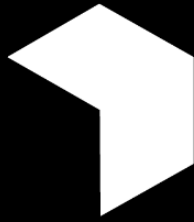


How improved retention affects healthcare employer costs and productivity: Exploring the full value of Defined Benefit plans

An evidence review



May 2026



About The Behavioural Insights Team (BIT)

BIT is a global social purpose company that generates and applies insights from behavioural science to inform policy, improve programs and services, and deliver results for citizens and society.

About the Healthcare of Ontario Pension Plan (HOOPP)

The Healthcare of Ontario Pension Plan (HOOPP) is one of the strongest and most stable Canada-model defined benefit (DB) pension plans in Canada. Since 1960, HOOPP has been helping Ontario's healthcare workers build the foundation for a financially secure retirement.

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Executive Summary

Defined benefit (DB) pensions play a vital role in helping many Canadians achieve financial security in retirement. Employers recognize the value of DB plans in recruiting and retaining top talent.^{1,2,3} However, the financial value of this recruitment and retention dividend is under-studied and perhaps less well understood, especially in light of the unique health care labour market context in Ontario. Workforce pressures in the sector continue to mount, with growing workforce shortages and retention challenges reinforcing the business case for DB plans. However, there is a need for better, more quantifiable evidence on that business case.

HOOPP commissioned BIT to conduct an evidence review on the impact of turnover on employer costs, including productivity costs. This review aimed to identify healthcare-specific point estimates for the cost of turnover, the factors that contribute to or mediate those costs, and the strengths and limitations of the current evidence base. The evidence review represents a critical starting point in helping Ontario healthcare employers understand and integrate the cost savings associated with offering a DB plan into their decision-making.

Our review identified relevant point estimates for the cost of turnover in healthcare and the factors that drive these costs, though several limitations in the existing research are worth noting. First, most of the existing research focuses solely on the cost of turnover for registered nurses, rather than healthcare workers more broadly. While many of these categories will be relevant to other skilled professionals in healthcare settings, further research is needed to generate a comprehensive understanding of the cost of turnover for other professionals. Second, most studies that provide estimates for the cost of turnover, used data from 2000-2010 and most of the studies are in the US system, with two in Canada. Last, our review did not identify any existing research, models, or calculators that directly quantify the impact of DB pensions on employer costs or productivity.

Despite these limitations, the existing research offers a reasonably reliable and consistent picture of the categories of costs generated by turnover. Our review identified 32 relevant cost categories, all of which contribute to the total cost of

¹ Munnell, A. H., Haverstick, K., & Sanzenbacher, G. (2006). Job tenure and pension coverage (Working paper no. 18). Center for Retirement Research at Boston College. <https://crr.bc.edu/working-papers/job-tenure-and-pension-coverage/>

² Ippolito, R. A. (1991). Encouraging long-term tenure: Wage tilt or pensions? *ILR Review*, 44(3), 520–535. <https://doi.org/10.1177/001979399104400308>

³ Common Wealth & Healthcare of Ontario Pension Plan. (2021). The value of a good pension: The business case for good workplace retirement plans.

turnover. These included direct costs (e.g., costs associated with recruiting, vacancy and hiring) and indirect costs (e.g., costs associated with orientation, productivity and termination). Across studies, vacancy costs (e.g. temporary staffing, overtime and reduced productivity costs) are significant direct cost drivers, accounting for 41–78% of total registered nurse (RN) turnover costs. Though much harder to quantify, indirect costs related to lost productivity, including the learning curve for new hires and pre-departure productivity decline, are also substantial. Estimates range from 13% to as much as 80% of total costs depending on the cost model and scope of analysis.

The six most relevant cost estimates identified in the existing research range from **approximately \$17,350 to \$120,250 CAD (2025 dollars) per RN departure**. The point estimates vary significantly across settings, time periods, and methodologies. Using these estimates, we project that **for a hospital employing 1,000 RNs, offering a DB plan that reduces turnover by 2 to 6 percentage points could save between \$0.8 million and \$4.7 million annually**. BIT considers the higher range of estimates as more likely to be accurate for the current Ontario context. This is because these figures come from more recent studies and those that use more comprehensive methodologies.

