveness in managing mental and behavioural health needs (CIHI, 2023c, 2023d). For more detail on virtual care's role in reducing access, see Domain 3: Service delivery; for more details on patient experience and implementation challenges, see Domain 6: Medicines and technology; and for environmental and sustainability benefits of virtual care see Domain 7: Environmental sustainability.

In response to broader workforce challenges, several national and provincial initiatives have been introduced to strengthen the health workforce. Periodically, national-level research institutions and governmental bodies will conduct evidence syntheses to propose recommendations for national-level workforce planning and projection initiatives. In June 2023, Canada launched a strategy to address current and emerging labour demands (Employment and Social Development Canada, 2023), including initiatives to attract and retain health workers. While the strategy emphasizes overall healthcare staffing needs, it does not explicitly target NCD prevention and chronic disease management. In that same year, Health Workforce Canada was established, with the goal to strengthen health workforce data and planning within the country (Health Workforce Canada, 2024). Additionally, Health Canada's 2025 pan-Canadian study to improve workforce planning and projection through enhanced data and research aims to better understand and anticipate the needs of Canada's healthcare workforce, which will help guide future strategies, including those for chronic disease care (Health Canada, 2025g).

FPT governments have also introduced policies to expand access to virtual care, improve retention and recruitment of healthcare workers, and make changes to practice and support task-shifting (CIHI, 2025b). For example, several PTs have implemented initiatives to expand prescribing and

treatment powers to pharmacists and nurse practitioners to improve access to care and to alleviate pressures of NCDs on primary care physicians specifically. In Ontario and BC, for example, pharmacists are allowed to write prescriptions for certain minor ailments including gastro-esophageal reflux disease (GERD), uncomplicated urinary tract infections (UTIs), and others (BC Ministry of Health, 2025; Ontario College of Pharmacists, n.d.). However, very few of these minor conditions fall under the umbrella of NCDs, with most allowable conditions treated with anti-viral, antibiotic, or anti-fungal medications. Moreover, the focus on expanding prescribing authority for acute conditions rather than chronic disease prevention or management suggests an opportunity for a broader analysis of scope of practice evolution for NCD care by non-physician primary care providers.

Despite the absence of a comprehensive policy and fragmented approach, there are clear opportunities to better align workforce planning with NCD burden projections. Health Canada’s *Caring for Canadians* study (2025) identifies significant capacity gaps that are projected to worsen over the next decade, particularly in rural, remote, and Indigenous communities (Health Canada, 2025g). The study emphasizes the need for coordinated action, including stronger data systems, integrated workforce modelling, and cross-jurisdiction collaboration to address these challenges. Complementary initiatives from working groups such as the Canadian Collaborative Taskforce for Advancing Rural Family Medicine focus on specific policy areas, but reinforce the broader need for integrated planning (Soles et al., 2017).

Subdomain 5.2: Training and workforce development

Canada does not have a single, overarching policy in place to promote training healthcare staff on the prevention, diagnosis, and treatment of NCDs. Instead, training efforts are dispersed across levels and sectors and are often embedded within broader initiatives such as public health promotion and disease prevention (see Domain 2: Governance and Domain 3: Service delivery for further details). Key workforce challenges and innovations identified in the *Caring for Canadians* report are summarized in Table 19 (Health Canada, 2025g). Notably, there is need for integrated supply and demand models for health workforce planning (Chamberland-Rowe et al., 2021; CIHI, 2025c, 2023e; Lavergne et al., 2025; Simkin et al., 2021).

Table 19. Selected challenges and opportunities for medical education in Canada, as presented in *Caring for Canadians*

Challenges	Innovations
• Limited availability of sufficiently qualified medical educators (i.e., teachers, faculty members) to provide education • Scarcity of clinical placements, and difficult accessing sufficient quantities of patients to serve in educational environments • Underinvestment in simulated learning environments • Insufficient remuneration and incentives for medical educators • Insufficient administrative resources and funding • High tuition and program costs (particularly identified as a barrier for enrolment among students of diverse backgrounds and from marginalized populations) • High travel and accommodation costs, for individuals from rural and remote areas	• Targeted admission support for students from under-represented groups • Online and virtual learning environments for students who are geographically distant from educational centres • On-site rotations and programs delivered in rural and remote areas • Increasingly flexible curriculum design, including accelerated pathways, direct-entry primary care medical education programs, and others

Source: Health Canada, 2025g.

Given the robust data available on NCD prevalence and trends (see Domain 1: Population health), these models could be enhanced by incorporating NCD-specific projections to ensure that healthcare professionals are trained in the competencies required for managing chronic diseases. Competency-based education programs for prevention, diagnosis, and treatment of NCDs should be established and regularly updated to reflect evolving evidence-based medical practices (Health Canada, 2025g). Some institutions already offer such programs, e.g., continuing education on NCD prevention and management (McGill, 2025) and certificates in chronic disease management for nurses (Seneca Polytechnic, 2025).

Specialized training programs (such as those mentioned above) work in tandem with college-mandated continuing professional development programs and requirements for physicians in Canada. The Royal College of Physicians and Surgeons and the College of Family Physicians of Canada are primarily responsible for establishing and overseeing continuing medical education (CME) standards for physicians. Whereas, the Canadian Nurses Association and provincial regulators establish guidelines and frameworks for continuing professional development for nurses. A policy priority for managing complex NCDs is to establish collaborative, interdisciplinary education for health professionals (Health Canada, 2025g). Since requirements are additionally put in place by provincial regulatory bodies, there is no shortage of demand for educational opportunities. Consequently, there have been many innovations in improving access and quality of medical education in Canada in recent years; however, other barriers to connecting healthcare workers with resources exist.

