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Sizing Up the Challenge.

Meeting the Demand for Long-Term Care in Canada

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Sizing Up the Challenge: Meeting the Demand for Long-Term Care in Canada

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Preface

With Canada's population aging and the large baby-boom generation nearing retirement, demand for long-term care will greatly increase in the coming decades. In this report, we generate a demographics-driven forecast of the rising demand, estimate the cost of building the required facilities, and estimate the economic impact of doing so. Finally, we perform a cost-benefit analysis of building facilities to house the new beds and find that the new facilities are justified on efficiency grounds.

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EXECUTIVE SUMMARY

Sizing Up the Challenge: Meeting the Demand for Long-Term Care in Canada

At a Glance

- Canada will need an additional 199,000 long-term care beds by 2035, nearly doubling current long-term care capacity.
- These new beds will require approximately $64 billion in capital spending and $130 billion in operating spending between 2018 and 2035 (all figures in 2017 dollars).
- This investment and spending will have positive effects on the economy, contributing a total of $235 billion to real GDP and supporting an average of 123,000 jobs per year.
- A cost-benefit analysis suggests the benefits of the new beds outweigh the costs, even without considering improved health outcomes.

As Canada's baby-boom generation ages, aggregate health care needs will rise. Despite an increased desire to age at home, long-term care facilities will continue to be part of the solution. As such, Canada will face a significant increase in demand for long-term care over the coming decades. In this report, we generate a demographics-driven forecast of the boost in demand by projecting long-term care utilization rates by age group and combining them with The Conference Board of Canada's detailed national and provincial demographic forecast of the Canadian population. After accounting for efforts to shift more long-term care into individuals' homes, we estimate that, by 2035, Canada will need an additional 199,000 beds in long-term care facilities. This represents a near-doubling of the current stock of 255,000 beds.

Next, we calculate the costs that will be associated with building and operating the required beds. We estimate that the annual operating cost for one long-term care bed is $75,000 (all dollar values cited in this report are in 2017 dollars). Furthermore, we find that the average per bed cost of constructing long-term care facilities is approximately $320,000. By combining these figures with our demand numbers, we estimate that the new long-term care beds will cost $64 billion to build and $130 billion, or an average of $7 billion a year, to operate through 2035.

This spending represents a significant cost. However, the spending will also have benefits—stimulating the economy and supporting jobs. We calculate these impacts using The Conference Board of Canada's macroeconomic models of the Canadian economy. We find that the proposed spending, together with its supply chain and other knock-on effects, would boost real GDP by $235 billion, or an average of $12 billion per year. It would also support an average of 123,000 jobs per

Our forecast finds a need for significant increases in spending on long-term care.

year and generate an additional $71 billion in revenues for municipal, provincial, and federal governments.

Finally, we perform a cost-benefit analysis of building facilities to house the new beds. Cost-benefit analysis is complicated in a situation like this one where the status quo—not putting in place the required beds—is clearly untenable. Nonetheless, we use two different cost-benefit scenarios to explore different levels of possible benefits. We find that building facilities to house the new beds is justified on efficiency grounds, even in the low-benefit scenario.

There are several other issues that were outside the scope of this research but that could impact the conclusions. First, we assumed that the existing long-term care stock would last until the end of the forecast period in 2035. Given that many facilities are nearing the end of their useful life, this underestimates the actual costs required for the system. Second, our estimate of operating expenditures for long-term care facilities is based on historical experience, but there is evidence that long-term care patients are rapidly becoming more difficult and costly to care for. Rising care costs due to more complex patient care are not considered in this analysis.

In summary, our forecast uses conservative assumptions but still finds a need for significant increases in spending on long-term care. The scale of the challenge is large enough that it cannot be delayed for long or be addressed by ad hoc measures. It will not be too long before the large baby-boom generation begins requiring long-term care in earnest. Now is the time for decision-makers and other key stakeholders to begin addressing the future needs of the population.

CHAPTER 1

Introduction

Chapter Summary

- Canada's population is aging rapidly and the large baby-boom generation is entering its golden years, foreshadowing an increasing demand for long-term care in the coming decades.
- The need for additional long-term care is a cost that must be funded, but it is also a growing part of the economy.
- This report calculates the economic impacts of the additional demand for long-term care.

Providing adequate long-term care is more efficient and less costly than the alternative of housing seniors in hospital beds.

Canada, like most of the developed world, is aging. In the 2016 Census, persons aged 65 and up outnumbered those aged 15 and under for the first time since records were kept. In 2016, the median age of Canadians was 40.6; in 1996, two decades earlier, it was 35.2. Canada, like many other countries, underwent a baby boom in the years following the Second World War. With the oldest baby boomers turning 70 in 2016, and with the average age of retirement at 63, this cohort of 9.5 million is now moving rapidly into retirement, and this aging trend will continue.

As baby boomers continue aging and begin requiring assistance in their day-to-day lives, there will be a significant and sustained increase in the demand for long-term care. But, although this wave of coming demand is easily predictable, its scope alone makes it a massive public policy challenge. Strategies must be found to build and staff the new homes. For that to happen, policy-makers and the public need to have a sense of the magnitude of the demand as well as the economic costs it will entail. But providing necessary care to seniors is not simply a cost that must be borne. The sector will become much more important as a source of economic activity, providing quality jobs across every part of the country. Moreover, providing adequate long-term care is more efficient and less costly than housing seniors in hospital beds.

This report has several objectives. First, we calculate the new demand for long-term care beds over the next two decades. Second, the construction and operating costs for each of these new beds are estimated. Third, we calculate the economic impacts of the construction and operation of these new facilities. Finally, a cost-benefit analysis of the proposed new beds is carried out to determine whether the economic benefits of building them outweigh the economic costs.

CHAPTER 2

Forecasting the Demand for Long-Term Care

Chapter Summary

- Our forecast of long-term care demand begins with current demand, which we estimate at approximately 263,000 beds.
- We estimate demand for long-term care beds over the next two decades based on our detailed demographic projections, by age and gender, for Canada and the provinces.
- We account for efforts to shift more long-term care into individuals' homes, which would help to reduce the need for long-term care beds.
- We forecast that, by 2035, an additional 199,000 new long-term care beds will be needed to accommodate new demand.

The first step in measuring the long-term care sector's future contribution to the Canadian economy is to forecast how much new long-term care will be required over the next two decades. In this chapter, we generate a forecast of current and future demand for long-term care beds, based on current demand for long-term care beds and future population growth in high-demand age groups. This forecast allows us to generate year-by-year projections of the number of people in different age groups and provinces who will require long-term care.

Current Demand

There are three categories of current demand:

1. those at present in long-term care beds;
2. those who should be in long-term care beds, but who are occupying acute care beds in hospitals due to lack of space in long-term care facilities;
3. those who are living at home or with a caregiver but whose needs are not being met and who should be in a long-term care facility.