The evidence indicates that turnover reductions associated with DB plans can reduce employer costs. However, given the wide range and uncertainty of these estimates, developing Ontario-specific savings estimates would be valuable and will require further research and modelling.

Introduction

Previous research, including work by Common Wealth and HOOPP, has presented evidence that DB pension plans can improve talent attraction and retention, including within the healthcare sector.^{4,5,6} However, there is limited evidence quantifying the impact of DB pensions on retention and recruitment, and on the cost and productivity savings associated with this. Better evidence is needed to support healthcare employers in choosing pension plans that will contribute positively to recruitment and retention efforts.

This is particularly relevant in the current Ontario healthcare context. Workforce pressures continue to mount, and there are growing workforce shortages and retention challenges.

This evidence review explores the impact of staff turnover on employer costs and productivity in the healthcare sector. This research adds to the evidence base by identifying relevant, healthcare-specific point estimates for the cost of turnover, the factors that contribute to or mediate those cost savings, and the strengths and limitations of the current evidence.

The primary goal of this paper is to synthesize evidence on the costs of healthcare turnover and their implications for the business case for employers to offer DB pension plans. We present the findings in three sections:

- **Section 1** provides an assessment of the existing research and its limitations.
- **Section 2** examines the factors that contribute directly and indirectly to the costs of turnover (i.e., the benefits of enhanced recruitment and retention).
- **Section 3** reviews the available “point estimates” for the total cost of turnover per healthcare worker and models the potential savings of a DB pension plan for an Ontario healthcare employer.
- **Section 4** outlines future directions for how more precise, Ontario-specific cost estimates could be developed.

⁴ Munnell, A. H., Haverstick, K., & Sanzenbacher, G. (2006). Job tenure and pension coverage (Working Paper No. 18). Center for Retirement Research at Boston College. <https://crr.bc.edu/working-papers/job-tenure-and-pension-coverage/>

⁵ Ippolito, R. A. (1991). Encouraging long-term tenure: Wage tilt or pensions? *ILR Review*, 44(3), 520–535. <https://doi.org/10.1177/001979399104400308>

⁶ Common Wealth & Healthcare of Ontario Pension Plan. (2021). The value of a good pension: The business case for good workplace retirement plans.

Before presenting these findings, we first describe our research strategy and provide our overall assessment of the evidence base.

Research Strategy

We conducted a targeted evidence review of the evidence of the impact of staff turnover on employer costs and productivity in the healthcare sector. The review focused on three research questions:

1. What is the impact of reduced turnover (caused by offering a defined benefit pension plan) on employer costs, with a focus on Ontario healthcare employers?
2. What is the impact of reduced turnover (caused by offering a defined benefit pension plan) on productivity, with a focus on Ontario healthcare employers?
3. What are the strengths and limitations of the current evidence base in assessing the impact of defined benefit pensions on Ontario healthcare employer costs and turnover?

While reviewing the existing research, it became clear that productivity costs associated with turnover are generally included within estimates for the total cost of turnover. We subsequently combined research questions 1 and 2 in reporting our findings.

Academic databases were searched for relevant peer-reviewed research publications using a set of search terms that were iterated over the course of the review. Additional references were identified through manual searches of reference lists. Publications were reviewed for their relevance to the current project and entered into a database.

Targeted industry searches were also conducted to identify non-peer-reviewed sources, including industry publications, consultancy reports, and publicly available cost calculators. The review also conducted AI-assisted research using Elicit and Gemini Deep Research to identify additional sources, which were then manually reviewed.

Priority was given to research that:

1. Directly answered the research question(s) in a Canadian, or similar cultural context, such as other countries in The Organisation for Economic Co-operation and Development (OECD). In a small number of instances, high

quality evidence relevant to the research questions but from a different cultural context was also considered.

2. Were published after 2015. Due to limited evidence published within this timeframe we expanded inclusion to post-2000 studies.

