RESEARCH PAPER

Forecasting Staffing Needs for Ontario's Long-Term Care Sector

Prévoir les besoins en personnel pour le secteur des soins de longue durée en Ontario

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Abstract

This paper presents a forecasting model for personal support workers (PSWs) and nurses (registered nurses [RNs] and registered practical nurses [RPNs]) for Ontario's long-term care (LTC) sector. In the base-case scenario, the model projects a shortfall in the supply of full-time equivalent (FTE) workers required to meet the expected demand for care for all workers by 2035, which would require an estimated increase of 11,632 FTE PSWs, 6,031 FTE RNs and 10,178 FTE RPNs entering the market by 2035. The results of this paper may have important implications for health human resources policy planning in Ontario's LTC sector.

Résumé

Cet article présente un modèle de prévision pour les préposés aux bénéficiaires (PAB) et les infirmières (infirmières autorisées [IA] et infirmières praticiennes autorisées [IPA]) pour le secteur des soins de longue durée (SLD) en Ontario. Dans le scénario de référence, le modèle prévoit une pénurie de l'offre de travailleurs équivalents temps plein (ETP) nécessaire pour répondre à la demande de soins prévue pour tous les travailleurs d'ici 2035, ce qui nécessiterait une augmentation estimée de 11 632 PAB ETP, 6 031 IA ETP et 10 178 IPA ETP sur le marché d'ici 2035. Les résultats de cet article pourraient avoir des répercussions importantes sur la planification des politiques en matière de ressources humaines en santé dans le secteur des SLD en Ontario.

Introduction

COVID-19 has disproportionately affected Canada's institutional long-term care (LTC) sector (CIHI 2021b) and highlighted issues that pre-date the start of the pandemic. One such issue is the adequacy of staffing, which was considered low pre-pandemic (Berta and Stewart 2022; PHAC 2020). Moreover, there are longstanding concerns as to the adequacy of the supply of direct care staff to meet increased demand associated with the aging of the population (Laporte et al. 2016).

LTC in Ontario is primarily staffed by personal support workers (PSWs), who provide the majority of direct care to residents (Long-Term Care Staffing Study Advisory Group 2020). Registered nursing staff (registered nurses [RNs], registered practical nurses [RPNs] and nurse practitioners) provide the second-largest amount of direct care, followed by allied health professionals and programming support (Long-Term Care Staffing Study Advisory Group 2020). In a report submitted to the Ontario Ministry of Health and Long-Term Care, on behalf of the Independent Review of Staffing and Care Standards for Long-Term Care Homes in Ontario, Sharkey (2008) recommended a minimum of 3.5 hours of direct care from PSWs and nurses (RNs and RPNs), the skill mix consisting of 2.5 PSW hours and 1 nurse hour (RN and RPN). In 2018, however, a decade later, Ontario LTC residents were still estimated to be receiving, on average, 2.75 hours of direct care from PSWs and nurses, with the skill mix consisting of approximately 1.9 PSW hours and 0.8 nurse hours (RNAO 2020).

As a result of COVID-19, several new policies were announced for the LTC sector, including increases to hours of direct care, increased wages for direct care workers and funding for the training of new workers (see the next section for more details). Despite this, it is unclear whether the future supply of workers (PSWs, RPNs and RNs) will be sufficient to meet the demand. It is also unclear how long the above policies will need to be in place to ensure a sufficient supply of workers over the longer run. Finally, the above policies generally target PSWs, who are unregulated workers; it is unclear whether additional policies will be required for the regulated nursing workforce and whether the policies aimed at PSWs can be

expected to have knock-on effects on nursing labour supply. This may be particularly important given the impacts of stress and turnover intention, which was a concern pre-COVID-19 (Estabrooks 2021) and has been shown to be significant in the nursing labour force in the COVID-19 era (RNAO 2021).

Health human resource (HHR) planning for PSWs and nurses has not received significant attention in the HHR planning literature. In most countries, HHR planning has focused predominantly on doctors due to the length and cost of training (Ono et al. 2013). In Canada, Denton et al. (1995) developed a forecasting model for physicians, RNs and RPNs, respectively, in Ontario. More recent models have focused on physicians and RNs (Tomblin Murphy et al. 2009, 2012) with one study focusing on jointly forecasting the supply of PSWs, RNs and RPNs (Laporte et al. 2016). A review of the literature suggested that these models generally focused on staffing ratios, and the effects of the level of wages or changes in wages were seldom considered in HHR modelling, with only one of 26 forecasting models incorporating such an effect (Ono et al. 2013). This wage effect will be important to incorporate given the attention placed on PSW wages before and throughout the pandemic. Finally, these studies were developed before the COVID-19 pandemic. It is therefore unclear if the predictions of these models will hold given the impact of COVID-19 on HHR. To our knowledge, this study is the first to investigate projections for PSWs, RNs and RPNs for the LTC sector using data and policy scenarios from the COVID-19 era. These are compared with a base-case status quo using data from the pre-COVID era.