Domain 5: Key findings, summary indicators and recommendations

KEY FINDINGS

- Canada faces persistent healthcare workforce shortages driven by an aging workforce and rising NCD burden among an aging population, complicating efforts to provide sustained care for people with NCDs. Shortages are particularly acute in primary care and nursing, where recruitment and retention challenges are most pronounced. There are several emerging initiatives to improve workforce planning in alignment with future care demands, although these vary across jurisdictions. FPT governments have made some commitments to addressing health workforce pressures, e.g., through measures such as improving pan-Canadian labour mobility and establishing Health Workforce Canada, which is designed to strengthen workforce data and planning capacity.
- Primary care providers are essential in diagnosing, managing, and coordinating care for NCDs. However, disparities in access and shortages in rural and remote areas limit timely and continuous care needed to prevent complications and hospitalizations from poorly managed NCDs. Informal caregivers and people living with NCDs also play a critical role in ongoing disease management, underscoring the importance of supporting systems and training for self-management.
- Expanding scopes of practice for pharmacists and nurse practitioners might mitigate excess demand for primary care physicians, but further work could be done to expand scope of practice beyond minor ailments and acute complaints to independent NCD diagnosis and management, provided there is sufficient evidence to support effective management.
- Financial incentives, such as loan forgiveness programs, are being used to attract and retain healthcare workers in underserved rural and remote communities, aiming to strengthen workforce capacity crucial for improving NCD prevention and management.

- There are significant workforce capacity gaps in rural, remote, and Indigenous communities, although there are opportunities for coordinated, integrated workforce planning that incorporates supply and demand models with special attention to NCD burdens that are being explored in academic and government research.
- There are promising practices to improve healthcare workforce training by embedding competency-based education focused on chronic disease management into professional curricula. Some institutions are offering continuing education in chronic disease management, which can also complement mandatory professional development requirements overseen by regulatory bodies across the country.

INDICATORS

Summary of existing measures

- Proportion of healthcare workers aged 55 years and over.
- Specialist to generalist physician ratio.
- Healthcare worker distribution (urban, rural).
- Physician satisfaction.
- Physician uptake of virtual care.

Which indicators, for which data is lacking, would enhance the ability of the health system to track its performance in this domain?

- Comprehensive, national health workforce data to track multi-professional team-based care and the entire health workforce, e.g., geographic distribution and FTE of NPs, nurses, and allied health professions working in prevention, early detection, and treatment of NCDs.
- Nationally comparable granular data on healthcare staffing turnover and vacancy rates in rural and remote areas.
- Tracking continuing education and training linked to NCD service delivery.

RECOMMENDATIONS

1. **Integrate NCD burden projections into workforce planning models at FPT levels.** Integrating NCD-specific data into workforce planning tools would ensure better anticipation of service demands and guide training investments accordingly.
2. **Expand access to interdisciplinary, team-based training models for NCD care.** Managing complex NCDs requires coordinated, team-based care. Expanding interdisciplinary training in medical, nursing, and allied health programs has the potential to strengthen collaboration skills, networks for providing shared care for patients, and improve care continuity – especially in primary care settings.
3. **Expand and evaluate scope of practice for non-physician providers in NCD care.** Current expansions have largely prioritized acute care and minor ailments, leaving untapped potential for these providers to support long-term NCD care. PTs could consider broader roles, while evaluating the impact on access, quality, and outcomes.

DOMAIN 6

Medicines and technology



Subdomain 6.1: Access to diagnostics and treatment

Gaps in access to essential diagnostics and therapies for NCDs

Canada faces critical and persistent gaps in access to essential diagnostics and therapies for NCDs. These gaps cut across disease areas and regions, reflecting shortages of diagnostic equipment, uneven distribution of services, financial barriers to treatments, and delays in integrating new therapies in provincial healthcare systems.

Diagnostic tools such as spirometry remain limited nationwide due to shortages (Government of Canada, 2021d) and uneven distribution, particularly between urban and rural areas (Choy et al., 2024). A 2024 regional study by Vancouver Coastal Health identified insufficient spirometry services in rural communities that lacked specialty outpatient care, such as pulmonary rehabilitation and respiratory education, while urban centres contended with long wait times ranging from three to six months and staff shortages (Choy et al., 2024).

Timely intervention is also vital for cardiovascular care, particularly for stroke, yet access to hyperacute stroke services varies considerably across Canada. A 2017 geospatial analysis study assessed access to hyperacute stroke services across eight Canadian provinces, including British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Prince Edward Island, and Newfoundland and Labrador. Alberta and Ontario were found to provide the best access, with over 90% of their populations within 4.5 hours of a stroke centre. Conversely, Saskatchewan and Newfoundland and Labrador had the poorest access, with only half of their populations able to reach a stroke centre within 3.5 hours (Eswaradass et al., 2017).

For metabolic and kidney diseases, financial barriers remain a major obstacle that disproportionately affect low-income Canadians unable to afford necessary treatments or adhere to clinical recommendations. In 2023, Canadians living with diabetes faced increasing costs for prescriptions, devices and supplies, while OOP costs varied significantly across the country (Diabetes Canada, 2023). Additionally, in 2022, more than half of Canadians living with type 1 diabetes and a majority of those with type 2, spent over 3% of their household income on care or were unable to follow treatment recommendations due to financial limitations (Diabetes Canada, 2023) (see Domain 4: Financing).

Barriers to accessing cancer care therapies stem from Canada's multi-step pharmaceutical regulatory framework, which includes regulatory review and approval by Health Canada, health technology assessment (HTA) reviews by CDA and the Institut national d'excellence en santé et en services sociaux (INESS), pCPA pricing negotiations, and provincial listing and funding decisions (Glennie et al., 2023). Recent initiatives include the Early Negotiation Process (ENP) and Targeted Negotiation Process (TNP). The ENP is a new pathway that intends to expedite access to cancer drugs by starting negotiations earlier in collaboration with CDA and Project Orbis (pCPA, 2025a). By beginning at the draft review stage rather than waiting for final recommendations, the ENP can help reduce timelines up to six months (pCPA, 2025a). The TNP is a faster pathway for non-complex drug negotiations (pCPA, 2025b). It was piloted in 2021 and now seeks to expand and include Pharmaceutical and Anticipated Comparable Efficacy and Safety (PACES) drugs from the CDA and has been shown to reduce negotiation times by approximately 30–45% (pCPA, 2025b). At the provincial level, programmes such as Ontario's Funding Accelerated for Specific Treatments (FAST) initiative have also sought to shorten access timelines for high priority oncology medicines by enabling earlier funding decisions while final price negotiations are ongoing (Ontario Ministry of Health, 2026). Despite these national and provincial initiatives, integrating new oncology therapies into provincial care systems often faces administrative delays during pricing negotiations (Step 3), inconsistent internal provincial processes (Step 4), and logical challenges related to diagnostic services, funding bodies, and efforts to coordinate with hospitals (Glennie et al., 2023).