1. The factors that contribute to the costs of turnover for healthcare employers?

Identifying the drivers of healthcare costs

While there is no single standardized approach to calculating turnover costs, prominently used methods like the Nursing Turnover Cost Calculation Methodology (NTCCM) and the RETAIN Framework have used administrative data and primary research (e.g., HR leader surveys) to identify common cost drivers with reasonable consistency.^{7,8,9,10}

Costs are generally categorized in one of the two ways:

1. **Direct and indirect costs.** Direct costs can be directly attributed to replacing a departing member of staff. They include recruitment, vacancy coverage, and hiring expenses. Indirect costs are the financial impacts that arise as a result of staff turnover. These include measurable costs, such as orientation and training, and costs which can be more hidden and harder to quantify, such as lost productivity and lower morale.^{11,12}
2. **Pre-hire and post-hire costs.** The updated version of the NTCCM reclassified Direct and Indirect costs as pre-hire and post-hire costs, to reflect the fact

⁷ Jones, C. B. (2004). The costs of nurse turnover: Part 1: An economic perspective. *Journal of Nursing Administration*, 34(12), 562–570. <https://doi.org/10.1097/00005110-200412000-00006>

⁸ Jones, C. B. (2005). The costs of nurse turnover: Part 2: Application of the Nursing Turnover Cost Calculation Methodology. *Journal of Nursing Administration*, 35(1), 41–49. <https://doi.org/10.1097/00005110-200501000-00014>

⁹ Jones, C. B. (2008). Revisiting nurse turnover costs: Adjusting for inflation. *Journal of Nursing Administration*, 38(1), 11–18. <https://doi.org/10.1097/01.NNA.0000295636.03216.6f>

¹⁰ Razmpour, O., Pappas, S., Lee, D. K. K., Mian, S., Bouvier, M., & Cimiotti, J. P. (2025). Advancing the calculation of nurse turnover costs: A methodological approach using the RETAIN Framework. *Nursing Outlook*, 73(6), 102517. <https://doi.org/10.1016/j.outlook.2025.102517>

¹¹ Jones, C. B. (2004). The costs of nurse turnover: Part 1: An economic perspective. *Journal of Nursing Administration*, 34(12), 562–570. <https://doi.org/10.1097/00005110-200412000-00006>

¹² Jones, C. B. (2005). The costs of nurse turnover: Part 2: Application of the Nursing Turnover Cost Calculation Methodology. *Journal of Nursing Administration*, 35(1), 41–49. <https://doi.org/10.1097/00005110-200501000-00014>

that direct and indirect costs can occur across both pre-hire and post-hire categories.¹³

This review identified 32 relevant cost categories across six functional areas: recruiting, vacancy, hiring, orientation, productivity, and termination, which are listed in Table 1.

As with much of the available research, the focus is on nursing staff specifically. However, these frameworks can be adapted for other healthcare professionals without too much being lost in translation. For example, the NTCCM has been adapted for emergency medical services.¹⁴

¹³ Li, Y., & Jones, C. B. (2013). A literature review of nursing turnover costs. *Journal of Nursing Management*, 21(3), 405–418. <https://doi.org/10.1111/j.1365-2834.2012.01411.x>

¹⁴ Patterson, P. D., Jones, C. B., Hubble, M. W., Carr, M., Weaver, M. D., Engberg, J., & Castle, N. (2010). The longitudinal study of turnover and the cost of turnover in emergency medical services. *Prehospital Emergency Care*, 14(2), 209–221. <https://doi.org/10.3109/10903120903564514>

Table 1: This evidence review identified 32 relevant cost categories (i.e., factors).

Direct costs			Indirect costs		
Recruiting	Vacancy	Hiring	Orientation	Productivity	Termination
1. Labour 2. Equipment 3. Advertising 4. Consultant costs 5. Recruitment programs 6. Labour and expense costs for outreach (e.g. career fairs) 7. Miscellaneous	1. Temporary staff (inc agency fees) 2. Overtime 3. Closed beds 4. Patient deferral 5. Reduced productivity costs for supervisors / coworkers 6. Additional staffing planning 7. Consultants 8. Miscellaneous	1. Labour (hiring) 2. Employment processing (e.g payroll) 3. Search firm costs 4. Bonuses 5. Miscellaneous	1. Labour (training) 2. Preceptor costs 3. Supply/ Equipment 4. Consultant costs 5. Miscellaneous	1. Reduced productivity prior to turnover for outgoing staff, supervisors and colleagues. 2. Reduced productivity from new staff during 'learning period' and supervisors and colleagues	1. Labour (exit interviews) 2. Severance and separation 3. Early retirement 4. Associated equipment 5. Miscellaneous

Despite consistently identifying common cost drivers, there is considerable variation between studies in both the overall cost of nurse turnover and the extent to which the individual cost categories contribute to that total cost.