Long-Term Care Beds

Raw data on the demand for long-term care beds are obtained from the Canadian Institute for Health Information's (CIHI) Continuing Care Reporting System (CCRS). The CCRS reports detailed resident data for more than 1,000 residential care facilities in seven provinces. The CCRS data on the number of assessed residents allow us to calculate the utilization rate by age group for each province.[1] For the missing provinces—Prince Edward Island, New Brunswick, and

1 The Nova Scotia totals in the CCRS are incomplete. As a result, we use the Nova Scotia government's Nursing Homes and Residential Care Facilities Directory for the bed totals for that province and the CCRS data to share out that bed demand by age group.

Operating a hospital bed is far more expensive than operating a long-term care bed.

Quebec—utilization rates of their nearest neighbour (Nova Scotia for the Maritimes and Ontario for Quebec) are used as proxies and applied to the age structure of the province in question.

Alternative Level of Care

The second category of current demand consists of people who require long-term care but who are currently living in an acute care bed in a hospital because beds are not available in a long-term care facility. This category of patient is known as alternative level of care (ALC) patients. ALC patients used an average of 14 per cent of hospital beds in 2015–16.[2] This is an unfortunate situation because hospitals may not be equipped to provide the types of support required by long-term care patients and because ALC patients occupying beds are preventing those beds from being used by patients who need the acute care of a hospital. What is more, operating a hospital bed is far more expensive than operating a long-term care bed: according to a study by Ontario's North East Local Health Integration Network in 2011, it costs hospitals $949 (2017 $) per ALC patient per day, whereas the cost in long-term care homes was just $142 per bed per day.[3] It is, therefore, critically important to include ALC patients in current demand so that an adequate number of beds is built to accommodate them in long-term care facilities.

Data on ALC patients come from CIHI in the form of days of demand, which are converted to full-time-equivalent bed demand. ALC data are not available by age group so the age distribution of demand from the CCRS data is applied to the provincial ALC totals to distribute ALC demand by age.

Wait-List Patients

The final category of current demand comprises people who are on a wait-list for long-term care but who remain in their home. These individuals' needs may not be fully met by residential care services. They

2 CIHI, *Quick Stats*.

3 North East LHIN, "HOME FIRST Shifts Care of Seniors to HOME." Note that this estimate may differ for a number of reasons from the overall operating cost that we use; what is important is the ratio of costs.

may be receiving care from a caregiver for whom this arrangement is undesirable or unsustainable.

This category of demand is significantly more difficult to estimate with accuracy. Wait-lists are generally kept by each individual long-term care facility and, depending on the jurisdiction, they may not be compiled into a centralized wait-list. Individuals can also put themselves on multiple wait-lists for different facilities at the same time Additionally, because individuals who need long-term care can have various needs, there are often multiple wait-lists (for the different types of rooms) within a given facility. For example, in Ontario, individuals may choose up to five long-term care facilities and multiple types of accommodations at each facility when adding themselves to a wait-list. Together, these factors make it extremely difficult to gather data on total wait-list numbers.

In 2015, 26,495 people were on the wait-list in Ontario,[4] equivalent to about one-third the number of available long-term care beds. If Canadians' long-term care needs are to be met, beds need to be built to account for this demand as well. However, given the extensive wait time for a bed at a long-term care facility, some individuals go on a wait-list in anticipation of a need even before it has materialized. Thus, it would be a mistake to include every individual on a wait-list as a component of current demand. Likewise, however, it would be a mistake to ignore this component entirely. Thus, it is likely that the forecast underestimates the need for long-term care beds.

Projecting Demand Into the Future

Between current long-term care beds and ALC patients, we estimate that the current demand for long-term care in Canada in 2016 was approximately 263,000 beds (of which 8,400 were unsatisfied demand in the form of ALC beds). Now that we have the current demand for long-term care beds by age group and province, the next step is to forecast demand into the future. This is done by calculating the share of the population in each age group in each province that currently demands long-term care beds and then applying these ratios to The Conference

4 Ontario Long Term Care Association, *This Is Long-Term Care.*

Based on our demographic projection, overall demand for long-term care will nearly double by 2035.

Board of Canada's detailed long-term demographic forecast. Canada's aging population means that the groups with high demand for long-term care, particularly those aged 75 and up, will be growing rapidly over the coming decades.

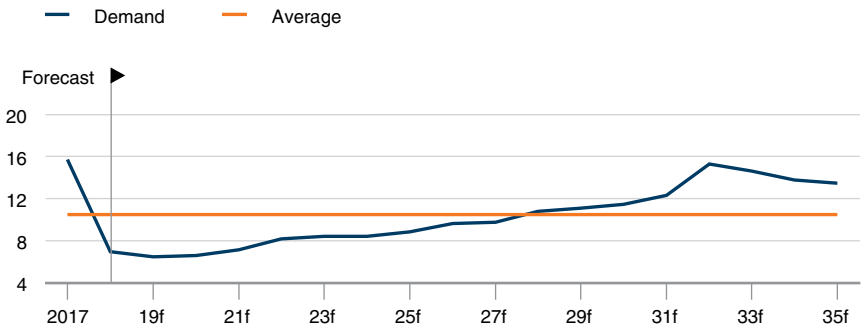
For example, among those aged 85 to 94 living in Canada in 2016, approximately 16.3 per cent were living in a long-term care facility or in an ALC bed. This group's population was approximately 721,000 in 2016, meaning that the use of long-term care beds was approximately 118,000 among this age group. By 2035, the population in this age group will have more than doubled to 1,464,000. As a result, demand for long-term care beds among this cohort will also more than double to 239,000. Similar trends will occur in other age groups and, based on our demographic projection, overall demand for long-term care will nearly double by 2035.

One of the key trends in long-term care is a concerted push to treat more patients in their own homes. As health authorities continue to make efforts to shift patients out of facilities and into the community, we would expect actual demand for beds in long-term care facilities to grow at a slower rate than demographics alone would suggest. In other words, the ratios we calculated for 2016 should trend down somewhat over the long term. Because of this, we make a downward correction to the demand growth rate for long-term care beds. Based on research by Lazurko and Hearn (2000),[5] we assume that the demand for beds in long-term care facilities will grow at a rate that is 0.59 percentage points slower than demographics alone would indicate. For example, our demographic calculations suggest that, in 2025, demand for long-term care beds will grow by 3.3 per cent from the previous year. In our final calculations, we instead apply a growth rate of 2.7 per cent in that year. This has the effect of lowering the utilization rate for each age category: for instance, utilization of long-term care beds among 85–94 year-olds falls from 16.3 per cent in 2016 to 13.7 per cent by 2035.