And finally, drug shortages pose a significant challenge for NCD management among patients, caregivers and healthcare providers. In 2023–2024, Health Canada reported just under 4,000

shortages, representing a 15% increase compared to the prior year. Among these, high-impact shortages included a six-month delay in the availability of Ozempic (a semaglutide injection used to treat adults with type 2 diabetes and weight management) and an ongoing supply disruption for Prazosin (a blood pressure medication to treat hypertension) (Health Canada, 2024c).

Financial barriers to access outpatient cancer drugs also exist. For example, patients in Ontario, Nova Scotia, and New Brunswick have experienced high OOP costs because take-home cancer drugs were not included in public cancer agency budgets (PDCI Market Access, 2021). Consequently, many patients rely on private insurance, income-based public drug plans, or manufacturer assistance (PDCI Market Access, 2021). However, private insurance often involves high co-payments and low annual maximum, which may deter use. As a result, some patients opt for fully covered in-hospital therapies, despite the potential clinical and quality-of-life benefits of these outpatient medications (PDCI Market Access, 2021).

Approaches to the prevention, diagnosis, and treatment of NCDs that draw upon advancements in diagnostics and treatment

The past decade has seen notable advancements in the prevention, diagnosis, and treatment of NCDs in Canada, particularly with regards to cancer and stroke. In 2025, Canada's Immunotherapy Network, BioCanRx, announced a CAD 12.5 million investment to support 20 research projects and four core facilities nationwide (BioCanRx, 2025). Focused on biotherapeutic innovations, including CAR T-cell therapy, RNA-based vaccines, tumor-infiltrating lymphocyte therapy, radiolabeled antibody therapies, and post-surgical immune system reprogramming, these projects aim to improve treatment while also supporting long-term cancer prevention (BioCanRx, 2025).

In 2024, Nova Scotia's QEII Health Sciences Centre became the first in Canada to acquire the StarGuide SPECT/CT Scanner, which enables early detection and tailored treatment (Nova Scotia Health, 2024). Molecular imaging has also been used to enhance personalized care. In Ontario, St. Joseph's Health Care and Lawson Health Research Institute, in partnership with GE HealthCare, is home to Canada's first Centre of Excellence in molecular Imaging and Theragnostics. Key features include next-generation PET-CT scanners for high-resolution imaging, integration of cyclotron and radiochemistry labs, personalized cancer treatment, and national training hub for advanced imaging (St Joseph's Health Care London, n.d.). And finally, the University of British Columbia's spin-off Alphs-9 is developing targeted radiopharmaceuticals for cancer treatment, with focus on precision targeting of tumors for prostate and breast cancer, as well as leukemia (University of British Columbia, 2023).

Stroke treatment in Canada has benefited from the adoption of endovascular thrombectomy (EVT), which was incorporated into the *Canadian Best Practice Recommendations for Stroke Care* in 2015 (Hebert et al., 2016; Hu et al., 2020). EVT has demonstrated potential to save lives and often results in faster stroke recovery (Hu et al., 2020).

Barriers to the widespread diffusion and adoption of beneficial new medicines and technology

The diffusion and adoption of new medicines and technology often face structural, procedural, and infrastructural barriers that, in turn, delay access among patients and providers. Canada's multifaceted drug approval system is a key contributor to delays in access. A 2025 study found that it takes an average of 29.8 months for a drug to be listed on a public formulary upon receipt of a Notice of Compliance (NOC) (Gaudette et al., 2025). Contributing factors included late manufacturer submissions to the CDA (49% of the overall delay), negative "do not list" recommendations (22%), and unsuccessful or abandoned price negotiations (7%) (Gaudette et al., 2025).

Canada experiences significant delays in the approval of new medicines compared to other countries. A 2021 study found approval times in the United States and European Union took place an average of 469 days and 468 days earlier than those in Canada (Barua et al., 2021). Clinical trials also face implementation challenges. A 2020 Canadian-based study identified a lack of core infrastructure funding as a primary barrier resulting in clinical trials operating on a cost-recovery

basis, limited staff capacity, and an over reliance on industry-sponsored trials (Bentley et al., 2020). Consequently, commercial interests were prioritized over scientific or clinical value (Bentley et al., 2020). Additional systemic issues surrounding clinical include redundant and resource-intensive processes for initiating trials, such as delays in ethics reviews, institutional and regulatory approvals, and complex negotiation contracts for multi-site trials (CIHR, 2023b).

Subdomain 6.2: R&D capacity

Existing national strategy and funding for the research and development of diagnostics and treatment

Canada’s healthcare innovation landscape has been described as a “complex intergovernmental framework” that both facilitates and hampers transformation opportunities (Wyonch, 2025). Since 2015, approximately CAD 245 million has been invested in diabetes research by the Canadian government through CIHR. In 2023, AstraZeneca expanded its research operations in Mississauga, Ontario, creating 500 skilled scientific and technical roles to support clinical studies on chronic kidney disease and breast, lung, and prostate cancer, alongside the development of Alexion, the AstraZeneca Rare Disease Development Hub (AstraZeneca, 2023). Canada’s cancer strategies are guided by robust partnerships with leading cancer organizations, including the *10-year Canadian Strategy for Cancer Control*, led by CPAC.

Asthma Canada has invested more than CAD 1 billion to support a 2025–2040 research agenda to enhance asthma treatment and management, and CIHR has invested more than CAD 1 billion for the 2024–2025 fiscal year in diverse research initiatives (Asthma Canada, n.d.; CIHR, 2025b.) Canadian Institutes of Health Research, 2025). Similarly, the Heart and Stroke Foundation supports improved health and recovery for Canadians affected by heart disease and stroke. Its Grant-in-Aid (GIA) program funds innovative research that aims to advance prevention, treatment, and recovery (Heart and Stroke Foundation, 2024). During the 2024/2025 cycle, the GIA program funded 70 projects that represented a total investment of nearly CAD 18 million (Heart and Stroke Foundation, n.d.). Table 20 provides an overview of additional networks providing research expertise and clinical leadership.