The purpose of this paper is to present a forecasting model jointly for PSWs, RNs and RPNs in Ontario's institutional LTC sector. Although not an exact science, and requiring many assumptions, HHR forecasting models allow for policy experiments that can explore the effects of different scenarios on the supply and demand of workers, taking into account changes in the supply of one type of worker on the supply needs of the others, thereby helping to identify the most efficacious policy levers for decision makers to ensure an optimal supply of healthcare labour (Laporte et al. 2016). Model uncertainty increases the farther into the future the projection period extends, so we employ a modest projection window, producing forecasts up to and including 2035 using publicly available data, as well as microdata from the Statistics Canada Labour Force Survey (Statistics Canada 2015) and the University of Toronto. Ethics approval was obtained from the University of Toronto Research Ethics Board.

Along with this section, this paper is divided into six sections. The next section (section two) describes the policies announced for Ontario's LTC sector. Section three describes the methodology and data sources for the forecasting model. Section four presents the results of the forecasting model. Section five presents a discussion of the results, and section six offers concluding remarks.

Review of LTC Policies in Ontario during COVID-19

In late 2020 and early 2021, a number of policies relating to staffing in Canada's LTC sector were announced. In October 2020, the Government of Ontario announced funding for a temporary wage enhancement for PSWs (Government of Ontario 2021d). The magnitude of the increase was to vary by sector with a $3.00/hour increase for PSWs in LTC. This has been extended many times and was set to end on March 31, 2022 (Government of Ontario 2021e). It is important to note that the wage increase is ultimately paid by LTC homes, and there have been delays in applying the increase in some homes (Wilson 2021). At the time of writing, there were calls to make this temporary wage increase permanent (McKenzie-Sutter 2021), with the Government of Ontario proposing legislation to do so on March 29, 2022 (Government of Ontario 2022b).

In November 2020, the Government of Ontario committed to increasing hours of direct care from 2.75 to 4 hours per resident per day (Government of Ontario 2020). The exact skill mix associated with this policy was not stated, but it is likely that the four hours includes both PSW and nurse time. As a result, the new Government of Ontario commitment would actually require 0.5 more hours of direct PSW and nursing care compared with the 3.5 hours recommended in Sharkey (2008). It is also important to note that while all LTC homes are expected to adhere to the regulated minimum, the skill mix used may vary across LTC homes (Hsu et al. 2016).

In December 2020, the Government of Canada announced $23.2 million to develop and implement an accelerated online program to train approximately 4,000 new PSW interns (Government of Canada 2020). Shortly after, in February 2021, the Government of Ontario announced a tuition-free, accelerated PSW training program (Government of Ontario 2021a). This was designed to allow 8,200 new PSWs to be ready to work in Ontario's LTC sector by fall 2021.

Finally, in March 2021, the Government of Ontario announced funding to help build the 30,000 LTC beds (Government of Ontario 2021b) that was promised by Premier Ford during the 2018 election campaign (Breen 2018). It is important to note that our model forecasts the number of LTC residents rather than beds. That said, an increase in the estimated number of individuals would likely require the building of beds to meet the increased demand.