5 Lazurko and Hearn, *Continuing Care Scenarios, 1999–2041*.

After applying the home-care adjustment, the new demand required is equivalent to an average annual increase of approximately 10,500 beds from 2017 to 2035. But the new demand is not evenly distributed across time or across geography. Because the new demand is being driven by the aging of the baby-boom generation, demand for long-term care beds will be increasing as more and more of that large cohort reaches the ages of high demand for long-term care. The oldest baby boomers will be 71 in 2017 and current demand for long-term care beds for those aged 65 to 74 is just 0.8 per cent. But by 2035, the *youngest* boomers will be 71 while the oldest boomers will be nearly 90. Even low rates of long-term care utilization among the younger part of this group will translate into significant bed demand, given the size of the baby-boom generation. As a result, our forecast shows demand for new beds marching steadily upward year after year, reaching a peak in 2032 before plateauing. Chart 1 shows the demand for long-term care beds in Canada over time. The spike at the beginning of the chart is due to the 8,400 beds' worth of unsatisfied demand that ALC patients in 2016 represent; since this demand already exists, we assume for forecasting purposes that these beds would be built as soon as possible.

Chart 1
Demand for New Beds, Per Year
(000s)



f = forecast
Source: The Conference Board of Canada.

Because of their older populations, the Maritime provinces face more demand than the Prairie provinces.)

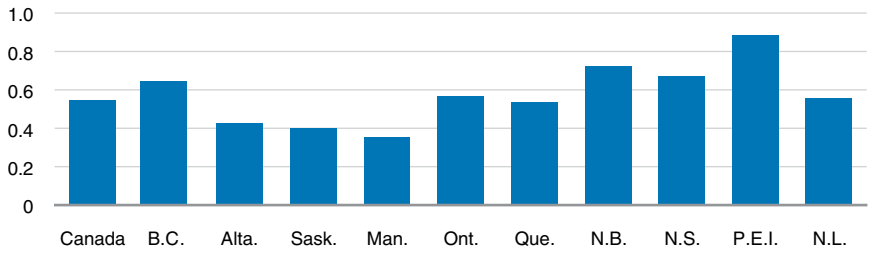
According to our forecast, Canada will require 454,000 long-term care beds by 2035, an increase of 199,000 from 2016. But, to properly calculate operating costs, this projection must be converted to cumulative bed-years over time. This conversion is necessary because we want to account for the fact that not all the new beds will be built at the same time. For instance, a bed built in 2017 will operate for all 19 years of the forecast; a bed built in 2025 will operate for the final 10 years of the forecast; and a bed built at the peak of new bed demand, in 2032, will operate for only the last 4 years of the forecast. Put another way, a bed built in 2017 will have higher cumulative operating costs than one built in 2018 and so on. Even though new demand by 2035 is 199,000 beds, the cumulative operating costs that must be funded by 2035 for the new beds is actually 1.8 million bed-years. This means that operating costs will end up being a much larger source of costs than construction.

The demand for new beds, in addition to being unevenly distributed across time, is also not distributed evenly across the country. For the entire country, long-term care bed demand represented 0.7 per cent of the total population in 2016. But demand was above 0.8 per cent in Nova Scotia, whereas it was below 0.5 per cent for Alberta's younger population. This is because age is not distributed evenly across the country: the median age in Nova Scotia in 2016 was 44.6, nearly 10 years older than Alberta's median age of 36.3.

Chart 2 shows new bed demand by 2035 as a share of each province's 2016 population. Because of their older populations, the Maritime provinces face proportionally more demand than the much younger Prairie provinces. From this perspective, the province facing the greatest challenge is Prince Edward Island: the number of new beds it must build by 2035 is equivalent to nearly 0.9 per cent of its current population. The other Maritime provinces are close behind, with new bed needs equivalent to about 0.7 per cent of their current populations.

Central Canada has demand closer to 0.6 or 0.5 per cent of its current population, while the Prairie provinces get off relatively easily, needing to build beds equivalent to “only” 0.4 per cent of their current populations.

Chart 2
New Bed Demand Per Current Population
(per cent)



Source: The Conference Board of Canada.

CHAPTER 3

Costs

Chapter Summary

- There are two costs that we must estimate to calculate economic impacts: the cost of building new long-term care beds, and the cost of operating the beds once they are built.
- We estimate the capital cost of each new long-term care bed at $320,000 (all figures in 2017 dollars).
- We estimate the operating cost of each new long-term care bed at approximately $75,000 per year.
- In total, we estimate construction costs for the new bed demand at $64 billion by 2035 and the operating costs for the new beds at $130 billion through 2035 (or $7 billion per year).

The next step to reach the objective of calculating the economic impact of providing long-term care is to estimate the costs associated with building the new long-term care beds that will be required over the long term. The total cost is made up of two major components: the cost of building the required beds, and the cost of operating the facilities. The former component includes construction and equipment costs, while the latter includes salaries paid to health care workers and administrative costs. By applying these estimates to our forecast of bed demand, we can generate year-by-year projections of the costs of the new beds.

Capital Costs

There is no single estimate for the cost of constructing and equipping a new long-term care bed. Like any building, cost is affected by many factors, including the architectural design of the individual facility, which can influence the cost of building materials and construction techniques. Adding features such as energy-efficient design reduces operating costs but increases construction costs. The size of the facility influences the amount of overhead costs, with larger facilities generally costing less per bed than smaller ones. The location of the facility impacts the cost of land and of transporting the building materials and workers to the site. Additionally, because long-term care facilities are specialized medical buildings, several unique factors must be considered. The allocation of room types within each facility can have a great impact on cost: a single-occupancy room can be nearly twice as expensive on a per bed basis as a shared-occupancy room.[1] Consequently, a facility with mostly single-occupancy rooms will be much more expensive than a facility with mainly shared-occupancy rooms. Also, long-term care facilities may be fully

1 BC Care Providers Association, *Seniors Care for a Change*.

The average long-term care facilities in Canada in 2015–16 had 153 beds.

privately funded, partially publicly funded, or entirely government-funded. Each province has different policies for funding these facilities, sometimes including rules about minimum and maximum per bed construction costs.

Nonetheless, we can produce a reasonable estimate of what an average bed might cost to build. The basis for our figures is the Ontario Ministry of Health and Long-Term Care's *Construction Funding Subsidy Policy for Long-Term Care Homes, 2015*.[2] Ontario provides a construction subsidy for new long-term care homes, which is paid as a per diem for 25 years. As of 2015, the policy provided a minimum per diem of $16.65 per bed and a maximum of $23.03 per bed. The specific level is determined by the size of the home, with smaller homes receiving a higher subsidy, and various other factors such as whether the facility has received a certification for Leadership in Energy and Environmental Design (LEED).

Based on our long-term care facility data, the average long-term care facility in Canada in 2015–16 had 153 beds. Using the Ontario policy with only the home size per diem adjustment, this translates into a per diem of $17.40 per bed, or total funding per bed of $158,884 for 25 years. According to Ministry documents, the construction funding subsidy is intended to cover roughly one-half of the total cost of construction,[3] which implies a total construction cost of approximately $320,000 in 2017 dollars.

