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The Economic Burden of Seasonal Influenza in Quebec: Updated Estimates and Policy Implications

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ABSTRACT

Seasonal influenza remains one of Quebec's most persistent public health challenges. Despite annual vaccination campaigns and improved surveillance, it continues to exact a substantial toll on population health, hospital capacity, and economic productivity. During the 2024 influenza season, this study estimates that Quebec experienced approximately 8,860 hospitalizations, 1,570 ICU admissions, 46,800 emergency department (ED) visits, and nearly 80,000 physician consultations. In addition, over 400,000 symptomatic cases occurred without medical consultation—most among working-age adults and children—illustrating the broad reach of the virus across all segments of the population. The total economic burden of influenza in Quebec for 2024 is estimated at $655 million, including:

- $107 million in direct medical costs — hospitalizations, intensive care, emergency room visits, and physician consultations;
- $295 million in productivity losses — absenteeism among workers and caregivers;
- $253 million in premature mortality losses — reflecting the discounted value of future earnings and unpaid productive activities lost due to influenza-related deaths.

Older adults (65 years and over) account for 31% of this total burden, while working-age adults (20–64 years) generate most of the productivity losses. This dual pattern underscores influenza's twofold impact: clinical in seniors and economic in the workforce. The 2024–2025 influenza season—marked by record emergency room congestion—demonstrates how recurring surges in respiratory infections strain hospital capacity and disrupt broader health services. These pressures highlight the importance of prevention strategies that go beyond clinical care to include robust vaccine logistics and equitable access to enhanced formulations, such as high-dose and adjuvanted vaccines. Quebec's decision to again offer free influenza vaccination to all residents aged six months and older in 2025–2026 represents a meaningful step toward broader coverage. However, access to these enhanced vaccines remains largely restricted to adults aged 75 and over, even though evidence indicates that broader use among adults 65 years and older would provide stronger immune protection and greater population-level benefits. A more comprehensive vaccination strategy—combining timely vaccine rollout, expanded eligibility for enhanced formulations, and targeted public communication on influenza's broader health impacts—could substantially reduce hospital pressures, improve health outcomes, and strengthen both Quebec's healthcare resilience and economic productivity.

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1. BACKGROUND AND RATIONALE

Seasonal influenza is a recurring viral respiratory infection that affects between 5% and 10% of adults annually (PHAC, 2024). While often perceived as benign, influenza can lead to serious complications, hospitalizations, and deaths—particularly among seniors and individuals with chronic health conditions.

The 2024–2025 influenza season starkly demonstrated the vulnerability of Quebec's healthcare system in responding to surges in respiratory infections. The province recorded over 4,600 laboratory-confirmed influenza cases in a single week—the highest since 2014–2015 (CBC News, 2025). Hospitals reached capacity, emergency departSments overflowed, and elective surgeries were postponed (Canadian Press, 2025). These cascading effects, though difficult to monetize, highlight the recurring strain that seasonal influenza places on Quebec's healthcare system and its limited capacity to absorb acute pressure during peak winter months.

Despite well-established prevention strategies, Quebec continues to lag behind other provinces in vaccination coverage. According to Gravagna et al. (2025), between 2018 and 2021, 43% of seniors and nearly 70% of adults aged 49–64 years with chronic medical conditions in Quebec reported missing their annual influenza vaccination—well below national and WHO targets of 80%. The study found that continuity of care (e.g., having a family physician) and prior vaccination history were the strongest predictors of being vaccinated, showing persistent structural and organizational barriers to vaccine uptake. These findings are consistent with previous research by Labrie et al. (2023), which identified logistical challenges, access disparities, and communication gaps as key obstacles to influenza vaccination in Quebec.

In response to mounting hospital pressures and public concern, the Government of Quebec announced that for the 2025–2026 influenza season, the vaccine will again be offered free of charge to all residents aged six months and older, upon request. This universal measure reflects growing recognition of influenza's burden on the healthcare system, though it does not yet address its full economic and societal implications.