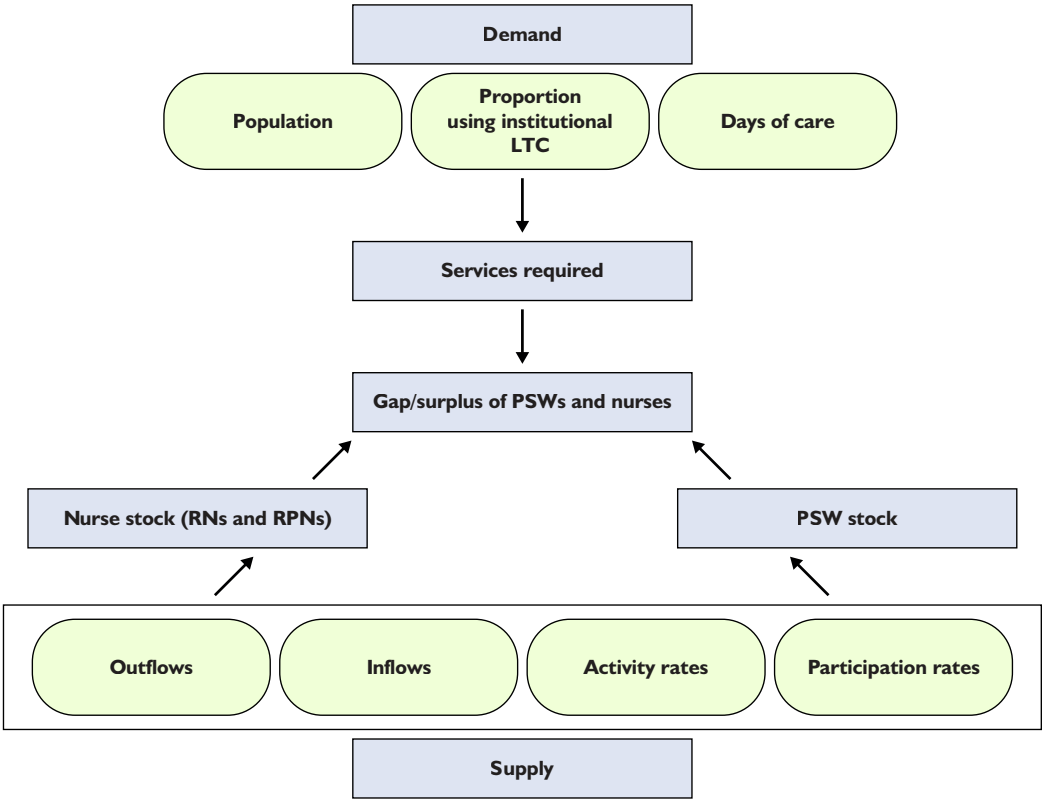
The effects of these policies on the surplus/shortfall of workers are explored further in the Results section.

Methods

Figure 1 shows the conceptual framework that underpins the forecasting model, which was adapted from the general model in Tomblin Murphy et al. (2012) as well as Laporte et al. (2016), which had focused, as we do here, on the LTC sector. The two main elements of the model are the demand and supply sides, the interaction of which ultimately determines the

size of the shortfall/surplus expected. Each element in Figure 1, as well as the data source used, is described in more detail below.

FIGURE 1. Framework underlying the forecasting model



LTC = long-term care; PSW = personal support worker; RN = registered nurse; RPN = registered practical nurse.

Modelling demand

The demand side of the model relates to the expected number of people that will require a given number of LTC services over the forecast interval (i.e., until 2035). The number of services required, in the context of institutional LTC, refers to the total number of patient days in a given year. Following Birch et al. (2007), we calculated the number of services required as the product of the population (by age group), the proportion using institutional LTC and days of care in a given year. These terms are defined in more detail below.

POPULATION

The population of Ontario by age and sex was obtained from Statistics Canada for the years 2019 to 2020, as well as for the years 2021 to 2035 (Statistics Canada 2019, 2021a).

PROPORTION USING INSTITUTIONAL LTC

The estimated proportion of the population using institutional LTC in Ontario was based on data obtained from the CIHI Continuing Care Reporting System (CCRS) for fiscal year (FY) 2018/2019 (CIHI 2019). The CCRS contains data on individuals receiving continuing care services in hospitals or LTC homes in Canada (CIHI n.d.). Combining this with the population age distribution, we were able to calculate the proportion of each age group that has received institutional LTC for each year. It is important to note that data from the 2020/2021 CCRS file is available but reports fewer LTC residents than previous years due to issues relating to the COVID-19 pandemic, including fewer admissions (CIHI 2021a). In addition, the 2019/2020 CCRS file contains data from the fourth quarter of FY 2019/2020 (CIHI 2020), which may also have been impacted by COVID-19. For the purposes of this paper, we based our forecasts using data one year before COVID-19 to minimize the impact of anomalous effects of COVID-19 on the trend of LTC use, namely the curtailment of inflows into institutional LTC.

