

# Waiting for Long-Term Care in the GTA: Trends and Persistent Disparities

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## Executive Summary

For many older adults in the Greater Toronto Area (GTA), the wait for access to long-term care is intolerably long.

Improving access to long-term care is important for any Ontarian needing care at the right time and at the right place. What is equally important, however, is embedding equity into the roadmap to improve access to care for all Ontarians. If we want a long-term care system to provide equitable access to care, it is critical to understand whether there are any disparities in accessing care in the current system.

This report describes disparities in long-term care wait times across the Greater Toronto Area (GTA), using administrative data from the Ministry of Health and Long-Term Care (MOHLTC) from 2012/2013 to 2017/2018. This study explores whether wait times vary by region, age, gender, language, residence type, and client's level of care needs, and whether any existing disparities have changed over time.

### Key findings include that:

- From 2012/13 to 2017/18, the median wait time for long-term care in the GTA was increased by 35 days, compared to 13 days in Ontario.
- While median wait times were not substantially different between male and female residents, wait times varied widely by all other reviewed factors including age, region, residence type before placement, first language, and priority category.
- In 2017/18, the median wait time for those waiting for a religious, ethnic, or cultural home was 246 days longer than those waiting for a mainstream home, with the same level of needs.
- People who reported neither English nor French as their first language waited longer than those whose first language was English or French, and this has been consistent from 2012 to 2017.
- Among the 20 long-term care homes with the longest median wait times, twelve of these homes were ethno-specific or religious homes.
- A gradual increase was found in wait times among those waiting in hospital. A dramatic step-up was also found in wait times for long-term care residents waiting for a bed in another home.
- The growth in wait times was more heavily concentrated in the City of Toronto, compared to the surrounding areas of the GTA.

The results in this report demonstrate that the current long-term care system has serious inequities in waiting for care.

Systemic improvement will therefore require a focus on equity, to ensure that all older adults have timely access to care. In reforming our healthcare system, it is crucial to recognize the existing disparities in wait times, better understand the source of these inequities, and address existing access barriers through improving data collection and producing a concrete, effective strategy to reach underserved groups. Importantly, with the growing diversity in older population, advancing health and well-being of all Ontarians requires significant work towards improving timely, fair access to culturally appropriate care in the long-term care system.

## Introduction

For older adults seeking placement in long-term care homes in Ontario, the wait is typically a long one. In the 1st Interim Report from the Premier's Council on Improving Healthcare and Ending Hallway Medicine<sup>1</sup>, long wait times were featured as one of the key challenges facing Ontario's health care system. The report also showed that there are significant disparities in accessing long-term care depending on where you live in Ontario. The median wait time in the province varies from 68 days for the long-term care homes in Erie St Clair Local Health Integration Network (LHIN) to 263 days for those in Central East LHIN.<sup>2</sup> Yet, beyond regional disparities, the public reporting system does not provide much data on what other factors lead to long wait times.

In the midst of the COVID-19 pandemic, which badly hit the long-term care sector and resulted in high death tolls among residents and staff, the Ontario government has promised to improve the province's long-term care system. In July 2020, new measures were introduced, such as Accelerated Build Pilot Program, in order to help expedite building new long-term care beds across the province. The Minister of Long-Term Care described this as "a key step towards repairing the cracks in our long-term care system, addressing our growing waitlist, building healthier communities, and ending hallway health care."<sup>3</sup>

Improving access to long-term care is important for any Ontarian needing care at the right time and at the right place. What is equally important, however, is embedding equity into the roadmap to improve access to care. If we want a renewed long-term care system to provide equitable access to care, it is critical to understand whether there are any disparities in accessing long-term care in the current system.

This report describes disparities in the long-term care wait time across the Greater Toronto Area (GTA). Based on the analyses of the Ministry of Health and Long-Term Care's administrative data for long-term care admissions, this study explores whether wait times vary by various factors - not only by regions but also by age, gender, language, facility type, and client's level of care needs. The report also examines whether these disparities have changed over time.

The findings presented in this report provide clear evidence showing that in the current long-term care system, some groups of people experience more barriers than others to accessing long-term care in a timely manner. This report also discusses the implications of wait times for health and health equity among people waiting for care and potential opportunities for the health care system to address existing barriers to have timely access to long-term care.

In brief, we find the following:

- People who report neither English nor French as their first language tended to wait longer for access to care.
- Those already waiting in retirement homes or other long-term care homes waited longer for access to care, compared to those waiting elsewhere.
- Persons who are waiting for a religious, ethnic, or cultural home had very long median wait times, and more than half of the top 20 homes with the longest wait times are ethno-specific or religious homes.
- We also note stability as well as change: those already in LTC homes consistently waited the longest for placement, as did people waiting for culturally-specific homes
- If present trends continue, the area occupied by the Toronto Central LHIN will soon become the region with the longest wait times.