Yet, expanded eligibility alone does not ensure effective protection. Access to enhanced vaccine formulations—such as high-dose and adjuvanted products—remains limited in Quebec's public program, which currently prioritizes adults aged 75 years and older (Gilca, 2023). Evidence from Canadian and international studies indicates that these formulations generate stronger immune responses among older adults, particularly those with chronic conditions (Ferdinands et al. 2024). Ensuring timely and equitable access to these vaccines across all high-risk groups may therefore enhance both the clinical and economic effectiveness of the provincial immunization program.

Beyond its clinical toll, influenza imposes a considerable economic burden. National estimates place the total annual cost of influenza in Canada at approximately $2.6 billion, accounting for healthcare expenditures, productivity losses, and premature mortality (Lam, 2024). Using a comparable approach but adapted to Quebec's demographic and health-system context, this report provides an updated, province-specific assessment of the total societal cost of influenza, offering a foundation for evaluating prevention strategies and policy priorities.

2. METHODOLOGY AND DATA SOURCES

Building on this context, the following section details the analytical framework, data sources, and methodological assumptions used to estimate the direct, indirect, and mortality-related economic costs of seasonal influenza in Quebec.

2.1 Analytical Framework

This analysis applies a societal cost-of-illness (COI) framework, which quantifies the total economic burden of influenza from a societal perspective (Larg and Moss, 2011). The model incorporates both direct medical costs (such as hospital care and physician services) and indirect costs related to productivity losses from absenteeism and premature mortality.

This approach allows for a comprehensive estimation of influenza's impact, integrating both the healthcare system perspective and the broader economic consequences borne by individuals, employers and society.

To measure the full societal burden of influenza, the analysis quantifies three categories of cost:

- Direct medical costs — expenditures for hospitalizations, intensive care, emergency visits, and physician consultations. To avoid double counting cases involving multiple encounters, an overlap adjustment was applied based on empirical data from Ng et al. (2018).
- Indirect costs (productivity losses) — calculated using the human capital approach, which values time lost from paid and unpaid work due to illness or caregiving. Employment rates and average wages by age group (Statistics Canada, 2024) were used to estimate the economic value of lost workdays.

- Premature mortality costs — measured using the present value of lifetime earnings (PVLE) method, which estimates the discounted economic value of future income lost due to influenza-attributable deaths.

2.2 Data Sources and Health Outcome Estimates

The model relies on secondary data from Québec to capture the province's healthcare utilization patterns, demographic structure, and influenza burden. Hospitalization and ICU rates were obtained from Carazo et al. (2024), covering the 2012–2019 influenza seasons, while mortality estimates were derived from Schanzer et al. (2013) using an age-weighted rate specific to Québec. Population data were drawn from the Institut de la statistique du Québec (ISQ, 2024), and cost parameters were informed by Ng et al. (2018), the Régie de l'assurance maladie du Québec (RAMQ), and the Canadian Institute for Health Information (CIHI). Estimates of absenteeism and work-loss duration were based on Schanzer et al. (2011).

By combining these Québec-specific data sources with validated national cost ratios, the analysis ensures both comparability with Canadian influenza burden studies and relevance to the province's health system context.

2.3 Cost Estimation and Key Assumptions

The total economic burden of influenza was calculated by combining three cost components—direct medical costs, indirect productivity losses, and premature mortality—each derived from age-specific rates of illness, healthcare utilization, and associated costs.

Direct Costs

Direct medical costs capture expenditures associated with hospitalizations, intensive care unit (ICU) admissions, physician consultations, and emergency department (ED) visits.

Unit costs were obtained from Ng et al. (2018) and the Canadian Institute for Health Information (CIHI) Patient Cost Estimator (2021–2022) and updated to 2024 Canadian dollars using Quebec's Consumer Price Index for healthcare expenditures (Institut de la statistique du Québec, 2025).