DAYS OF CARE

LTC homes in Ontario must operate at 97% occupancy of long-stay beds staffed at every point in the year to receive 100% of the Level of Care (LOC) per diem funding from the province, with some noted exceptions (Ontario Ministry of Health and Long-Term Care 2019). Hence, we used 365 as the estimated days of care for all LTC residents in all age/sex groups for all levels of health. Laporte et al. (2016) illustrates the validity of this approach using data from Statistics Canada's Residential Care Facilities Survey (Statistics Canada 2021b) for fiscal years 1996/1997 to 2009/2010.

Modelling supply

Supply refers to the number of full time equivalent (FTE) providers (PSWs, RPNs and RNs). This does not equal the total number of providers since a given worker may not work full-time hours (referred to as the activity rate in Birch et al. [2007]). We must also incorporate the fact that workers may have administrative tasks as well, and so their time may not be completely spent on direct care; this is referred to as the participation rate (Birch et al. 2007).

Using a stock-flow approach (Birch et al. 2007), the stock of workers in the LTC sector at any given time is determined by the number of workers in the previous year, minus outflows that have occurred between the previous and current year, plus inflows of workers to that sector in the current year.

OUTFLOWS

PSWs

We estimated the relationship between intention to leave the current employer and wages using individual data on PSWs in Ontario as reported in Berta et al. (2018) (see Appendix 1: Table A1) (Appendix 1 is available at www.longwoods.com/content/26852). We found a

2.2% reduction in the probability of intending to leave for each $1.00 increase per hour in PSW wages. It is important to note that, given the cross-sectional nature of the data, we could only use intention to leave rather than actual turnover rates. We observed from the sample data that 15% of PSWs intended to leave their current employer in the next year. In terms of actual turnover, it has been estimated that 25% of PSWs with two or more years of experience leave the LTC sector annually (Long-Term Care Staffing Study Advisory Group 2020). It has also been suggested that staff have experienced frustration within the LTC sector, which can lead to high turnover. Thus, our measure of outflow may be an underestimate of the true outflow, such that our results provide a conservative estimate of the projected gap in PSWs.

For the purposes of this analysis, we required a base-case wage (i.e., wages in 2019) as well as the annual rate of change in PSW wages in Ontario. We used the Statistics Canada Labour Force Survey for Ontario to calculate the average wage paid to PSWs working in the LTC sector for each year between 2006 and 2019, which is presented in Appendix 1 (Figure A1). We calculated the average wage to be $22.00/hour in 2019, with an average annual increase of 2.03% per year using the annual Labour Force Survey data from 2006–2019. We used these parameters in our base-case scenario, then allowed PSW wages to change following the previously described LTC wage-increase policies announced by the Government of Ontario (Government of Ontario 2021e).

Nurses

Unfortunately, individual-level data on nurse intention to leave and wages was not available for use in this study. Laporte et al. (2016) calculated retention rates (called "stickiness" in their paper) for RNs and RPNs working in LTC in Ontario using data from the College of Nurses of Ontario (CNO). The authors found that the stickiness measure ranged from 82–87% (84% average) for RNs and 82–84% (83%) for RPNs using data from 2005/2006 to 2009/2010.

In terms of more recent data, a survey conducted by the RNAO in 2021 found that 45.2% of LTC nurses were somewhat likely, likely or very likely to leave the nursing profession after the pandemic (RNAO 2021). It is important to note that, pre-COVID-19, there was evidence to suggest that the percentage of nurses leaving the profession was lower than the percentage of nurses who intended to leave the profession (see, for example, Lee et al. 2017). Despite this, there may be reason to suspect that a large percentage of nurses will leave the profession in the COVID-19 era, particularly given the reports of stress and turnover intention (RNAO 2021). Moreover, the Government of Ontario announced a retention bonus of $5,000 for nurses (Government of Ontario 2022a), which may signal that policy makers are expecting large turnovers for this profession. In addition, as the general population ages, many nurses may be close to retirement. Finally, there is a significant relationship between intention to leave and turnover for nurses (Lee et al. 2017). In our base-case scenarios, we utilized the average stickiness figures from Laporte et al. (2016). We then used the

results from the RNAO survey in an alternative policy scenario to obtain an upper-bound estimate for the number of nurses expected to leave the profession over the next five years (i.e., as a sensitivity analysis). We assume that losses from this sector would converge to their pre-pandemic levels for the remainder of the projection period.