However, there are some common findings, such as the cost categories that contribute most to the total cost of turnover and how turnover interacts with productivity.

Across the studies, vacancy costs were among the highest contributors to the total cost of turnover. Studies from the US and Canada found that vacancy costs accounted for between 41% and 78% of total RN turnover costs^{15,16,17}. The main drivers of high vacancy costs are temporary staff replacement costs and, in particular, the use of contract labour such as temporary staff and overtime costs for existing staff.

Most studies also used a methodological approach which acknowledged, and sought to quantify the impacts of the productivity losses associated with turnover. There are a number of productivity costs that contribute to the total cost of staff turnover and these are dispersed across multiple cost and performance mechanisms, including:

1. **Pre-turnover productivity loss.** Productivity of the departing staff member typically drops during the three-month period immediately preceding a resignation. Supervisors and peers also lose efficiency while managing the impending transition.^{18,19}
2. **Decreased initial productivity of new hires.** New employees operate at a deficit during their orientation and ramp-up period. This learning curve is a major driver of indirect turnover costs.²⁰ The cost is highly dependent on the experience level of the new hire: a new RN may take 14 weeks to reach 90% productivity, whereas an experienced new hire may reach that level in only 6

¹⁵ Lewin Group Inc. (2009). Evaluation of the Robert Wood Johnson Wisdom at Work: Retaining experienced nurses research initiative.

¹⁶ Jones, C. B. (2005). The costs of nurse turnover: Part 2: Application of the Nursing Turnover Cost Calculation Methodology. *Journal of Nursing Administration*, 35(1), 41–49. <https://doi.org/10.1097/00005110-200501000-00014>

¹⁷ Jones, C. B. (2008). Revisiting nurse turnover costs: Adjusting for inflation. *Journal of Nursing Administration*, 38(1), 11–18. <https://doi.org/10.1097/01.NNA.0000295636.03216.6f>

¹⁸ Jones, C. B. (2004). The costs of nurse turnover: Part 1: An economic perspective. *Journal of Nursing Administration*, 34(12), 562–570. <https://doi.org/10.1097/00005110-200412000-00006>

¹⁹ Jones, C. B. (2005). The costs of nurse turnover: Part 2: Application of the Nursing Turnover Cost Calculation Methodology. *Journal of Nursing Administration*, 35(1), 41–49. <https://doi.org/10.1097/00005110-200501000-00014>

²⁰ Jones, C. B. (2005). The costs of nurse turnover: Part 2: Application of the Nursing Turnover Cost Calculation Methodology. *Journal of Nursing Administration*, 35(1), 41–49. <https://doi.org/10.1097/00005110-200501000-00014>

weeks. The lost productivity during this ramp-up period has been estimated at \$1,000 to \$6,000 per nurse depending on experience.²¹

3. **Supervisor and coworker strain.** Experienced staff and managers are required to spend time on recruiting, interviewing, and orienting new arrivals. This can reduce their productivity on other tasks.
4. **Increased workload and burnout.** Turnover creates vacancies that require the remaining staff to work overtime and manage heavier workloads, leading to lower morale, deteriorated mental health, and presenteeism (being present but functioning sub-optimally). This can trigger a self-reinforcing cycle where burnout drives further turnover and further productivity loss.²² A 2022 survey of Canadian employers found that employee burnout (79%) and high turnover (77%) are currently the top concerns for employers, often feeding into one another.²³
5. **Operational delays and missed care.** Vacancies reduce an organization's capacity to treat patients. While a full examination of care quality outcomes falls outside the scope of this review, it is worth noting that high turnover adversely affects the coordination of care and is significantly correlated with increased likelihood of medical errors and adverse events. Beyond their clinical significance, these outcomes represent tangible rework and inefficiency, reinforcing the broader case that turnover carries substantial operational costs.^{24,25}