Table 1: Unit Costs by Type of Medical Service (2024 Canadian Dollars)

Type of service	Unit cost ($ 2024)
Physician visit	$114
Emergency department visit	$410
Hospitalization	$10,374
ICU admission (incremental cost)	$19,152

Sources: CIHI (2024), Ng et al. (2018), Lam (2024), RAMQ (2025.

To avoid double counting cases involving multiple encounters within a single episode of care (e.g., a patient seen in the ED before hospitalization), a 20% overlap adjustment was applied, consistent with empirical data reported by Ng et al. (2018).

Indirect Costs (Absenteeism)

Beyond its immediate clinical effects, influenza imposes a substantial economic burden through lost productivity—both from workers unable to perform paid employment and from individuals temporarily unable to engage in unpaid household or caregiving activities.

Indirect costs were estimated using the human capital approach (Zhang et al., 2011; Zhang et al., 2017), which values the economic output lost due to illness-related absenteeism or caregiving responsibilities. Employment rates and average hourly wages were applied by age group to reflect Quebec's labour market structure (Statistics Canada, 2025a), as shown in Table 2.

Table 2: Labour-Market Parameters Used to Estimate Productivity Losses, Quebec, 2024

Age group	Employment rate	Average hourly wage rate
15-24 years	62.1%	$ 21.09
25-54 years	85.9%	$ 35.36
55-64 years	65.5%	$ 34.11
65 years and older	12.7%	$ 34.11

Sources: Statistics Canada (2025a; 2025b)

Average work time lost per case was taken from Schanzer et al. (2011): 14 hours for mild or outpatient cases, 54 hours for hospitalized cases, and 56 hours for ICU cases.

A 1.3 multiplier was applied to account for fringe benefits and employer contributions.

For individuals not participating in the labour force, lost household production was valued at $22.32/hour, corresponding to Quebec's average replacement wage for domestic and family support work.

In addition, caregiver absenteeism was included for influenza cases involving children or older adults, reflecting time lost by parents or family members providing direct care or accompanying patients to medical appointments.

Premature Mortality

In addition to its human cost, premature mortality represents the complete loss of an individual's remaining economic potential—both through paid employment and through unpaid productive activities such as caregiving, volunteering, and household work. While indirect costs capture temporary productivity losses during illness or caregiving, premature mortality amplifies this impact by eliminating all future economic contributions of those who die from influenza.

Premature mortality costs were estimated using the *present value of lifetime earnings* (PVLE) approach, which quantifies the discounted value of future productivity lost due to influenza-related deaths. For each age group, expected earnings were projected from the average age at death up to the average effective retirement age of 64.5 years, consistent with recent labour market data for Quebec (Institut de la statistique du Québec, 2025b).

Future earnings were discounted at a real rate of 1.5%, following CADTH (2017) health economic evaluation guidelines. For deaths occurring beyond typical working age, unpaid productive activities—such as and caregiving—were valued at Quebec's average replacement wage of $22.32/hour, thereby capturing non-market contributions.

The mortality burden was distributed across age groups using hospitalization-to-death ratios reported by Carazo et al. (2024), ensuring demographic alignment with observed influenza-related mortality patterns in Quebec.

3. RESULTS

3.1 Annual Influenza-Related Cases

Table 3 presents the estimated annual number of influenza-related cases in Quebec by type of healthcare encounter. Estimates were derived from pre-pandemic surveillance and hospitalization data (2012–2019) and adjusted to reflect Quebec's 2024 population demographics, ensuring alignment with current age distributions and healthcare utilization patterns.

These estimates illustrate the extensive reach of influenza across the Quebec population. For every hospitalization, there are approximately 47 emergency visits and 260 symptomatic cases managed at home, underscoring that the majority of influenza cases occur outside hospitals. Although less clinically severe, these community-managed cases account for a substantial share of the overall productivity losses and caregiving demands associated with influenza each year.