Is this figure a reasonable estimate? It is worth comparing it against some other sources to ensure its plausibility. A 2013 report from the Canadian Medical Association on long-term care beds provided a figure of $289,000 (2017 $) per bed.[4] In a 2007 report, the B.C. Ministry of Health and the Vancouver Island Health Authority noted that capital costs for existing long-term care facilities ranged from $322,000 to $441,000 (2017 $) per bed with an average cost of $378,000.[5] Finally, our survey of recent announcements of new long-term care builds in various provinces produced an average per bed cost of $536,000 (2017 $).

2 Ontario Ministry of Health and Long-Term Care, *Construction Funding Subsidy Policy for Long-Term Care Homes, 2015*.

3 Toronto Community Services Committee, *Agreements for Development of Long-Term Care Facility Beds;* Provincial Auditor of Ontario, *Long-Term Care Facilities Activity.*

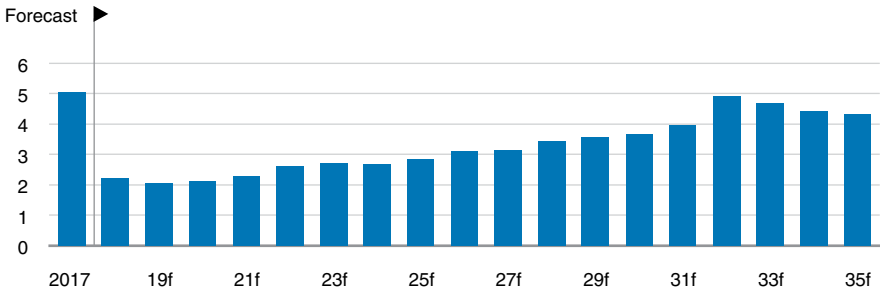
4 Canadian Medical Association, *CMA Submission.*

5 British Columbia Ministry of Health and the Vancouver Island Health Authority, *Project Report: Achieving Value for Money*.

These other figures suggest that our estimate is within reasonable bounds and may, if anything, be somewhat conservative, leaving an upside risk in the cost forecasts that we will be producing.

Once we have an estimate of the capital cost for each new bed, calculating the total investment is relatively straightforward. Chart 3 shows the total amount that must be spent on construction in each year of the forecast. With 199,000 new beds required by 2035, the total capital cost will be $64 billion (2017 $). One additional piece of information about these costs is needed to determine their economic impacts: the breakdown of how the money is divided between expenditures on construction and on machinery and equipment. Each of these investment types has a different multiplier effect; i.e., a dollar spent on construction has a different total impact on economic output than a dollar spent on machinery and equipment. Data from Statistics Canada show that, over the last five years, approximately 79 per cent of nursing home capital expenditures were for construction while roughly 21 per cent were for machinery and equipment.[6] This means that, over the forecast period, we will be modelling a $50-billion investment in nursing home construction and a $14-billion investment in machinery and equipment for nursing homes.

Chart 3
New Bed Construction Cost, by Year, for Canada
(2017 $ billions)



f = forecast
Source: The Conference Board of Canada.

6 Statistics Canada, CANSIM Table 029-0046.

Operating Costs

The other major component of long-term care costs is the cost of operating the facilities once they are built. Fortunately, these data are much more readily available than the capital cost data. Until 2013, Statistics Canada conducted an annual Long-Term Care Facilities Survey, which collected data from facilities that provide at least some nursing care and medical supervision. This survey amassed a great deal of financial data from these facilities, including their operating costs and bed numbers. This allows for an accurate calculation of the actual operating cost of these facilities. Although the survey was terminated, we can easily inflate the costs to 2017 dollars using our own index of government services inflation. The result is an average per bed operating cost estimate of approximately $75,000 per year in 2017 dollars.

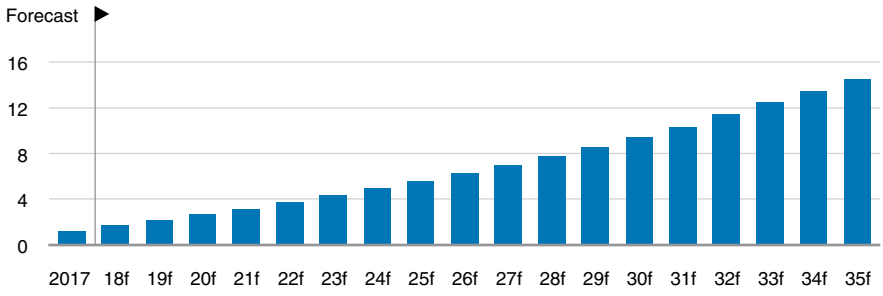
Although the per bed operating cost figure is much lower than the construction figure, it is important to keep in mind a key difference between the two. The construction cost is incurred just once for each new bed (we do not expect the new beds to become obsolete over the length of such a short forecast), while the operating cost is incurred for each year in which the facility operates. Given our cost estimates, this implies that, after 4.3 years of operation, a facility costs about as much to operate as it did to build. Since the average new bed in our forecast is used for 9 years before the end of the forecast period in 2035, our average bed ends up costing about twice as much to operate as it does to build. A longer forecast period would reinforce this effect even further.

Over the length of the forecast, the new beds will end up accruing 1.8 million bed-years of operation. Operating costs for the new beds, therefore, total $130 billion (2017 $) between 2017 and 2035. (See Chart 4.) More than half of the total operating expenditures will be accrued during the final 6 years of the forecast when most of the beds have already been built and are in use.

Chart 4

New Bed Operating Cost, By Year

(2017 $ billions)



f = forecast

Sources: The Conference Board of Canada; Canadian Institute for Health Information.

CHAPTER 4

Economic Impacts

Chapter Summary

- With our cost estimates and bed forecast, we generate spending totals for each year between 2017 and 2035; using Statistics Canada data, we can estimate how this money is spent in the economy.
- We then use The Conference Board of Canada's economic models to calculate the direct, indirect, and induced impact of the spending.
- In total, we estimate that the capital spending—on construction and equipment—for the new beds would contribute $58 billion to real GDP over the forecast period, supporting an average of 29,000 jobs a year and generating an additional $18 billion in tax revenues for governments.
- As well, we estimate that the operating spending for the new beds would contribute $177 billion to real GDP over the same period, supporting an average of 94,000 jobs a year and generating an additional $53 billion in tax revenues for governments.

With our estimates of the total construction and operating costs, we can now calculate the economic impacts of building and operating the required long-term care beds. There are two ways to look at this. The first is the cost itself: public and private funds must be raised to pay for the cost of construction and equipment and to pay the salaries and operating costs of the facilities once they are occupied. This money must come from somewhere and finding it is not an insignificant challenge in a country with a growing ratio of dependents to working-age people.