The impact of indirect costs - particularly those related to productivity - is difficult to measure precisely, and estimates vary significantly. Several studies found that indirect costs related to productivity losses drive a substantial share of total turnover

²¹ Jones, C. B. (2005). The costs of nurse turnover: Part 2: Application of the Nursing Turnover Cost Calculation Methodology. *Journal of Nursing Administration*, 35(1), 41–49.
<https://doi.org/10.1097/00005110-200501000-00014>

²² O'Brien-Pallas, L., Murphy, G. T., Shamian, J., Li, X., & Hayes, L. J. (2010). Impact and determinants of nurse turnover: A pan-Canadian study. *Journal of Nursing Management*, 18(8), 1073–1086.
<https://doi.org/10.1111/j.1365-2834.2010.01167.x>

²³ Angus Reid Group & Healthcare of Ontario Pension Plan. (2022). 2022 Canadian Employer Pension Survey.

²⁴ Jones, C. B. (2005). The costs of nurse turnover: Part 2: Application of the Nursing Turnover Cost Calculation Methodology. *Journal of Nursing Administration*, 35(1), 41–49.
<https://doi.org/10.1097/00005110-200501000-00014>

²⁵ O'Brien-Pallas, L., Murphy, G. T., Shamian, J., Li, X., & Hayes, L. J. (2010). Impact and determinants of nurse turnover: A pan-Canadian study. *Journal of Nursing Management*, 18(8), 1073–1086.
<https://doi.org/10.1111/j.1365-2834.2010.01167.x>

costs.^{26,27} Some studies, including those from Canada estimate that productivity losses account for 13-30%^{28,29,30} of total turnover costs, while others place the figure as high as 42-80%^{31,32}. This disparity likely reflects differences in methodology and the degree to which indirect costs are systematically captured. The lower end of this range derives from the revised NTCCM framework, which accounts for indirect costs associated with orientation, training, and productivity loss in a structured and transparent way. Given the comprehensiveness of this approach, these estimates may be a more reliable benchmark, suggesting that while productivity-related costs are meaningful, they may not be as dominant a driver of total turnover costs as some other studies imply.

²⁶ Duffield, C., Roche, M. A., Homer, C. S., Buchan, J., & Dimitrelis, S. (2014). A comparative review of nurse turnover rates and costs across countries. *Journal of Advanced Nursing*, 70(12), 2703–2712. <https://doi.org/10.1111/jan.12483>

²⁷ Waldman, J. D., Kelly, F., Arora, S., & Smith, H. L. (2004). The shocking cost of turnover in health care. *Health Care Management Review*, 29(1), 2–7. <https://doi.org/10.1097/00004010-200401000-00002>

²⁸ Jones, C. B. (2004). The costs of nurse turnover: Part 1: An economic perspective. *Journal of Nursing Administration*, 34(12), 562–570. <https://doi.org/10.1097/00005110-200412000-00006>

²⁹ Jones, C. B. (2005). The costs of nurse turnover: Part 2: Application of the Nursing Turnover Cost Calculation Methodology. *Journal of Nursing Administration*, 35(1), 41–49. <https://doi.org/10.1097/00005110-200501000-00014>

³⁰ Duffield, C., Roche, M. A., Homer, C. S., Buchan, J., & Dimitrelis, S. (2014). A comparative review of nurse turnover rates and costs across countries. *Journal of Advanced Nursing*, 70(12), 2703–2712. <https://doi.org/10.1111/jan.12483>

³¹ Waldman, J. D., Kelly, F., Arora, S., & Smith, H. L. (2004). The shocking cost of turnover in health care. *Health Care Management Review*, 29(1), 2–7. <https://doi.org/10.1097/00004010-200401000-00002>

³² Strachota, E., Normandin, P., O'Brien, N., Clary, M., & Krukow, B. (2003). Reasons registered nurses leave or change employment status. *Journal of Nursing Administration*, 33(2), 111–117. <https://doi.org/10.1097/00005110-200302000-00008>

2. The cost of turnover for healthcare employers

This evidence review identified six relevant estimates for the cost of staff turnover, drawn from both Canadian and US data. These estimates and the corresponding references can be found in table 2.