INFLOWS

Laporte et al. (2016) calculated inflows for nurses in Ontario's LTC sector using the CNO database. In this paper, inflow is defined as the percentage of nurses who are working in a particular sector in year "t" who were not working in that sector in year "t-1," following Alameddine et al. (2006). The authors calculate an average of 1,117 RNs and 1,751 RPNs per year between 2006 and 2009.

For PSWs, no population data on this workforce exist in Ontario. Using the December cycle of the 2016–2020 Labour Force Survey, we calculated the number of PSWs who were hired within the year. The results are presented in Appendix 1 (Table A2). We observed a large increase in the number of PSWs entering LTC in 2020 (18,750), which in part may have been due to the policies attracting PSWs into the sector that took place as a result of COVID-19. In our base-case scenario, we use 8,438 as the annual PSW inflow rate (average over 2016–2019). We then used the 2020 inflow of 18,750 as the estimated inflow of PSWs into LTC as an upper-bound estimate of the inflows into LTC.

ACTIVITY RATES

To obtain a FTE measure for RNs and RPNs, we calculated the yearly hours worked for each nurse in Ontario using data from the 2011 CNO database. We multiplied the reported number of weeks worked by the average number of hours worked per week. We then averaged the results by the number of nurses in each age category working in institutional LTC. Finally, we divided the average by 1,850 annual hours (Note: 1,850 annual hours is the amount used to calculate FTEs in LTC by the Ontario Ministry of Health and Long-Term Care's Health Analytics Branch (Health Analytics Branch 2012) to obtain a FTE equivalent measure (see Appendix 1: Table A3).

For PSWs in LTC, in Ontario, we calculated the average usual hours worked by age at their main job for the year 2019 using data from the Labour Force Survey. We then multiplied this by the average number of weeks worked by PSWs using data from the Health Support Workers (HSWs) Worklife Survey, which was calculated to be 44.75. We then divided by 1,850 to obtain an FTE measure.

PARTICIPATION RATES

Participation rates were obtained from Laporte et al. (2016) using the CNO database, which started asking members about the proportion of time spent on direct professional services in 2011. This measure is averaged across age groups for nurses in LTC for 2011 to calculate participation rates for RNs and RPNs (see Appendix 1: Table A4).

For LTC PSWs, it has been estimated that 58% of their time is spent on hands-on direct care, 31% on hands-off direct care (i.e., tasks related to the preparation of direct care), 8% on documentation/charting and 3% on miscellaneous indirect care (e.g., reviewing policy or care plans) (Dijkema and Lewis 2019). We therefore assume a 58% activity rate for PSWs across all age groups.

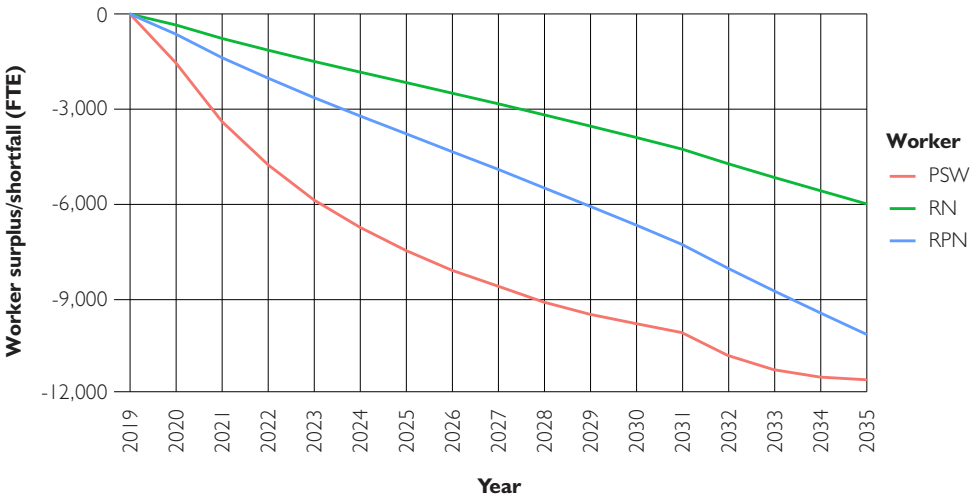
Results

For brevity, we focused on the forecasted shortfall/surplus of workers over the forecasting interval. Full forecasting results for the number of residents in LTC, number of FTE providers required (demand) and number of FTE providers available (supply) are available upon request.

Base case

Figure 2 presents the base-case results. We project a shortfall of workers for the entire forecasting period. By 2035, we project a gap of 6,031 FTE RNs, 10,178 FTE RPNs and 11,632 FTE PSWs.