Table 20. Clinical Research Networks

NCD	Networks
Chronic respiratory diseases	Canadian Respiratory Research Network (CRRN)
Cardiovascular diseases	Canadian Heart Function (CHF) Alliance CanStroke Reconvert Trials Platform Cardiovascular Network of Canada (CANet) Canadian Association of Interventional Cardiology: Clinical Trial Network
Metabolic and kidney diseases	Canadian Nephrology Trials Network Diabetes Clinical Trials Network (DCTN) Diabetes Action Canada Metabolic Syndrome Canada Can-SOLVE CDK Network
Cancer	Canadian Cancer Trial Group (CCTG) Canadian Bladder Cancer Research Network Canadian Partnership Against Cancer (CPAC) Canadian Cancer Research Alliance (CCRA) Canadian Cancer Clinical Trials Network (3CTN)

Patient recruitment challenges for clinical trials

Recruiting patients for clinical trials is challenging due to a lack of accessible information. The technical language used throughout the Government of Canada's Clinical Trials Database has been found to cause difficulty for members of the general public seeking to identify suitable trials (Government of Canada, 2025e). The online platform also poses a challenge to those living in rural and isolated areas, and particularly within Indigenous communities lacking reliable internet (Government of Canada, 2025e). Moreover, identifying clinical trial opportunities is often left to patients and their families, who may lack the professional knowledge and capacity needed to navigate available options (Government of Canada, 2025e). Although the Canadian Cancer Clinical Trials Network offers a Clinical Trials Navigator (CTN) to assist patients in finding eligible trials across North America, there is low awareness and uptake of this service. For example, in their 2024 study, Fenech and colleagues found that 63% of 40 physicians (15 oncologists, 25 hospital-based) were unaware of CTN and, similarly, 88% of 73 patients had no prior knowledge of the service. Notably, those who used the CTN reported a twofold increase patient referral to trials (Fenech et al., 2024).

Other recruitment barriers include low public awareness of clinical trial opportunities, concerns or fears around safety and placebo use, stringent eligibility criteria that exclude individuals based on comorbidities, prior treatments, or demographic factors, and mistrust in the medical system (Horizon Trial and Treatment Notifier, 2025).

Subdomain 6.3: Digital health and data

While several digital health care strategies have been introduced in Canada in recent years, there are few digital strategies explicitly addressing NCDs.

Nevertheless, digital health technologies are valuable in supporting the management of NCDs, particularly with regards to improving treatment adherence. In asthma care, for which non-adherence rates range from 30% and 70%, tools like smart inhalers and behavioural support apps have shown promise by tracking usage, correcting technique, and offering real-time feedback, thereby supporting self-care and clinical monitoring (Kaplan et al., 2023). Similarly, innovations in diabetes care, such as continuous glucose monitoring and smart insulin pens, contribute to better glycemic control by lowering HBA1c levels and reducing severe hypoglycemia events (Kaplan et al., 2023).

Artificial intelligence (AI) is increasingly incorporated into NCD diagnostic tools, potentially offering faster and more accurate detection. The "Paige Prostate Suite" is a collection of AI applications designed to support pathologists in analyzing digitized prostate biopsy samples (CADTH, 2024). By serving as a supplementary reviewer of the biopsy slides, it has potential to accelerate cancer detection and streamline pathology workflows. Although approved in countries like the United States, its use in Canada is still undergoing regulatory evaluation (CADTH, 2024; PAIGE, 2025). Another promising application comes from a Canadian study exploring how AI might predict COPD using Electronic Medical Records across seven provinces, with resulting showed that AI-based tools might improve COPD detection and evidence-based care (Zafari et al., 2022).

Access to electronic healthcare records

Electronic health records (EHR) have been widely adopted across the country, although with notable variability. In 2022, just over half of residents in Saskatchewan (60%), Alberta (52%), and British Columbia (52%) had access to their EHRs, compared to only 14% of residents in Manitoba and Newfoundland and Labrador (CIHI, 2024g). While there is limited data on access to EHRs for NCD prevention, diagnosis, and treatment, there is some indication that both patients and providers face access barriers.

Survey findings from Canada Health Infoway further underscores these challenges, highlighting both the demand for improved electronic access the benefits when such access is available. A 2022 survey found that patients want better access to their personal health information, with 80% of those who accessed their medical records felt better able to manage their health (Canada Health Infoway, 2023). The 2023 Canadian Digital Health Survey reinforced the 2022 findings, reporting that among respondents with access electronic personal health information, 34% avoided an emergency department visit and 45% avoided an in-person visit with their regular care provider (Canada Health Infoway, 2024a). However, only two in five Canadians had ever accessed their records, and just one in three physicians report sharing patient information with providers outside their own practice (Canada Health Infoway, 2024a; CIHI, 2024g). Selected results from the 2024 National Survey of Canadian Physicians indicate that although EHR use is consistently high across provinces, the proportion of in-person visits varies considerably (Canada Health Infoway, 2024b) (Table 21).

Table 21. Selected results from National Survey of Canadian Physicians, 2024

	Percentage of physicians using EMR or EHR to enter and retrieve clinical patient notes in the care of their patients		Percentage of patient visits delivered in-person	
	All community-served areas	Urban-served areas (>1 million people)	All community-served areas	Urban-served areas (>1 million people)
British Columbia	98%	99%	75%	74%
Alberta	99%	99%	82%	82%
Saskatchewan	99%	nd	80%	nd
Manitoba	98%	nd	86%	nd
Ontario	94%	97%	84%	82%
Quebec	86%	nd	89%	nd
Atlantic Provinces	86%	nd	80%	nd
Territories	nd	nd	nd	nd
All	95%	98%	81%	80%

Note: nd = no data available.

Source: Canada Health Infoway, 2024.

Existing barriers to the diffusion and adoption of digital health technologies supporting acting early on NCDs

The adoption of digital health technologies in Canada is hampered by a lack of interoperable systems. This issue limits the efficiency of EHRs and impedes access to essential information, such as test results and medication histories to support chronic disease management, particularly for older adults (Canada Health Infoway, 2023b). The 2024 National Survey of Canadian Physicians found that 73% of physicians lacked system integration, 54% required multiple logins across disconnected platforms, and nearly half reported unintuitive systems and workflow inefficiencies such as duplicate test results and slow logins (Canada Health Infoway, 2024b).

To address these challenges, a shared Pan-Canadian Interoperability Roadmap is being co-developed by PTs (except for Quebec) and was officially endorsed by the Conference of Deputy Health Ministers on March 2023 (Canada Health Infoway, 2023b; Health Canada, 2024d). The roadmap outlines a long-term vision for the next 5 to 10 years, with particular focus given to

improving digital health infrastructure, including the interoperability of systems across the country (Canada Health Infoway, 2023b). In 2024, the federal government introduced *Bill C-72: Connected Care Act for Canadians*, aimed to enable “easy, complete, and secure access to, use, and exchange of electronic health information, and to prohibit data blocking by health information technology vendors, in order to promote a connected, secure, and person-centred health system” (Bill C-72, 2024). Despite its promising potential, the Bill has yet to be enacted. (Health Canada, 2024d).