Table 3: Estimated Annual Influenza-Related Hospitalizations, ICU Admissions, Emergency Visits, Physician Consultations, and Deaths, Quebec, 2024

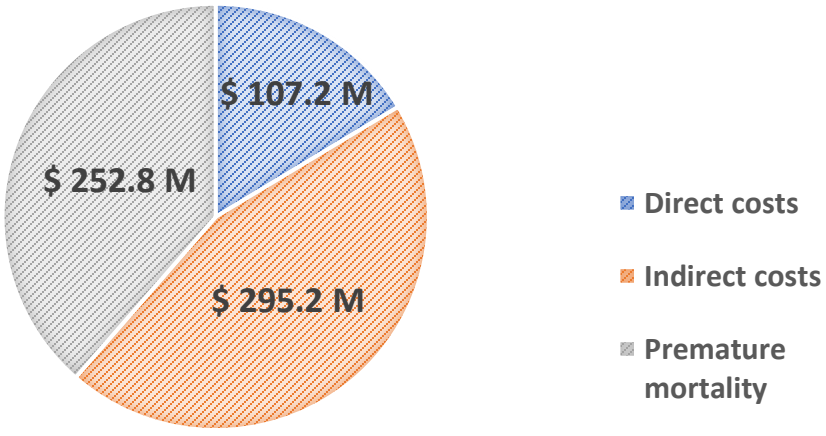
Outcome	Estimated annual cases
Hospitalizations	8,863
ICU admissions	1,570
Emergency department visits	46,760
Physician consultations	79,569
Non-medically attended symptomatic cases	412,144
Influenza-attributable deaths	974

Sources: Author's calculations based on Schanzer et al. (2013), Caracazo et al. (2024), Lam (2024), and ISQ (2025).

3.2 Total Economic Burden by Cost Category

As shown in Figure 1, the total annual cost of seasonal influenza in Quebec is estimated at $655 millions in 2024. This figure captures the combined direct medical expenditures, productivity losses from absenteeism, and the economic impact of premature mortality associated with influenza.

Figure 1: Distribution of the Total Economic Burden of Seasonal Influenza in Quebec, by Cost Component, 2024 ($ millions)



While direct medical costs are substantial, indirect costs (productivity losses) dominate the total—45% of all influenza-related losses—reflecting the severe impact of absenteeism from work among working-age adults and caregivers. Premature mortality accounts for a smaller but meaningful portion (39%), largely driven by deaths among older adults, particularly those aged 65–84 years, who account for most influenza-related mortality in Quebec.

3.3 Distribution by Age Group

Table 4 displays the total and proportional contributions of direct medical costs, productivity losses, and premature mortality to the overall societal burden, by cost component and age group. Adults aged 65 and older account for about 31% of the total cost. The 65–74 age group alone represents close to one-fifth of all influenza-related costs. In contrast, productivity losses are concentrated among younger working-age adults (20–64), who generate the largest indirect costs through absenteeism. This reinforces the dual nature of influenza's burden: clinical in older adults, economic in the working population.

Table 4: Estimated Annual Economic Burden of Seasonal Influenza in Quebec, by Cost Component, 2024

Age group	Direct costs	Indirect costs	Premature mortality	Estimated total cost	Share of total
<5	$ 8.6 M	$ 14.1 M	$ 6.0 M	$ 28.7 M	4.4%
5–19	$ 3.3 M	$ 20.5 M	$ 3.2 M	$ 27.0 M	4.1%
20–49	$ 13.2 M	$ 113.5 M	$ 60.8 M	$ 187.5 M	28.6%
50–64	$ 6.4 M	$ 104.8 M	$ 98.4 M	$ 209.6 M	32.0%
65–74	$ 19.7 M	$ 22.3 M	$ 67.2 M	$ 109.2 M	16.7%
75–84	$ 32.6 M	$ 11.5 M	$ 16.1 M	$ 60.2 M	9.2%
85+	$ 23.4 M	$ 8.5 M	$ 1,1 M	$ 33.0 M	5.0%
Total	$ 107.2 M	$ 295.2 M	$ 252.8 M	$ 655.2 M	100%

4. DISCUSSION

4.1 A Persistent and Systemic Burden

Influenza's toll on Quebec extends well beyond individual illness. Each winter, emergency departments reach or exceed capacity, elective surgeries are postponed, and healthcare workers are redeployed to manage surges (Rahal et al., 2025). These disruptions amplify indirect costs, including productivity losses and delayed care for non-influenza patients.