Despite some consistency in the types of categories included, these estimates vary considerably depending on the cost categories included, and the context in which the research was delivered. Estimates in the Canadian context (adjusted for inflation and provided in CAD) varied from \$17,350 CAD to \$40,304 CAD, which is significantly lower than those taken from US-based studies, which range from \$43,597 CAD to \$120,237 CAD.

The estimates produced by the Canadian studies may be conservative for several reasons. The \$17,350 CAD estimate was derived from a small retrospective pilot study which relied primarily on manager-reported survey data, with limited access to administrative financial databases. The larger Canadian estimate of \$40,304 CAD was produced in a study which used the NTCCM framework and drew on both survey and administrative data. It may still be conservative as later versions of the NTCCM have expanded in scope to incorporate broader vacancy, pre-turnover productivity, and early retirement costs.

The most recent US study (conducted in 2025), estimated the cost of turnover to be \$85,365 CAD, derived from self-reported survey data from a national sample of hospitals. While it captures direct labour budget impacts (e.g., overtime, salary adjustments, agency premiums), it may underestimate broader productivity losses emphasized in NTCCM-based models.

The studies by Jones, conducted 2004-2008, were among the highest estimates at \$111,277 - \$120,237 CAD. These were derived from administrative data and used the NTCCM framework, incorporating vacancy costs, pre-turnover productivity decline, and new-hire learning-curve losses. This is arguably a more comprehensive estimate, though due to the difficulties quantifying productivity costs, the study relied on modeled assumptions for some elements.

The estimate \$43,597 - \$58,444 CAD produced by Waldman et al in 2004, relied on administrative data and used a framework similar to the NTCCM. However, there are two significant limitations to the findings. First, the study defined turnover using the number of nurses that were newly employed within a year, not the number of nurses who left. Second, the study includes multiple health professions rather than just nursing. This may blur the distinction between workforce expansion and true attrition, reducing comparability with RN-specific separation-based models.

Finally, a 2003 study generated an estimate of \$87,250 - \$102,326 CAD, derived from an industry benchmarking report produced by the Advisory Board Company, a U.S.-based healthcare research and consulting firm that provides financial benchmarking services to hospitals. However, these findings are limited due a lack of transparency in the underlying methodology is not fully transparent or peer-reviewed.

Two of the studies, Waldman et al (2004) and Jones (2004, 2005 & 2008) also provided estimates as a proportion of salary in addition to the per nurse costs. This ranged from 0.7x - 1.3 x annual salary.

The six studies identified in this review produce a wide range of cost estimates, reflecting differences in geographic context, methodological approach, and the breadth of cost categories captured, making direct comparison difficult without careful attention to study design. However, when prioritizing estimates derived from stronger methodologies,³³ estimates tend to cluster toward the upper portion of the range. The Jones studies (2004, 2005 & 2008), which most fully meet these criteria, produced estimates of \$111,277–\$120,237 CAD, equivalent to approximately 1 - 1.3x annual salary. The 2025 US survey-based estimate of \$85,365 CAD offers a more recent but likely conservative benchmark, as it captures direct labour budget impacts without fully accounting for broader productivity losses. Taken together, the more methodologically rigorous and recent estimates suggest that the true cost of RN turnover is likely in the range of \$85,000–\$120,000 CAD per nurse, with lower estimates more reflective of partial costing approaches or data limitations than of lower actual costs

³³ Strong methods draw on administrative data and apply comprehensive costing frameworks such as the Nursing Turnover Cost Calculation Methodology (NTCCM), which account for vacancy costs, pre-turnover productivity decline, and new-hire learning curves.