Canada’s fragmented digital health landscape reflects its highly decentralized health care system, wherein each of the 13 PTs holds its own technical and policy frameworks (Government of Canada, 2021e). As such, developing a pan-Canadian information framework remains complex, as doing so requires coordination across jurisdictions. As a result, this complicates efforts to implement standardized national coordination.

Additional challenges surrounding widespread diffusion of digital health include the perception that virtual care diminished valuable personal connections between patients and healthcare providers. A 2022 survey exploring Canadians’ uptake of digital health during the COVID-19 pandemic found the most cited reasons for not using virtual care to include: no need for a consultation (47%), preference for in-person visits (18%), perception that virtual care was inappropriate for their condition (11%), and a lack of personal connection (11%) (Canada Health Infoway, 2023a). Moreover, a 2020 Digital Health Care Consultation by the Government of Canada found procurement processes to be outdated and slow, and often disadvantageous to small and medium-sized enterprises compared to large corporations (Government of Canada, 2021e).

Among providers, mixed use of paper and electronic records (26%), equipment shortages (26%), and infrastructure mismatches (26%) have been found to reduce communication and prevent consistent access to care (Canada Health Infoway, 2024b). Additionally, 22% of providers noted inadequate training during medical education, while others cited internal policy barriers (19%) and insufficient user skills (19%) as key barriers to the uptake of digital health approaches (Canada Health Infoway, 2024b).

At the population level, an estimated 46% of Canadians lack digital literacy, with barriers more pronounced among low-income, newcomer, and unhoused populations (Public Health Ontario, 2023). Older adults also face challenges navigating digital platforms and express concerns about data privacy (Ashraf, 2025). Access is also constrained in rural and remote communities, where limited broadband infrastructure acts to further restrict access to personal health information (Ashraf, 2025; Government of Canada, 2021e; Public Health Ontario, 2023). To address digital exclusion, the Canadian government has introduced initiatives that both strengthen digital skills and expand access to technology. Programs such as CanCode⁴, Digital Skills for Youth⁵, and the Computers for Schools Intern Program⁶ focus on building digital competencies, particularly among children and youth. Complementary government-endorsed initiatives, including Computers for Schools Plus⁷ and the Connecting Families Initiative⁸, aim to improve access to computer equipment and affordable internet services for low-income and Indigenous communities.

⁴ CanCode: <https://ised-isde.canada.ca/site/cancode/en/funded-cancode-projects>

⁵ Digital Skills for Youth: <https://ised-isde.canada.ca/site/digital-skills-youth-program/en>

⁶ Computers for Schools Intern Program: <https://ised-isde.canada.ca/site/computers-for-schools-plus/en/internships-opportunities>

⁷ Computers for Schools Plus: <https://ised-isde.canada.ca/site/computers-for-schools-plus/en/receive>

⁸ Connecting Families Initiative: <https://ised-isde.canada.ca/site/connecting-families/en>

Domain 6: Key findings, summary indicators and recommendations

KEY FINDINGS

- Canada faces persistent gaps in access to essential diagnostics and therapies for NCDs, including uneven distribution of diagnostic tools, financial barriers to treatment, delays in integrating new therapies, and frequent drug shortages.
- Innovations in cancer and stroke care, such as immunotherapy, molecular imaging, targeted radiopharmaceuticals, and the adoption of endovascular thrombectomy, constitute notable contributions to improve early detection and overall patient care. However, structural, procedural, and infrastructure-related barriers, such as fragmented regulatory processes and funding processes hinders timely and equitable adoption.
- Canada's research and development capacity for NCD diagnostics and treatment is supported by national strategies, disease-specific investments, and public-private partnerships. Notably, investment in NCD research is uneven. Cancer receives the most national attention and funding compared to that allocated to respiratory diseases and chronic kidney disease, despite their high burden of disease and associated healthcare costs. Initiatives such as the National Heart Failure Policy Action Framework are currently underway, while the Kidney Foundation of Canada is developing a national chronic kidney disease framework to raise awareness and improve prevention, detection, and treatment.
- Digital health technologies offer potential to improve diagnostic accuracy and chronic disease management among patients. Despite this promise and growing interest, Canada lacks NCD-specific digital strategies, faces several challenges to existing technologies, and barriers to widespread adoption, including fragmented digital infrastructure, limited interoperability, limited broadband access in rural and remote areas, uneven access to electronic health records, and varied digital literacy among the public.

INDICATORS

Summary of existing measures

- Patient-level access to EHRs.
- Practitioner-level utilization, engagement with, and operability of electronic health and medical record systems.
- Time from drug approval to public formulary listing.

Suggested indicators to enhance tracking of health system performance in this domain

- Level of integration (e.g., level of implementation, regulatory frameworks, or uptake of AI-driven diagnostic and treatment technologies) and impact of AI on delivery of healthcare services for NCDs.

RECOMMENDATIONS

1. **Expand diagnostic capacity in underserved regions that ensures timely access to essential diagnostic tools and follow-up care.** Investments may include extending access to priority equipment such as spirometry, stroke diagnostics, and others in local facilities. As well, facilitating timely interpretation and follow-up via virtual or remote care, particularly in rural and remote settings.
2. **Ensure equitable access to essential treatments that strengthen capacity in underserved regions and accelerates the adoption of new therapies.** Provinces could build hyperacute stroke-ready facilities modeled after high-performing systems in underserved provinces (e.g., Saskatchewan and Newfoundland and Labrador); and streamline integration of new therapies through coordinated regulatory and pricing processes, including a single-window review model.

3. **Enhance representative clinical trial participation and accessibility** to ensure that recruitment reflects the diversity of the Canadian population. This could entail targeted campaigns to promote clinical trial navigators across disease network platforms through webinars, outreach to healthcare providers, and patient-focused materials. Strategies can also be developed to expand platform accessibility by offering multilingual support and addressing barriers such as poor internet connectivity in rural and Indigenous communities.
4. **Advance digital health equity and innovation** that expands connectivity and leverages emerging technologies for NCD detection and management. Governments could provide broadband expansion grants and developer incentives to improve digital access, while supporting and evaluating AI-driven diagnostic tools. Another improvement may be to advance the Pan-Canadian Interoperability Roadmap to strengthen data sharing, interoperability and integration across systems.