The 2024–2025 influenza season exemplified this fragility: with 4,600 confirmed cases in a single week—the highest since 2014–2015—emergency physicians described "record numbers of people coming into the ER" (CBC News, 2025). Even if such peaks are temporary, they magnify systemic weaknesses, particularly amid persistent staffing shortages and growing care backlogs.

The findings from this analysis—an estimated $655 million annual societal cost—underscore that influenza remains a major and recurring public health challenge for the Quebec province. The model's age-stratified outputs reveal that adults aged 65 and older account for about one–third of the total burden, reflecting both their elevated risk of severe outcomes and the cumulative productivity value lost through premature mortality. In contrast, working-age adults (20–64) contribute the majority of absenteeism-related losses, illustrating influenza's dual impact on healthcare and the labour market.

4.2 The Expanding Evidence Base for Prevention

Influenza vaccination remains the single most effective intervention to mitigate both clinical and economic consequences of the virus. Evidence now extends beyond respiratory protection: multiple studies have demonstrated that influenza vaccination reduces cardiovascular and cerebrovascular events among older adults and those with pre-existing heart disease (De Wals, 2023; Tanaka et al., 2024).

Importantly, the National Advisory Committee on Immunization (Gusic et al., 2025) has now formally recognized this evidence. Its most recent statement highlights that influenza vaccination can provide *indirect cardiovascular protection* by reducing the risk of myocardial infarction, stroke, and heart failure in vulnerable populations.

In this light, vaccination should be viewed not only as a means to reduce respiratory illness, but also as a tool to prevent hospitalizations across multiple disease categories. For a province where cardiovascular disease remains a leading cause of hospitalization, this broader protection offers compelling health and economic returns.

5. POLICY IMPLICATIONS

5.1 Improving logistical efficiency

Timely and efficient vaccine deployment is as critical to influenza prevention as coverage itself. The effectiveness of vaccination programs depends not only on who is eligible but also on when and how quickly vaccines reach the population. Evidence from Ontario shows that when influenza vaccination campaigns begin early and achieve high administration speeds, hospitalizations and deaths can

be reduced by up to 60%. Conversely, even modest delays in rollout or slower distribution rates can reduce these benefits by more than half (Champredon et al., 2018).

These findings underscore that the timing and efficiency of vaccine deployment are as critical as overall coverage. A coordinated, well-timed rollout—supported by reliable supply chains, proactive distribution to pharmacies and clinics, and streamlined logistics—can substantially enhance both public health outcomes and economic efficiency.

Across Canada, recent analyses confirm that diversified vaccination delivery through pharmacies, primary care, and community clinics enhances accessibility and mitigates regional supply constraints (Chen et al., 2024). Maintaining these multiple access points, and ensuring that each has adequate and timely stock, is essential to preventing early-season immunity gaps.

In Quebec, logistical bottlenecks persist year in year out as many community pharmacies face frequent delayed shipments during peak demand. Recent qualitative research among Quebec pharmacists highlights persistent logistical barriers — including forecasting difficulties, fragmented digital systems, and delayed access to vaccine information — that hinder the timely deployment of vaccination services across the province (Chadi et al., 2024). Strengthening coordination between public health authorities, distributors, and community pharmacies could mitigate these recurrent challenges.

5.2 Strengthening System Resilience

From a health economics perspective, improving vaccine timeliness and accessibility offers large returns. Timely vaccination reduces healthcare system congestion—freeing up hospital beds, staff time, and ICU capacity during peak seasons—and reduces the need for reactive measures such as elective surgery postponements (Brassel et al., 2023).