Table 2: Relevant estimates for the cost of staff turnover, drawn from both Canadian and US data

Canadian data			
Citation	Turnover costs/salary	Turnover Cost per nurse	Considerations
Duffield et al. (2014) from O'Brien-Pallas et al., (2008)	NA	\$26,652 USD \$40,304 CAD (2025)	Derived from the original NTCCM framework and draws on both survey and administrative data. It may be conservative relative to later revisions that incorporate broader vacancy, pre-turnover productivity, and early retirement costs. Because the underlying data includes multiple nursing grades (RNs, LPNs/ENs, and nurse assistants), comparability to RN-specific analyses is limited.
O'Brien-Pallas et al., (2006)	NA	\$10,100 USD \$17,350 CAD (2025)	Derived from a small retrospective pilot study relying primarily on manager-reported survey data , with limited access to administrative financial databases. Challenges isolating cost components and the retrospective design introduce potential recall bias in productivity estimates.

United States data			
Citation	Turnover costs/salary	Turnover Cost per nurse	Considerations
NSI (2025)	NA	\$61,110 USD \$85,365 CAD (2025)	Derived from self-reported survey data from a national sample of hospitals. While it captures direct labour budget impacts (e.g., overtime, salary adjustments, agency premiums), it likely underestimates broader productivity losses emphasized in NTCCM-based models.
Jones (2004, 2005 & 2008)	1.2-1.3	\$62,100 - \$67,100 USD \$111,277 - \$120,237 CAD (2025)	Derived from administrative data . It is comparatively comprehensive , incorporating vacancy costs, pre-turnover productivity decline, and new-hire learning-curve losses, though some productivity elements rely on modeled assumptions.

United States data			
Citation	Turnover costs/salary	Cost per nurse	Considerations
Waldman et al. (2004), reported by Li & Jones (2013)	0.7-1.0	\$23,487 - \$31,486 USD \$43,597 - \$58,444 CAD (2025)	Derived from administrative data using an employment-phase framework similar to NTCCM. However, turnover is defined using new hires rather than separations and spans multiple health professions. This may blur the distinction between workforce expansion and true attrition, reducing comparability with RN-specific separation-based models.
Strachota et al. (2003) from Advisory Board Company, 2000	NA	\$42,000 - \$64,000 USD \$87,250 - \$102,326 CAD (2025)	Derived from an industry benchmarking report produced by the Advisory Board Company, a U.S.-based healthcare research and consulting firm that provides financial benchmarking services to hospitals. The underlying methodology is not fully transparent or peer-reviewed.

Estimating the retention-related cost savings of a DB pension plan

Using the available evidence, table 3 models the potential cost savings related to turnover reduction that an Ontario healthcare employer might generate through reduced turnover. The model is based on the following assumptions:

1. A staff of 1,000 RNs, reflecting a relatively large Ontario hospital;
2. Turnover cost estimates of either \$40,000 CAD or \$78,000 CAD per exit (the former reflecting the more reliable of the two Canadian studies; the latter reflecting a 1x salary estimate using salary data from the 2026 Ontario RN data from ZipRecruiter);
3. A baseline turnover rate of 20%, consistent with Canadian evidence^{34,35}; and a turnover rate reduction of 2 to 6 percentage points, reflecting the limited available evidence that DB plans reduce turnover by approximately 20–40%.^{36,37,38}

The results of the model suggest that turnover reductions associated with DB plans can reduce employer costs by \$0.8M CAD - \$4.7M CAD, depending on the cost of turnover per registered nurse and the extent to which offering a DB plan reduces the turnover. While the cost of turnover per registered nurse will differ depending on the employer, we estimate, based on the evidence included in this review, that current costs for Ontario healthcare employers' are likely to be closer to the higher estimate of \$78,000 CAD, if not more. This would suggest that turnover reductions associated with DB plans are likely to reduce employer costs by \$1.6M CAD (2pp reduction) - \$4.7M CAD (6pp reduction).

³⁴ O'Brien-Pallas, L., Murphy, G. T., Shamian, J., Li, X., & Hayes, L. J. (2010). Impact and determinants of nurse turnover: A pan-Canadian study. *Journal of Nursing Management*, 18(8), 1073–1086. <https://doi.org/10.1111/j.1365-2834.2010.01167.x>

³⁵ O'Brien-Pallas, L., Murphy, G. T., & Shamian, J. (2008). Understanding the costs and outcomes of nurses' turnover in Canadian hospitals (Nursing Turnover Study FRN 66350).