DOMAIN 7

Environmental sustainability



Subdomain 7.1: Environmental impact of NCDs

National policy recognition of the environmental link to NCD prevention, diagnosis, and treatment

In 2023, the federal government released Canada's *National Adaptation Strategy* as a “whole-of-society blueprint” to strengthen climate change preparedness and adaptation (Service Canada, 2023). The strategy sets an overarching vision for climate resilience across five interconnected priorities, with that of ‘health and well-being’ recognizing the link between climate change and an increasing severity of chronic disease in Canada (Service Canada, 2023). Accordingly, the strategy aims to reduce the negative health impacts of climate change by cultivating a climate resilient health sector according to the following targets:

1. By 2026, 80% of health regions will have implemented evidence-based adaptations to safeguard the health of Canadians against extreme heat;
2. By 2030, health impacts and benefits will be factored into climate change tools, guidelines, and standards; health systems will identify risks, explore adaptation plans, and track progress towards climate resilience; and
3. By 2040, the risk of extreme heat-related death will be eliminated.

Despite these ambitions, little progress has been made with regards to the development of national policies to address the environmental link to NCD prevention, diagnosis, and treatment in Canada.

Bidirectional link between NCDs and climate change

Chronic respiratory and cardiovascular diseases are notably sensitive to poor air quality from pollutants like PM_{2.5} and ozone (Egyed et al., 2022). Evidence from population-level studies have linked short-term increases in PM_{2.5} levels to increased emergency department visits and hospital admissions for conditions such as COPD, asthma, and heart disease (Egyed et al., 2022).

On the other hand, when any of these NCDs go undiagnosed or untreated, they often worsen and drive individuals toward more acute care services, increased hospitalizations, and intensive treatment interventions. Hospitalization and advanced treatments contribute to increased carbon emissions, energy use, medical waste, and resource consumption across healthcare facilities (Smith and Severn, 2023). For example, radiographic imaging, which is heavily relied on for diagnosing cancer, produces significant greenhouse gas emissions and contributes to equipment and material waste (Hanneman et al., 2024). Surgical procedures are among the most environmentally intensive clinical activities: operating rooms consume large volumes of medical supplies and produce substantial waste, whereas anesthetic gases (e.g., nitrous oxide, sevoflurane, desflurane, and isoflurane) are highly potent greenhouse gases, with desflurane having the greatest capacity for heat retention and global warming impact (Issanov, 2022; Smith and Severn, 2023).

Health system actions to reduce emissions, waste, and resource use from NCDs

Canada's health system ranks as the third most carbon-intensive globally (Watts et al., 2019), contributing approximately 5% of the country's total greenhouse gas emissions (Duong, 2023). The main emission sources include hospital electricity consumption (~30%), the lifecycle of pharmaceuticals and medical devices (i.e., manufacturing, delivery, and disposal; ~25%), and environmental contamination resulting from the use and disposal of drugs and devices (Smith and Severn, 2023).

While targeted strategies to reduce emissions from specific NCDs are limited, broader efforts to advance health system sustainability have gained momentum. In 2021, Canada joined WHO's global initiative *Alliance for Transformative Action on Climate & Health* (ATACH) to build climate resilient, low-carbon sustainable health systems (CMA, n.d.; Nowlan and Miller, 2025).

Since then, the Canadian Association of Radiologists released a statement offering several recommendations to reduce the environmental impact of radiology services and achieve environmentally sustainable, net-zero, and climate-resilient radiology organizations (Hanneman et al., 2024). Key recommendations include, for example, coordinated government investments in early detection through the implementation of imaging-based screening programs for breast cancer and CT colonography, residency and fellowship training for appropriate diagnosis of climate-related illness, development of sustainability-related metrics and emission reduction targets for all imaging modalities, and government and regulation mandates for environmental performance and resilience standards for new and refurbished medical imaging equipment, among others (Hanneman et al., 2024).

In similar fashion, the CMA has also called on the Canadian government, health organizations, and health professionals to coordinate efforts toward achieving a net zero health system (CMA, n.d.). Such a shift could prevent pollution-related harm, improve system resilience, and generate economic benefits by saving an estimated CAD 59–110 billion (CMA, n.d.). Canada did not initially have a target date for achieving ATACH commitments, however, there is now a set target date of 2050 (Nowlan and Miller, 2025). However, realizing this vision is complex and remains a challenge in Canada due to limited resources for many competing health system priorities and a highly decentralized healthcare system (Barber et al., 2024; Nowlan and Miller, 2025). Existing federal commitments do not bind provinces, leading to doubts regarding the feasibility of producing comprehensive emission estimates and facilitating national accountability mechanisms (Nowlan and Miller, 2025). As such, achieving a net-zero health system requires shared responsibility and aligned decision-making across all levels of government.

Nevertheless, several promising clinical care interventions are emerging in Canada, though mostly these are not specific to NCDs. Some examples include:

Inhaler prescription: Many metered dose inhalers (MDIs) use hydrofluorocarbon propellants that carry a substantial greenhouse gas burden (IPCC, 2007). Lower emission alternatives, such as dry powder inhalers (DPIs) and soft mist inhalers (SMIs), are available for some patients and may be clinically appropriate in selected cases (CASCADES, 2022). Industry is also beginning to introduce next generation low global warming potential propellants that substantially reduce the environmental impact of MDIs (Buttini et al., 2023; Dunne, 2020). Where switching is in patients' best interests, there may be environmental co benefits. Beyond device choice, additional measures that may reduce emissions include ensuring optimal inhaler technique, prescribing the correct dose according to guidelines, and promoting safe disposal and recycling of inhaler devices (CASCADES, 2022; Smith and Severn, 2023).

Virtual care: The expansion of virtual care since the COVID-19 pandemic can lower carbon emissions by reducing patient travel. However, more evidence is needed to fully understand short- and long-term patient outcomes, especially among equity-deserving populations (Smith and Severn, 2023). Saskatchewan's Virtual Health Hub, set to begin operation in 2027, presents a promising and innovative approach to the provision of health care in rural and remote communities (See Domain 3: Service delivery) (Virtual Health Hub, 2025).