FIGURE 2. Projected gap/surplus of workers (FTE), 2020 to 2035



FTE = full-time employment; PSW = personal support worker; RN = registered nurse; RPN = registered practical nurse.

It is important to note that this base-case scenario is unlikely to be a valid reference case, given the Government of Ontario's commitment to increasing hours of direct care (Government of Ontario 2020). It is, therefore, likely that this would be an underestimate of the expected gap of workers across the forecasting interval. We investigate the effects of this increase in minimum direct care requirement in the next section.

Increases in staffing ratios

For this scenario, we increased hours of direct PSW and nursing care from 2.75 to 4 and held the distribution of skill mix in the base-case constant. These results are presented in Appendix 1 (Figure A2). By 2035, we project a gap of 11,203 FTE RNs (increase of 86% from the previous scenario), 18,709 FTE RPNs (increase of 84% from the previous scenario) and 37,779 FTE PSWs (increase of 225% from the previous scenario).

Because the Government of Ontario has committed to increasing hours of direct care from 2.75 to 4 hours (Government of Ontario 2020), we consider this to be the new reference scenario going forward (i.e., models presented below are compared with this scenario).

Increases in PSW wages

From the new reference scenario, we investigated the impact of a permanent increase to PSW wages of $3.00/hour. We observed that a permanent increase in PSW wages of $3.00/hour reduces the gap across all periods (see Appendix 1: Figure A3). This adds an additional 22,645 of PSW FTEs to the projection and reduces the expected shortfall by 60%.

This wage increase does not affect the gap of nurses, as there has not been a policy announced regarding wages for that labour force.

Increases to inflow of PSWs into LTC

We next modelled the impact of increasing investments on PSW training on the projected gap of workers, the results of which are presented in Appendix 1 (Figure A4). Assuming these investments persist throughout the forecasting period, we forecast that the initiative has the potential to eliminate the projected shortfall in PSWs over the entire forecast period, resulting in a surplus of 14,494 by 2035. Similar to the above scenario, we assume this increase does not affect the supply of nurses, and thus is not expected to affect the projected gaps of the RN and RPN LTC labour forces.

Incorporating increased nurse turnover intention due to COVID-19

We next modelled the impact of changing nurse retention from 83–84% to 54.8% using the turnover intention data from RNAO (2021). These results are presented in Appendix 1 (Figure A5). We find that the gap of RNs and RPNs is expected to increase to 12,362 and 19,984 FTE by 2035, respectively. In percentage terms, this represents a 10% and 7% increase in the gap for RNs and RPNs, respectively, in comparison to the increased staffing reference scenario.

Discussion

The purpose of this paper was to present a forecasting model for PSWs and nurses (RNs and RPNs) in Ontario's LTC sector. Our models suggest that the Government of Ontario's commitment to increase hours of direct care from 2.75 to 4 will result in a significant expected shortfall in RNs, RPNs and PSWs leading up to 2035. These results assume that

the same skill-mix distribution in 2018 (RNAO 2020) holds when hours of direct care are increased and more of each type of worker (PSWs and nurses) will be required.

Policy implications

The results of the forecasting model suggest that the policies relating to PSWs may be helpful in reducing the expected shortfall in these workers but will likely need to be in place for many years. The results also highlight the need for policies relating to nurses in LTC. We find that increases to direct hours of care will result in a significant shortfall in the number of both RNs and RPNs throughout the forecasting period. Moreover, this shortfall is expected to worsen once increased turnover intention due to the impacts of COVID-19 (e.g., burnout) is incorporated into the analysis. Given the Government of Ontario's commitment to increase hours of direct care, policies relating to the nursing labour force will be important to consider. At the time of writing, the Government of Ontario had announced funding to: 1) add 2,000 nurses to the healthcare system (Government of Ontario 2021c) and 2) provide a lump-sum retention incentive for Ontario nurses of up to $5,000 per person (Government of Ontario 2022a). The effects of these scenarios would likely reduce the projected gap of nurses found using this model. It is unclear, however, how long these programs would need to be in place to eliminate the expected gap. Future research using the model framework presented here may wish to explore this further.