However, this increased spending on construction, machinery and equipment, nursing services, and administration also has an impact on other sectors of the economy. The higher spending on long-term beds requires the purchase of building materials and the hiring of workers to construct and staff the new facility. The new workers spend their incomes on a variety of goods and services and this generates increased tax revenues for governments. Economists divide these effects into three categories: direct, indirect, and induced impacts.

The direct impact is relatively straightforward: it is the value-added amount spent directly on the facility in question, either in wages and salaries or in the cost of building materials and equipment. However, the total economic impact extends beyond its direct impacts, creating demand for inputs from its supply chain. The indirect impact, also known as the second-stage impact, is the additional value-added economic activity created through the supply chain. It includes any extra money that is spent by suppliers because of the building, equipping, and staffing of the facility. In addition, when workers and owners in the direct and indirect industries spend their wages and profits, it creates additional demand—referred to as induced economic impacts. Together, the sum of the direct, indirect, and induced impacts equals the total economic impact of investing in and operating long-term care facilities.

Capital Investment Impact

The total capital investment associated with the new beds is the $50-billion investment in nursing home construction and the $14-billion investment in nursing home machinery and equipment (all figures in 2017 dollars). We must also account for inflation—a dollar in 2035 will not be worth the same as a dollar in 2017; and, prices for health care have generally faced a higher rate of inflation than prices in the rest of the economy. We account for these changes using The Conference Board of Canada's forecast of non-residential building investment price inflation. All figures are converted to 2017 dollars.

We used Statistics Canada's Input-Output tables to distribute the spending among the specific commodities that the nursing and residential care homes sector has historically used in the construction process. We then ran this commodity spending through the Conference Board's input-output model of the Canadian economy to generate the direct, indirect, and induced impacts. (See Table 1.) Finally, we simulated the input-output model results through the Conference Board's macroeconomic model of the Canadian economy to obtain the fiscal impacts of the spending.

Table 1
Economic Impact of Capital Expenditures, 2017–35
(2017 $ millions)

	Direct GDP	Direct + indirect GDP	Direct + indirect + induced GDP
Total	25.7	44.0	58.4

Source: The Conference Board of Canada.

The direct capital spending of $64 billion results in a $44-billion direct and indirect (i.e., total supply chain) contribution to real GDP. Once induced effects are included, the total contribution to GDP rises to $58 billion. Even after accounting for the indirect and induced effects on GDP, the total economic impact is still smaller than the initial expenditure ($58 billion versus $64 billion). This occurs because a portion of the materials and services in the construction supply chain is imported. GDP is a measure of value-added, which means that, if a retailer sells a shirt

for $20, the contribution of that transaction to GDP is $20 less the cost of intermediate inputs. If some of the intermediate inputs are imported from abroad, the impact on GDP can be significantly lower than $20.

In this case, Table 1 shows that the original $64-billion investment resulted in $26 billion of direct GDP. Adding supply-chain impacts increases this figure to $44 billion, for a direct and indirect multiplier of 0.7. This is normal for an investment of this sort, as many of the building materials and technical services associated with a large capital investment have foreign components embedded in their value chains. For the total direct, indirect, and induced impact, the industry experiencing the largest impact on GDP is non-residential building construction, which accumulates $22 billion of the total. Other major beneficiaries are manufacturing ($7 billion), engineering construction ($5 billion), and finance, insurance, and real estate ($4 billion).

Table 2 shows the impacts of the initial investment on employment and labour income. The capital investment directly and indirectly employs 437,000 person-years, or an average of 23,000 jobs for the next 19 years, and directly contributes $32 billion in income to Canadians. This means that the capital expenditures directly and indirectly result in one job for each $146,000 of capital spending. Once the induced effects are included, the employment impact rises to 548,000 person-years, or an average of 29,000 jobs for the next 19 years and $39 billion of new income.

Table 2
Employment and Wage Impact of Capital Expenditures, 2017–35
(employment, person-years, 000s; wages, 2017 $ billions)

	Direct employment	Indirect employment	Induced employment	Direct wages	Indirect wages	Induced wages
Total	278	437	548	19.9	31.7	38.6

Source: The Conference Board of Canada.

Table 3 shows the fiscal impacts of the investment spending. Governments are the beneficiaries of a feedback mechanism: whenever they pay for a good or service, some of the money they spend inevitably gets returned to them in the form of tax revenues. In this case, the boost to total government revenue from the direct, indirect, and induced

economic activity is $14 billion. Of this, $1.4 billion is from sales taxes, $4.8 billion from corporate taxes, and $9.7 billion from personal income taxes.

Table 3
Fiscal Impact of Capital Expenditures, 2017–35
(2017 $ billions)

	Sales taxes	Corporate taxes	Income taxes	All taxes
Total	1.4	4.8	9.7	14.0

Source: The Conference Board of Canada.

Operating Cost Impact

The other component of the total cost is the $130 billion in operating expenditures associated with the new beds. We treat this as a shock separate from the construction spending because the economic activities associated with running a long-term care facility are different from those associated with constructing and equipping a building. In this shock, we account for inflation using the Conference Board's forecast of government services price inflation. All figures are converted to 2017 dollars for simplicity.

We take the operating spending total and, using Statistics Canada's Input-Output tables, distribute the spending among the specific commodities that the nursing and residential care homes sector has historically consumed during its operation. Next, the commodity spending shock is simulated using the Conference Board's input-output model of the Canadian economy to generate the direct, indirect, and induced impacts. (See Table 4.) Finally, the input-output model results are simulated through our model to obtain the fiscal impacts of the spending.

While this section estimates the economic impact of operating the new beds, it is important to note that, even in the absence of adequate investment in new long-term care beds, there will still be costs associated with caring for the additional people who require assistance over the next two decades. The costs may be absorbed by other parts of the health care system or may be shifted to the families and caregivers

of patients. Without a more detailed understanding of what the situation would look like if the required new long-term care beds were not built, it is difficult to be precise about the size of the economic impact from the operation of the new beds. This caveat must be considered when interpreting the results analyzed below.

Table 4 shows the GDP impacts of the operating expenditures for the new long-term care beds. The $130 billion in spending on operating costs leads directly to a $101-billion increase in real GDP. This represents primarily the wages of the staff working in the facilities. After counting the supply-chain impact, the impact rises to $121 billion. Finally, when induced effects (i.e., workers' increased spending in the wider economy) are included, the total real GDP impact rises to $177 billion. In other words, the total economic impact of the operating expenditures is larger than the original spending, in contrast to the capital investment shock that showed a total economic impact smaller than the initial spending.

Table 4
Economic Impact of Operating Expenditures, 2017–35
(2017 $ billions)

	Direct GDP	Direct + indirect GDP	Direct + indirect + induced GDP
Total	101.5	121.3	176.9

Source: The Conference Board of Canada.