Operating rooms and surgical services: Environmental practices for operating rooms and surgical services include minimizing waste by prepping the room to include only necessary surgical supplies, optimizing prepackaged surgical kits, using pre-labelled surgical trays, and, where suitable, relocating less complex surgeries from high-resource operating rooms to outpatient clinics or other less resource intensive environments (Smith and Severn, 2023).

Anesthesia use: Using alternative gases from desflurane to sevoflurane can reduce emissions (Duong, 2023). These gases provide similar anesthesia effects, but desflurane has a global warming potential 30–50 times higher than sevoflurane (Smith and Severn, 2023). Additional measures involve promoting the use of low fresh gas flow rate during sedatives and general procedures, alongside shifting towards intravenous or regional anesthesia approaches when

appropriate (Issanov, 2022). Furthermore, technologies to capture and recycle waste anesthetic gases through active scavenging systems should also be considered, particularly during the redesign or renovation of operating rooms (Issanov, 2022; Smith and Severn, 2023). However, such systems are still in the early stages of development and adoption in Canada (Smith and Severn, 2023).

Investment in understanding the link between health and the environment

As above, the Government of Canada has demonstrated a growing commitment to understanding and addressing the intersection between environmental factors and health.

The 2022 Chief Public Health Officer (CPHO) of Canada's Report centered on the urgent need to mobilize public health in response to existing climate change hazards and its impacts (Government of Canada, 2022). Additionally, the 2023 *Adaptation Action Plan* outlines federal investments aimed at mitigating the health impacts of climate change and strengthening climate resilience within the health sector (Public Safety Canada, 2024). Specifically, it seeks to build health sector resilience by investing in several initiatives including:

- up to CAD 30 million over five years to expand Health Canada's *Protecting the Health of Canadians from Extreme Heat* through which the government will provide guidance and resources to address extreme heat (Government of Canada, 2024d).
- up to CAD 13 million over five years to renew and expand the HealthADAPT program which will include supporting partners across Canada in building a climate-resilient health system (Government of Canada, 2024d).
- up to CAD 12 million will be invested over five years to strengthen the *Climate Change and Health Adaptation* initiative specific to First Nations residing north of 60° and Inuit populations across Inuit Nunangat. This funding will further assist Indigenous-led organizations to identify and address climate-related health and health services challenges (Government of Canada, 2024d).

It is important to note, however, that according to a 2025 performance audit report on the *National Adaptation Strategy*, several areas remain unaddressed. These include, but are not limited to, critical health risks such as exposure to wildfire smoke not being prioritized despite their growing impact, implementation elements such as the Indigenous *Climate Leadership Agenda* and *Federal, Provincial, Territorial Bilateral Action Plans* not yet being established, a lack of a thorough economic assessment of adaptation funding, and a weak system for monitoring progress, with no interim targets and only a single progress report expected before 2030 (Office of the Auditor General of Canada, 2025).

The other investment made is the *2023 to 2027 Departmental Sustainable Development Strategy*, particularly Goal 13: "Take action on climate change and its impacts," including among vulnerable groups (Health Canada, 2025g). Health Canada attempts to provide scientific data, tools, and guidance to health practitioners and regional decision-makers to better protect public health, while also aiming to lower its own greenhouse gas emissions which is in line with the federal Greening Government Strategy (Health Canada, 2025g).

National NCD policies and environmental impacts of chronic disease

Strong evidence of the negative environmental impact on human health would ideally motivate government bodies to develop national policies to address NCDs. Canada has instead adopted a more general focus for national policies addressing environmental health impacts. Despite this gap, research has shown that increased government investment in virtual care could be a promising approach to directly address NCDs while reducing travel time to healthcare settings. In 2021, findings from a survey conducted by Canada Health Infoway indicated that use of virtual care saved

Canadians approximately 1.2 billion km in travel, thereby reducing 330,000 tonnes of CO₂ – equivalent to removing 72,000+ cars from Canadian roads for one year (Canada Health Infoway, 2022). Similarly, a study by Welk and colleagues investigated the association between the use of virtual care among 10 million patients in Ontario, Canada, and environmental and financial benefits during the COVID-19 pandemic. Findings indicated that virtual care led to a reduction of 3.2 billion km of travel, averaging approximately 50.3 km per visit, and helped avoid 658 million kg of CO₂ (Welk et al., 2022).

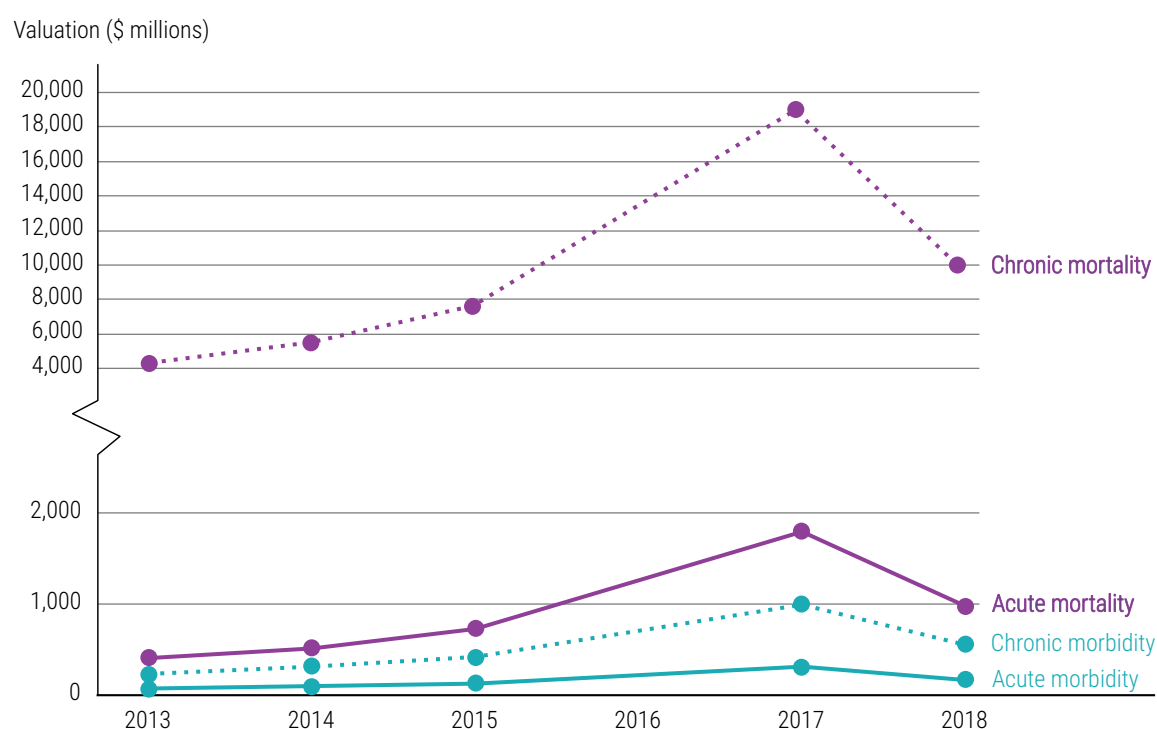
Subdomain 7.2: Climate adaptation of NCD services