Ontario's experience provides compelling empirical evidence of these returns (Kwong et al., 2008; Chen, 2010; Sander et al., 2010; Ward, 2014). Following the introduction of its Universal Influenza Immunization Program (UIIP), Ward (2014) documented substantial reductions in influenza-related illness and healthcare use, including a 14% decline in workplace absenteeism, a 48% reduction in physician consultations, and marked decreases in hospitalizations. The program's estimated annual cost savings—ranging between $170 million and $240 million—far exceeded its $33 million implementation cost. Importantly, the analysis also demonstrated that older adults benefited indirectly from higher vaccination rates among younger populations, underscoring the collective efficiency of universal access.

In Quebec, strengthening vaccination logistics, expanding equitable access, and sustaining early-season distribution could yield comparable system-wide benefits. Further, public communication should emphasize not only influenza's respiratory and systemic impacts but also the growing evidence of cardiovascular protection conferred by vaccination (De Wals, 2023; Gusic et al., 2025; Tanaka et al., 2024), which may help increase uptake among older adults and those with chronic diseases.

6. CONCLUSION

Seasonal influenza continues to impose a heavy toll on Quebec—clinically, economically, and systemically. The estimated annual societal burden of $655 million in 2024 reflects both the direct healthcare costs and the broader losses from absenteeism and premature mortality.

Despite proven prevention tools, vaccination coverage remains suboptimal, and access to enhanced vaccines is limited. While the government's decision to offer universal access to influenza vaccines marks progress, persistent inequities in access to enhanced formulations limit the province's ability to fully protect its most vulnerable populations. Strengthening logistics, expanding eligibility to adults aged 65–74, and reinforcing communication around influenza's cardiovascular protection benefits can together yield substantial returns—both economic and human.

In light of emerging national guidance and mounting evidence, influenza vaccination should be viewed not only as a public health intervention, but as an investment in healthcare resilience and cardiovascular protection. For Quebec, preventing influenza means safeguarding hospital capacity, protecting the workforce, and preserving the health of an aging population.

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APPENDIX A – DETAILED METHODOLOGY

This appendix provides detailed information on the analytical framework, data inputs, and estimation methods used to calculate the total economic burden of seasonal influenza in Quebec. All values are expressed in 2024 Canadian dollars (CAD) unless otherwise indicated.

A.1 Analytical Framework

The study adopts a cost-of-illness (COI) model based on a societal perspective, capturing both healthcare system expenditures and productivity losses borne by individuals and society.

This model follows the framework established in Larg and Moss (2011) and applied nationally by Lam (2024), with adaptations for Quebec's epidemiological and demographic context.

The total economic burden (C_{total}) is the sum of three main components:

$$C_{total} = C_{direct} + C_{indirect} + C_{mortality}$$

where:

- C_{direct} = direct medical costs
- $C_{indirect}$ = indirect costs from absenteeism (lost productivity)
- $C_{mortality}$= cost of premature mortality

Each cost component is estimated by age group and disease outcome using case-based costing approach.

A.2 Direct Medical Costs

Direct medical costs capture all expenditures incurred by the healthcare system due to influenza-related services, including hospitalizations, ICU stays, physician and emergency visits, and outpatient care.

An overlap adjustment rate of 20% was applied to account for patients who received physician or emergency care prior to hospitalization, consistent with pre-admission utilization patterns reported by Ng et al. (2018) for Quebec.

The total direct cost (C_{direct}) is calculated as:

$$C_{direct} = \sum_i (N_i \times U_i) \times (1 - \theta)$$

where:

- N_i = number of events of type *i*
- U_i = unit cost per event
- θ = overlap adjustment factor to consider the overlap in health services

A.3 Indirect Costs (Productivity Losses)

Indirect costs were estimated using the human capital approach, which assigns a monetary value to lost productivity from both paid employment and unpaid caregiving and volunteering during illness (Zhang et al., 2011; Zhang et al., 2017).