In this case, the impact is larger because a much larger share of the operating expenditure on the facilities is spent in the Canadian economy. The operating expenses of long-term care homes consist mainly of the wages and salaries of employees working in the facilities. While some elements of long-term care spending, such as medicines and foods, could be imported, import leakages are generally smaller when running a facility than when the facilities are constructed. As a result, much more of the initial spending remains in the Canadian economy in the operational phase than during the construction phase, explaining the higher multiplier. For the total direct, indirect, and induced impact, the industry experiencing the largest impact on GDP is government health services, which accumulates $110 billion of the total. Other major beneficiaries are manufacturing ($11 billion) and finance, insurance, and real estate ($10 billion).

Table 5 shows the effects of the operating expenses on employment and labour income. The operation of the long-term care beds directly generates 1.1 million person-years of employment, equivalent to supporting 58,000 jobs annually over the forecast period. Including the supply chain, the direct and indirect employment is 1.4 million person-years, or 72,000 jobs annually. Finally, when induced effects are included, the operation of the facilities leads to 1.8 million person-years of employment or 94,000 jobs annually.

Table 5
Employment and Wage Impact of Operating Expenditures, 2017–35
(employment, person-years, 000s; wages, 2017 $ billions)

	Direct employment	Indirect employment	Induced employment	Direct wages	Indirect wages	Induced wages
Total	1,108	1,359	1,785	96.7	110.0	136.3

Source: The Conference Board of Canada.

The operation of the facilities directly and indirectly supports about one job for every new bed or one job for every $96,000 spent on operating costs. This is a high employment ratio, though it aligns with the high ratio of wages and salaries to total operating spending in the care sector.

Because employees pay taxes on the income they earn, the net operating expenditure burden is reduced by the fact that a portion of this spending on wages and salaries is returned to governments. We estimate that, of the $130 billion in operating expenses, $53 billion will be returned to government as tax revenue over the forecast period. Specifically, $5 billion of this will come in the form of sales taxes, $15 billion will come in the form of taxes paid by corporations, and $34 billion will come from income taxes. (See Table 6.)

Table 6
Fiscal Impact of Operating Expenditures, 2017–35
(2017 $ millions)

	Sales taxes	Corporate taxes	Income taxes	All taxes
Total	5.2	14.9	34.1	53.3

Source: The Conference Board of Canada.

CHAPTER 5

Cost-Benefit Analyses

Chapter Summary

- We perform a cost-benefit analysis comparing a scenario where long-term care beds are built to two scenarios where new beds are not built.
- In the first analysis, which attributes the maximum possible benefit to the new long-term care beds, building the new beds is easily justified on efficiency grounds, with a net benefit of $293 billion.
- In the second analysis, which attributes a lower benefit to the new long-term care beds, the new beds are still justified on efficiency grounds, but with a much-reduced net benefit of $1 billion.

Cost-benefit analysis is a tool used by decision-makers to determine whether a certain action is justifiable on efficiency grounds. In this type of analysis, the costs and benefits of the proposed action—in this case, building 199,000 new long-term care beds between 2017 and 2035—are estimated. If the benefits outweigh the costs, the project offers a positive contribution in dollar terms. Alternatively, if the costs outweigh the benefits, the project is not justifiable on efficiency grounds.

In performing a cost-benefit analysis, we use a net present value (NPV) approach. NPV accounts for the fact that costs and benefits of a long-term care investment extend out over time by discounting future benefits (and costs) using a discount rate that reflects the opportunity cost of the funds to be used in the project. Based on Treasury Board guidelines, we use a real discount rate of 8 per cent in this analysis.[1]

For this project, the costs consist of the initial capital investments required to build the new long-term care beds and the expenditures associated with operating the beds once they have been built. The benefits include additional government revenues earned because of the economic activity associated with the construction and operation of the facilities plus the savings to the health care system due to the reduction in ALC demand. It should be noted that estimating the economic benefits associated with patients' improved health outcomes in appropriate long-term care is beyond the scope of this project.

One challenge we face in performing a cost-benefit analysis of building new bed capacity is determining an appropriate base case. Cost-benefit analysis works by comparing the costs and the benefits of a new investment. Implicit in this approach is the assumption that there is an

1 Treasury Board of Canada Secretariat, *Canadian Cost-Benefit Analysis Guide.* The Guide's recommendation of an 8 per cent discount rate is based on Jenkins and Kuo, "The Economic Opportunity Cost of Capital for Canada – An Empirical Update." An argument can be made that this discount rate is too high for the current low-interest rate environment; using a lower discount rate would produce higher net benefits from our analysis.

Even if every hospital bed in the country was occupied by an ALC patient in 2035, there would be nowhere near enough beds for all the long-term care demand.

alternative to the proposed investment. In this case, the assumption is that the construction of new beds does not take place. (This implies that the supply of long-term care beds remains the same although the demand for care is surging.) The premise would be to calculate the costs and benefits of building the new beds in comparison to this base case. However, this is not conceptually feasible.

The benefits of the proposed policy are the tax revenues that governments earn because of the associated economic activity and the savings to the health care system by having patients in long-term care beds instead of the much more expensive ALC option. However, this presents a problem. We can calculate the tax revenues relatively easily using our economic models, but calculating the amount saved on ALC is more conceptually difficult. In principle, the total savings can be calculated by taking the additional cost of ALC for each bed and multiplying it by the number of bed-years of new long-term care demand in our forecast. This means that, by 2035, we should be calculating the cost savings of moving 199,000 patients from ALC to long-term care. That calculation certainly produces remarkable savings but that number cannot be justified because, even if every hospital bed in the country was occupied by an ALC patient in 2035, there would be nowhere near enough beds for all the long-term care demand. Moreover, if every hospital bed in the country was devoted to ALC patients, the acute health care system would collapse—an eventuality we have not modelled.

Simply put, this is not a plausible base case because it is unrealistic to assume that new beds will not be built over the long term. To deal with this issue, we conduct two cost-benefit scenarios (see Table 7): one naïve (or maximum benefit) scenario, in which we assume that every patient not accommodated in long-term care facilities costs the system ALC rates, as described above; and a second scenario in which we make more reasonable assumptions about what would happen to patients in the absence of an adequate number of long-term care beds.

Table 7
Comparison of Cost-Benefit Scenarios

	Naïve (maximum-benefit) scenario	Low-benefit scenario
Base case	No new beds are built; all new demand is accommodated in hospital beds	No new beds are built; a small fraction of new demand is accommodated in hospital beds, but the vast majority ends up at home or with a caregiver
Policy to be evaluated	Building and operating 199,000 new long-term care beds by 2035	Building and operating 199,000 new long-term care beds by 2035

Source: The Conference Board of Canada.