Climate change adaptation remains limited within Canada's healthcare system. A 2018-2019 survey of 80 health sector officials across found that only 21.3% of health authorities had a climate change and health adaptation strategy in place, and just 10% had an associated research plan (Berry et al., 2022). To our knowledge, an updated survey has not been conducted.

Another adapted service that has emerged in response to growing concerns about the impact of heat waves is the Heat Alert and Response System (HARS), which are structured protocols designed to safeguard the public health during periods of extreme heat (National Collaborating Centre for Environmental Health, 2025). According to a 2025 pan-Canadian assessment on the extent of heat alert and response systems by the National Collaborating Centre for Environmental, six provinces have implemented HARS: Manitoba, New Brunswick, Nova Scotia, Ontario, and Quebec (National Collaborating Centre for Environmental Health, 2025). Yet, healthcare adaption in rural, remote, and Indigenous communities lacked formal or publicly available plans, alongside further challenges of limited funding, unclear responsibilities between public health and local governments, lack of data on at risk populations and insufficient infrastructure such as cooling centres and heat-resilient housing (National Collaborating Centre for Environmental Health, 2025).

Concurrent to extreme heat events (and sometimes directly associated with), wildfires represent another intensifying climate-related hazard with growing ramifications for NCD burden in Canada. Using data from the FireWork forecast system, Health Canada and Environment and Climate Change Canada conducted a multi-year retrospective analysis estimating the impact of wildfire smoke exposure on population health between 2013 and 2018 (Egyed et al., 2022) (see Figure 10). Their findings underscore the dual burden of acute and chronic impacts, which translate not only into measurable increases in premature deaths but also substantial economic losses through mortality and morbidity costs. For example, estimates suggest that chronic exposure to wildfire PM_{2.5} contributed to between 570 and 2,500 premature deaths annually in Canada during this period, corresponding to billions of dollars in mortality and morbidity valuation.

Figure 10. Economic valuation of health impacts associated with wildfire particulate matter, 2013–2018



Source: Egyed et al., 2022.

Domain 7: Key findings, summary indicators and recommendations

KEY FINDINGS

- Canada's health system is among the world's most carbon-intensive, contributing roughly 5% of national greenhouse gas emissions, with major sources including hospital energy use, pharmaceuticals, and medical devices. Canada's *National Adaptation Strategy* acknowledges the health impacts of climate change and sets targets for climate-resilient health systems. However, there is no national policy explicitly addressing the link between environmental exposures with the prevention, diagnosis, and treatment of NCDs.
- Canada lacks data to identify which NCDs have the greatest avoidable environmental impact from delayed diagnosis. However, untreated NCDs often lead to more acute and resource-intensive care, including hospitalizations, surgeries, hemodialysis, and advanced imaging. Increased uptake of these services risks increasing carbon emissions, energy consumption and medical waste. In turn, this amplifies the environmental footprint of healthcare.
- Efforts to reduce emissions and waste stemming from NCD prevention, diagnosis and treatment are limited. Broader sustainability initiatives include Canada's participation in WHO's global initiative to build climate resilient, low-carbon sustainable health systems by 2050.
- Promising clinical care strategies to limit negative environmental impacts include clinically appropriate use of lower-emission inhalers, increasing hemodialysis efficiency, expanding virtual care, lowering operating room waste, and leveraging low-impact anesthetic gases. Virtual care in particular has been found to significantly reduce travel-related emissions and healthcare resource use, with research estimating hundreds of thousands of tonnes of CO₂ can be avoided.

- To an extent, the Government of Canada has invested in efforts aimed at understanding and addressing the health impacts of environmental and climate-related hazards. These efforts include funding grants by CIHR, the *National Adaptation Action Plan*, and the *Departmental Sustainable Development Strategy (2023–2027)*. However, gaps in such efforts exist. For example, the *National Adaptation Strategy* fails to prioritize serious threats such as wildfire smoke, establish comprehensive monitoring systems, and assess the economic efficiency of adaptation investments.

INDICATORS

Summary of existing measures

- Proportion of Canadian health regions with climate adaptation strategies and research plans.
- Greenhouse gas emissions avoided through virtual care.
- Health sector contribution to national greenhouse gas emissions.
- Federal investment in climate and health research.

Suggested indicators to enhance tracking of health system performance in this domain

- Environmental impact attributable to delayed NCD diagnosis and disease progression – e.g., emissions, waste, or resource-use metrics linked to delayed diagnosis and treatment, disaggregated by disease stage.
- National-level data on healthcare sector emissions, sustainable procurement practices, and infrastructure resilience to climate-related stresses.
- Indicators tracking cross-border environmental exposures impacting NCD burden – e.g., integration of transboundary environmental exposure data (such as environmental wildfire smoke originating outside Canada) into national health surveillance systems.

RECOMMENDATIONS

1. **Develop a pan-Canadian monitoring and surveillance system that is specific to climate change health outcomes and serves the needs of health authorities.** Key indicators should be consistent and standardized.
2. **FPT governments can strengthen collaboration on climate change and health communications** with the health care community and non-governmental organizations.
3. **Increase efforts by federal departments and agencies to improve community preparedness** for emergency response and disaster recovery, and coordination across government levels, agencies, and communities.
4. **Scale up virtual care as a core component of NCD management** to reduce patient travel and associated emissions, supported by investments in broadband for rural and Indigenous communities. Establish national targets to monitor carbon reductions from virtual care and other low-carbon clinical interventions.

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