The total indirect cost ($C_{indirect}$) is:

$$C_{indirect} = \sum_a \left[(E_a \times W_{emp} \times H_{work}) + ((1 - E_a) \times W_{home} \times H_{home})\right] \times P_a$$

where:

- E_a = employment rate for age group *a*
- W_{emp} = average hourly wage (employed workers)

- W_{home}= wage equivalent for household work per hour
- H_{work} = hours of paid work lost per case
- H_{home}= hours of household work lost per case
- P_a = number of influenza cases in age group *a*

A.3.1 Wage and Employment Parameters (Quebec 2024)

Employment rates and wage data by age group, shown in Table A1, were obtained from Statistics Canada and used to quantify productivity losses associated with influenza-related absenteeism and unpaid household work. For non-employed individuals, unpaid household work is valued at $22.32/h (Statistics Canada, 2024 average for care providers and public protection support occupations).

Table A1: Wage and Employment Parameters Used in Productivity Loss Calculations (Quebec, 2024)

Age group	Employment rate	Avg. hourly wage (gross)	Wage incl. benefits (×1.3)
20–24	62.1%	$ 21.09	$ 27.42
25–54	85.9%	$ 35.36	$ 45.97
55–64	64.5%	$ 34.11	$ 44.34
65+	12.7%	$ 34.11	$ 44.34

Sources: Statistics Canada (2025a; 2025b).

A.3.2 Caregiver and Volunteer Absenteeism

Caregiver time losses were included for parents of children under 20 years of age, reflecting work absences to provide care during influenza episodes.

For adults aged 65 years and older, unpaid productive activities—such as household work, informal caregiving, and community volunteering—were valued using a replacement cost approach, assigning a value of $22.32 per hour, consistent with Quebec's average hourly wage for domestic and family support workers.

Average weekly hours of unpaid work were drawn from Statistics Canada's 2022 Time-Use Survey: 18.3 hours for adults aged 65–74, 14.8 hours for those aged 75–84, and 10.6 hours for those aged 85 and older.

These annual productivity values were then discounted at a real rate of 1.5%, in line with CADTH (2017) guidelines, using age-specific remaining life expectancies of 20, 12, and 7 years, respectively.

A.4 Premature Mortality Costs

Premature mortality represents the largest single cost category, reflecting lost lifetime productivity from influenza-related deaths.

This component was estimated using the Present Value of Lifetime Earnings (PVLE) method, which discounts expected future income streams to present value (Putri et al., 2018).

$$C_{mortality} = \sum_{a} [D_a \times PVLE_a]$$

where:

- D_a= number of deaths in age group *a*
- $PVLE_a$= (discounted) present value of expected lifetime earnings at age *a*

In the PVLE model, the formula for each age group is:

$$PVLE_a = \sum_{t=a_i}^{r} \frac{E_t \times L_t}{(1+d)^{t-a_i}}$$

where:

- a_i = average age at death in group *i*
- r = retirement age
- E_t = expected annual earnings at age *t* (using age-weighted wage)
- L_t = employment rate at age *t*
- d = net discount rate

A.4.1 Parameters and Assumptions

Table A2: Summary of Key Model Assumptions and Sensitivity Parameters

Parameter	Value	Source
Discount rate (net)	1.5%	CADTH (2017)
Expected retirement age	64.5 years old	ISQ (2025b)
Base wages	From Section A.3.1	—
Annual deaths (total)	974	Age-distributed from Carazo et al. (2024)
Death distribution	<20: 0.2%; 20–49: 4.1%; 50–64: 15.3%; 65–74: 25.6%; 75–84: 29.5%; 85+: 25.3%	Derived from Carazo et al. (2024)

Each age group's expected remaining working years was estimated from life expectancy and retirement age, and discounted at 1.5%.