One scenario we did not evaluate is the impact of unmet demand for LTC services – what the expected shortfalls would have been had all individuals currently on the waitlist for institutional LTC been taken from the list and placed in institutional LTC. Incorporating these individuals would have aggravated the forecast shortfall of PSWs by 2035, as well as further increased the expected shortfall of nurses. CIHI (2021a) noted that there were fewer admissions to LTC as a result of COVID-19 in FY 2020/2021, so it is unclear how long this trend will continue for individuals on the LTC waitlist. Future research may wish to explore this as data become available. It is also important to note that the participation rates calculated for this paper are unlikely to hold throughout the forecasting period, as it has been recommended that current patient documentation and charting processes be modified to free up time for direct care to residents (Long-Term Care Staffing Study Advisory Group 2020). Increasing participation rates would help reduce any expected shortfalls throughout the forecasting period. Finally, some may argue that four hours of direct care may not be necessary for every resident in LTC. For the purposes of this report, we performed a separate analysis using 3.5 hours of direct PSW and nursing care as suggested in Sharkey (2008) (but using the same skill-mix distribution as the base case) and obtained similar results.

Model limitations

This study faced limitations that are worth noting. First, it would have been helpful to model staffing requirements as a function of quality indicators. The CCRS is rich in resident health data but does not contain detailed information about staffing level and mix. Future

research may wish to explore this issue in greater detail. In addition, at the time of writing, the Government of Ontario had not announced the exact skill mix that would be used when hours of direct care increased (RNAO 2020). For the purposes of this analysis, we held the base skill-mix distribution constant throughout the forecasting period. It is difficult to say if this will be the case, however, as research has found some evidence of substitution between the PSW and RPN labour forces in the provision of patient days of care (Hsu 2015). In addition, our model uses resident data from 2018/2019, and does not consider potential changes in LTC use as a result of COVID-19. There is evidence to suggest that individuals may be less inclined to enter LTC due to the pandemic and will increase savings for their old age (Achou et al. 2021). However, such effects if any may not be seen within the forecasting period, as the majority of newly admitted LTC patients have care needs that cannot be cost-effectively met elsewhere (Tanuseputro et al. 2017). Another limitation is that our population projections were constructed pre-COVID-19 and, subsequently, do not incorporate the resulting demographic effects attributed to the pandemic (Statistics Canada 2021a). It is unclear, however, what impact this will have on the projections as the percentage of individuals using LTC may remain constant given the aging of the population. Finally, the large increase in PSW inflow into LTC observed in 2020 may have been partially driven by regulation introduced by the Government of Ontario that limited LTC employees to working in only one home (*O. Reg. 146/20*). For the purposes of the model, the Labour Force Survey was the best source of data to quantify the potential increase in PSWs entering LTC resulting from the various policies attracting new PSW workers. Future research, using longitudinal data on PSWs, may wish to explore this further.

Contributions to the literature

The results of our study are consistent with other studies pre-dating COVID-19 that projected a gap of nurses and/or PSWs. Tomblin Murphy et al. (2009) project a shortfall of RNs in Nova Scotia (all care sectors combined) throughout their forecasting period (up to and including 2020). Similarly, Tomblin Murphy et al. (2012) project a shortfall of RNs in Ontario (all care sectors combined) throughout their forecasting period (up to and including 2022). Laporte et al. (2016) project a gap of RNs, RPNs and PSWs for the majority of the forecasting period (2010–2025). Our study adds to the existing literature by investigating the effects of policies announced during COVID-19 on the projected demand, supply and gap of these workers in LTC. This includes the effect of wages, which is seldom incorporated into HHR models. We also use more recent data, including parameters from the COVID-19 period.

With respect to the generalizability of the results, it is important to note that despite using Ontario-specific parameters, the trends identified in this paper are likely to hold in other jurisdictions as well. More specifically, although the magnitudes may vary, it is likely that initial gaps in LTC workers exist in other jurisdictions. Policy makers in other jurisdictions who are considering increases to hours of direct care will also need to consider policies

to influence the future supply of workers given the demand they will face. It is likely that the policies proposed for Ontario will need to be considered in these jurisdictions as well.

Conclusion

This paper presents a forecasting model for PSWs and nurses (RNs and RPNs) in Ontario's LTC sector. The model is used to explore the effects of LTC policies announced during the COVID-19 period on the forecasted surplus/shortfall of these workers up to 2035. The results suggest that, in the absence of significant policy intervention, large gaps in the availability of these workers are likely to persist and grow well into the future. The model can be extended should new policies relating to LTC staffing be announced. The model can also be modified to explore similar LTC policies that have been enacted in other jurisdictions.

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