³⁶ Ippolito, R. A. (1991). Encouraging long-term tenure: Wage tilt or pensions? *ILR Review*, 44(3), 520–535. <https://doi.org/10.1177/001979399104400308>

³⁷ Munnell, A. H., Haverstick, K., & Sanzenbacher, G. (2006). *Job tenure and pension coverage* (Working paper no. 18). Center for Retirement Research at Boston College. <https://cr.bc.edu/working-papers/job-tenure-and-pension-coverage/>

³⁸ Dostie, B., & Morris, T. (2025). The labour market impacts of employer-pension plans (Working paper no. 18). <https://ire.hec.ca/en/18-the-labour-market-impacts-of-employer-pension-plans/>

Table 3: A model for the potential cost savings related to turnover reduction.

Turnover reduction (%)	# of fewer exits	Cost per exit (CAD)	Annual cost savings
2	20	\$40,000	\$0.8M
		\$78,000	\$1.6M
4	40	\$40,000	\$1.6M
		\$78,000	\$3.1M
6	60	\$40,000	\$2.4M
		\$78,000	\$4.7M

3. Our assessment of the existing research and key limitations

This section provides an overview of key gaps in the existing research, including inconsistency in the application of turnover calculation methodologies, the limited evidence within the Canadian context and the limited scope of the existing research (i.e. that it focuses largely on nurses rather than healthcare professionals more broadly).

Inconsistent application of turnover calculation methodologies

The existing research provides a reasonable and consistent indication of the direct and indirect costs - and the associated sub-categories - that contribute to the costs turnover for registered nurses. However, these variables have been defined,

measured, and applied inconsistently across studies.³⁹ As a result, the point estimates for overall turnover costs vary significantly.

Limited recent evidence within the Canadian context

Another reason for the inconsistency in the point estimates produced by existing studies is the variation in the context in which they were delivered. This includes both the location and type of healthcare settings (e.g. hospitals) and the year in which the data was collected. While we were able to identify and include two studies within the Canadian context, both were from studies conducted pre-2010. The review did not identify any recent studies that quantified the costs of turnover for healthcare professionals in Canadian settings. Section 4 outlines how future research could generate reliable Ontario-specific estimates for the cost of turnover.

Limited applicability to other healthcare professionals

The majority of the existing research focuses on the nursing profession, excluding other groups of healthcare workers such as technicians, administrative staff, and physiotherapists. While frameworks like the NTCCM have been adapted for other healthcare professionals, such as emergency medical services, there is a significant gap in the existing evidence for the cost of turnover for other healthcare professionals.

4. Future directions

This evidence review did not identify existing models, calculators or high quality evidence that Ontario healthcare employers can use to assess the cost savings that DB plans would generate through reduced turnover. Existing estimates are too old, too limited in scope (e.g., focused exclusively on nursing, or a single other profession within the healthcare context), and too imprecise to serve this purpose directly. However, the existing research does provide a clear set of cost factors associated with the turnover. This suggests the development of a model is a feasible and valuable focus for future research. Developing an accurate model would require researchers to:

³⁹ Li, Y., & Jones, C. B. (2013). A literature review of nursing turnover costs. *Journal of Nursing Management*, 21(3), 405–418. <https://doi.org/10.1111/j.1365-2834.2012.01411.x>

1. Create an initial model, based on the factors identified in this review and other existing research;
2. Populate it with high-quality publicly available data;
3. Work with employers to validate the cost categories, and then obtain representative data points for all missing variables.

This research could either focus on the development of a model that individual healthcare employers could use to generate their own specific cost savings estimates, or to generate a sectoral estimate for total cost savings, along with a number of specific employer-based scenarios.

For employers to understand the impact of reduced turnover *caused by offering a defined benefit pension* plan on their costs, further research - and specifically quantitative estimates - are also needed to understand how DB plans impact turnover rates. Existing research suggests that DB pension plans can improve talent attraction and retention, but most of the research is qualitative and insufficient for modelling.

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