In the second "low-benefit" scenario, we take current ALC bed numbers and assume that ALC bed utilization will grow by the same annual percentage rate as the demand for long-term care. Patients in ALC beds will cost the ALC premium in this scenario. Still, the vast majority of long-term care demand remains unsatisfied in this scenario and it is uncertain what happens with these patients. They would likely end up living at home or with a caregiver and we assume there are no construction costs associated with their lodging. We assume that they will cost the same to care for as if they were living in an appropriate long-term care home. This is a conservative assumption since, for a patient with a valid demand for long-term care,[2] it would almost certainly be more expensive to provide the necessary services at distributed locations than in one central long-term care facility. Nonetheless, it allows us to gauge a minimum cost level for these patients in the base case. As such, this scenario's base case would involve substantial additional costs to families and caregivers, and we do not include those costs in this analysis.

Cost-Benefit Analysis: Naïve (Maximum-Benefit) Scenario

In the naïve scenario, we perform the cost-benefit analysis, assuming that the cost-savings from moving a patient from ALC to long-term care apply to every bed of new demand. As of 2011, there were approximately 73,000 hospital beds in Canada. Above, we projected that an additional

2 Our forecasts do not include patients whose needs can be satisfied by home care.

199,000 beds would be needed for long-term care by 2035. So, even if every one of those acute care beds is occupied by a long-term care patient, it would not be enough to absorb the long-term care bed demand. Nonetheless, every long-term care bed that is built allows one additional person to move into an appropriate long-term care facility from the hospital until the entire demand for long-term care is satisfied. For any shortfall from the necessary bed numbers, some ALC patients will be left behind. Although we should use the ALC–LTC cost differential to calculate the benefit in cost savings, we need to keep in mind that the total ALC costs used in this analysis cannot actually be reached because there are physically not enough hospital beds for it to happen.

Costs and benefits for this scenario are presented in Table 8. According to data collected by Ontario's North East Local Health Integration Network, an acute care hospital bed costs 6.7 times as much to operate as does a long-term care bed.[3] Based on our estimate of $74,200 (2017 $) annual operating costs for long-term care beds, the yearly cost per hospital bed would be $495,900. To obtain the cost of ALC (or, in our case, the benefit of not having to pay the higher ALC costs), we multiply this cost by the number of bed-years of new long-term care demand. The NPV of caring for all these patients in ALC is $373 billion. The other benefit is the additional tax revenues earned by governments from the economic activity resulting from the construction of the new long-term care beds. The NPV of the tax revenues is $9 billion.

Table 8
Discounted Costs and Benefits for Naïve (Maximum-Benefit) Scenario
(2017 $ billions; future costs and benefits discounted at 8 per cent per year)

Savings on operating costs for ALC patients from status quo	372.60
Additional tax revenues from construction of long-term care beds	8.90
Total benefits	**381.60**
Construction cost	32.60
Operating costs for long-term care patients (if long-term care beds are built)	55.80
Total costs	**88.30**
Benefits minus costs	**293.30**

Source: The Conference Board of Canada.

3 North East LHIN, "Northeastern Ontario Uses *HOME FIRST* Thinking."

If the naïve scenario generates the worst-case scenario this second scenario generates a better-case scenario.

On the other side of the ledger are the construction and operating costs for the proposed long-term care beds. The NPV of the construction is $33 billion and the NPV of the operating costs is $56 billion.

With total costs of $88 billion and total benefits of $382 billion, this proposal seems to be an obvious win in efficiency terms. Of course, as discussed above, we cannot expect benefits of this magnitude to materialize, given the aging of the population and the clear need for more long-term care beds in any scenario. It is time to examine the second cost-benefit scenario.

Cost-Benefit Analysis: Low-Benefit Scenario

Because the benefits associated with the naïve scenario are implausible, another cost-benefit analysis is calculated using more conservative assumptions. In this case, we assume that ALC demand does grow at the same rate as demand for long-term care, with the result that the number of full-time-equivalent beds occupied by ALC patients rises from 8,400 in 2016 to 15,000 by 2035. These ALC beds incur the higher ALC costs; the remaining 184,000 beds of long-term care demand by 2035 are left unsatisfied. These patients are presumably forced to remain at home or with a caregiver. It is worth highlighting that, for many of these patients, this situation could dramatically reduce their quality of life compared with care in a more appropriate facility. Moreover, because our demand forecast does not include patients for whom home care is sufficient, we cannot assume that these patients in limbo will be cheaper for the health system if they are cared for at home. Indeed, because so much of the long-term care demand would be dispersed across individual homes, it would probably increase the cost of providing them with the required care. Nonetheless, estimating the financial costs of this situation is outside the scope of this project and we assume that all new demand not in ALC will cost the same as if the patients were housed in long-term care.

If the naïve scenario generates the worst-case scenario (from the ALC cost point of view), this second scenario generates a better-case scenario. (See Table 9.) We are making some assumptions that are favourable to the status quo (i.e., that would favour not building new

long-term care beds). We are also assuming that there are no increases in costs for the many people who are not housed in an adequate facility and that there will not be any additional construction costs to meet the new demand.

Costs and benefits for this scenario are presented in Table 9. The costs and the benefits in this scenario at first seem more conceptually complicated than in the previous scenario. But, fundamentally, for the long-term care builds to be justified on efficiency grounds, the operating cost savings from moving the ALC patients to long-term care homes will have to outweigh the construction costs for all 199,000 new beds.

Table 9
Discounted Costs and Benefits for Low-Benefit Scenario
(2017 $ billions; future costs and benefits discounted at 8 per cent per year)

Savings on operating costs for ALC patients (status quo)	33.00
Savings on operating costs for non-ALC patients (status quo)	47.40
Total operating cost savings from status quo	**80.50**
Additional tax revenues from construction of long-term care beds	8.90
Total benefits	**89.50**
Construction cost	32.60
Operating cost for long-term care patients (if long-term care beds are built)	55.80
Total costs	**88.30**
Benefits minus costs	**1.10**

Source: The Conference Board of Canada.

If the required long-term care beds are not built, the costs in this case consist of two elements: the cost of the ALC patients and the cost of caring for the remaining unsatisfied demand. For the ALC patients, which increase in number from 8,700 to 15,000 by the end of the forecast, the total discounted cost of care is $33 billion; the discounted cost of caring for the remaining unsatisfied demand is $47 billion. The total of the two is $80 billion. If the required long-term care beds are built, the operating costs are $56 billion.

The benefit, therefore, is the operating cost savings, $81 billion, plus the tax revenues from the economic activity resulting from constructing the long-term care beds, $9 billion. On the other side of the ledger is the construction cost, $33 billion, and the operating costs if the long-term

care beds are built, $56 billion. Overall, in this scenario, the discounted benefits amount to $89 billion and the discounted costs are $88 billion. The project would still be justified on efficiency grounds, but barely.

The fact that the new long-term care beds remain justifiable on efficiency grounds even when the deck is stacked against them is an interesting result. However, this scenario requires further study: with such a close result, the conclusion is highly sensitive to many of the scenario's assumptions, including:

- changes in the number of people who can actually be accommodated in ALC beds;
- the amount spent on home care for people with needs that would ordinarily require long-term care in a facility;
- construction costs incurred in the status quo;
- the additional costs incurred by caregivers and family members due to the failure to build the necessary long-term care beds.

More research on these questions is recommended.

CHAPTER 6

Conclusion

Chapter Summary

- Between 2017 and 2035, demand in Canada for long-term care will increase by 199,000 beds.
- We estimate the total cost of building the facilities and operating these new beds through 2035 at $194 billion.
- Although this is a large cost, it will also be a significant contributor to the economy, boosting real GDP by a total of $235 billion, supporting an average of 123,000 jobs a year and generating an additional $71 billion in tax revenues for governments.
- A cost-benefit analysis suggests that the cost of building the new long-term care beds is justified even when attributing a low benefit to them.

As the population of Canada ages, more and more Canadians will require long-term care. Even after accounting for efforts to shift more long-term care into individuals' homes, we estimate that demand for long-term care beds will increase by 199,000 between 2017 and 2035. That represents a near-doubling of bed numbers from the 2016 total of approximately 255,000.

The construction and operation of these additional beds represent a significant cost: altogether, we estimate that $64 billion (all figures in 2017 dollars) will be spent on construction and $130 billion on operations for these new beds between 2017 and 2035.

Although these are significant costs, the investment and operating expenditures are not entirely without benefits. They will directly boost the economy's real GDP by a total of $127 billion and directly employ an average of 73,000 jobs per year over the forecast. Once this spending trickles down to the wider economy through indirect and induced effects, the initial spending will result in a total impact on real GDP of $235 billion, support an average of 123,000 jobs a year, and contribute a total of $71 billion back to governments in the form of higher tax revenues.

After we perform two cost-benefit analyses, the plan to build the additional long-term care beds is supported on efficiency grounds even when making assumptions that favour the status quo. It is also supported even though we also ignore the economic benefits associated with patients' improved health outcomes in appropriate long-term care. On the other hand, in this "best-case" scenario, the benefits only marginally outweigh the costs and this conclusion could shift with small changes in the assumptions. Consequently, more research is required to better define the status quo in the absence of new bed construction. Nonetheless, the fact that the proposed project succeeds even with unfavourable assumptions implies that policy-makers should carefully consider the potential benefits of constructing additional long-term beds.

Now is the time for decision-makers and other key stakeholders to begin addressing the future needs of the population.

Finally, there are several other concerns relevant to the issue of long-term care in Canada that were outside the scope of this research. First, our forecast is built only off new demand since we assumed that the existing long-term care stock would last until the end of the forecast period in 2035. This may not be realistic. According to the Ontario Long Term Care Association, almost half of current facilities do not meet provincial standards and many are nearing the end of their useful life.[1] This will represent an additional cost not modelled in this analysis.

Second, our estimate of long-term care facilities' operating expenditures is based on historical data. But there is evidence that long-term care patients are rapidly becoming more difficult and costly to care for. According to the Ontario Long Term Care Association, patients in 2015–16 had a higher prevalence of all significant health conditions compared with patients in 2009–10. They had greater needs for dressings, personal hygiene, help with using bathroom facilities, and general mobility.[2] If patients are becoming costlier to care for, this represents additional upward pressure on costs that is also not considered in this analysis.

In summary, our forecast using conservative assumptions still finds a dramatically increased need for spending on long-term care. The scale of the challenge is large enough that it cannot be delayed for long or be addressed with ad hoc measures. It will not be too long before the large baby-boom generation begins requiring long-term care in earnest. Now is the time for decision-makers and other key stakeholders to begin addressing the future needs of the population.

1 Ontario Long Term Care Association, *Building Better Long-Term Care.*
2 Ontario Long Term Care Association, *This is Long-Term Care.*

APPENDIX A
Shock Results

Table 1
Capital Investment, Economic Impact
(2017 $ millions)

	Direct (GDP)	Indirect	Induced
N.L.	309	436	578
P.E.I.	155	244	312
N.S.	714	1,136	1,507
N.B.	620	1,008	1,335
Que.	6,062	10,104	13,119
Ont.	10,899	19,709	25,866
Man.	446	771	1,115
Sask.	462	777	1,060
Alta.	2,249	3,870	5,385
B.C.	3,792	5,926	8,136
Total	**25,708**	**43,980**	**58,413**

Source: The Conference Board of Canada.

Table 2
Capital Investment, Impact on Employment and Wages
(employment, person-years, 000s; wages, 2017 $ millions)

	Direct employment	Indirect employment	Induced employment	Direct wages	Indirect wages	Induced wages
N.L.	3	4	5	235	317	385
P.E.I.	2	3	4	117	174	204
N.S.	9	14	17	570	851	1,026
N.B.	8	13	16	501	758	914
Que.	65	100	124	4,628	7,208	8,640
Ont.	120	185	230	8,551	14,347	17,231
Man.	5	10	13	356	566	741
Sask.	4	8	10	311	488	629
Alta.	18	35	47	1,623	2,597	3,360
B.C.	43	65	82	3,002	4,429	5,455
Total	**278**	**437**	**548**	**19,895**	**31,734**	**38,583**

Source: The Conference Board of Canada.

Table 3

Operating Expenditures, Economic Impact

(2017 $ millions)

	Direct (GDP)	Indirect	Induced
N.L.	1,977	2,109	2,867
P.E.I.	668	797	1,104
N.S.	3,635	4,376	6,195
N.B.	3,061	3,738	5,177
Que.	22,175	26,601	37,808
Ont.	39,555	47,459	70,008
Man.	2,413	3,006	4,512
Sask.	2,583	3,208	4,599
Alta.	10,285	11,804	17,534
B.C.	15,100	18,244	27,120
Total	**101,452**	**121,343**	**176,923**

Source: The Conference Board of Canada.

Table 4

Operating Expenditures, Impact on Employment and Wages

(employment, person-years, 000s; wages, 2017 $ millions)

	Direct employment	Indirect employment	Induced employment	Direct wages	Indirect wages	Induced wages
N.L.	23	24	29	1,879	1,967	2,323
P.E.I.	7	9	11	680	771	902
N.S.	50	62	77	3,667	4,187	5,012
N.B.	76	92	105	3,061	3,525	4,189
Que.	349	428	519	20,314	23,192	28,559
Ont.	309	386	553	37,843	43,218	53,955
Man.	25	32	45	2,366	2,761	3,495
Sask.	26	33	44	2,502	2,917	3,564
Alta.	94	106	149	9,677	10,602	13,426
B.C.	150	187	253	14,682	16,835	20,879
Total	**1,108**	**1,359**	**1,785**	**96,670**	**109,975**	**136,303**

Source: The Conference Board of Canada.

APPENDIX B

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