The system has serious inequities in waiting for care – the wait can be just a few days for some but more than three years for others before entering a home. Systemic improvement will therefore require a focus on equity, to ensure that all older adults have timely access to care.

## Methods

The data for this study came from the Modernized Client Profile Database (MCPD), an administrative dataset collected and housed at the Ministry of Health and Long-Term Care. We received record-level data from the Ministry on wait times before placement for all residents admitted to one of the long-term care homes in five LHINs across the GTA between fiscal year 2012/13 and 2017/2018. The total number of placements for this time period was 56,341. The five LHINs included in this study are: Central LHIN, Central West LHIN, Central East LHIN, Toronto Central LHIN, and Mississauga Halton LHIN. As of 2017/2018, long-term care homes in these five LHINs covered approximately 41 per cent of all long-term care admissions in Ontario, according to the number of placements recorded in the MCPD database.

The MCPD contains information on all clients who are placed or waiting to be placed in a long-term care home. It is collected by the Health Shared Services Ontario from the 14 LHINs and submitted to the Ministry of Health and Long-Term Care on a monthly basis. The database records information on clients' choices for long-term care homes, decisions made on their application and admission, clients' socio-demographic data and results of their assessments on physical, cognitive, and social functional status.

The list of the MCPD variables was reviewed and a set of socio-demographic and clinical variables was selected for the purpose of this explorative study. Included variables are: age, gender, primary language, location of the admitted long-term care home, residence type before placement, and placement priority category code.

The priority code is assigned to each applicant for long-term care followed by formal assessment from their local LHIN, and has the following levels<sup>4</sup>:

- Category 1: People who need immediate admission to long-term care and cannot have their needs met at home, or who are in hospital, when hospital is in crisis. People in long-term care home that is closing within 12 weeks.
- Category 2: People who need to be reunified with their spouses/partners who are currently residing in a long-term care home.
- Category 3A: People waiting for a home serving those of a particular religion, ethnic origin or culture. Includes people who have high care needs but still can be supported at home, those in hospital waiting for long-term care, or those already in a long-term care home seeking transfer to another home.
- Category 3B: People waiting for a home serving those of a particular religion, ethnic origin or culture. Includes people with care needs who are currently managing at home with supports.
- Category 4A: People who have high care needs, but still can be supported at home. Also includes people waiting in hospital for long-term care, and people seeking transfer from one long-term care home to another.
- Category 4B: People with care needs who are currently managing at home with supports.

Two phases of data analyses were conducted. With the most recent dataset from 2017/2018, extensive descriptive data analysis was conducted to examine the profile of long-term care residents in the five LHINs by the selected socio-demographic and clinical variables. In addition, frequencies and cross-tabulations were used to compare median wait times across different population groups. In the second phase, overall changes in median wait times was examined with the whole dataset from 2012/13 to 2017/2018. The result of descriptive analysis of the wait time changes in the five-LHIN-level data was compared with the Ontario-level data. Regression analysis was then employed to predict median wait times over time from 2012/13 to 2017/2018, controlling for all factors listed above, to test whether time trends were different across ages, genders, LHINs, languages, locations before placements, and priority codes. This analysis also allows an examination of how disparities in wait times have changed over time.

## Findings

### Who are the newly-placed residents in Long-Term Care?

Within the five GTA LHINs, 200 facilities are operating 29,942 long-stay beds in total.<sup>5</sup> In the most recent financial year (from April 2017 to March 2018), long-term care homes across the five GTA LHINs welcomed 9,255 individuals as their new residents. Table 1 provides a summary of some of the characteristics of newly admitted long-term care residents in the GTA. Overall:

- Newly admitted residents are predominantly female and over 75 years old.
- Nearly one in five new residents reported non-official languages as their primary language.
- Most newly admitted residents were also either in category 1 (with urgent care needs) or in category 4A (with high care needs, not waiting for a religious/cultural/ethno-specific home).
- There were 630 new residents, however, who had high care needs and waited for a religious/cultural/ethno-specific home (category 3A).
- While over 42 per cent of residents waited from home, nearly 20 per cent waited from hospital and another 19 per cent waited from retirement home.
- About 12 per cent of new residents were transferred from another long-term care home.

**Table 1:** Characteristics of Newly Admitted Long-Term Care Residents and Median Wait Time in the GTA

		2017-18 Placement		
		Count	%	Median Wait Time (in days)
<b>TOTAL</b>		<b>9255</b>	<b>100.0</b>	<b>223</b>
Sex	Female	5995	64.8	225
	Male	3260	35.2	221
Age	Under 65	364	3.9	209
	65 to 74	836	9.0	209
	75 to 84	2497	27.0	201
	85 to 94	4487	48.5	232
	95 and above	1071	11.6	259
LHIN	Central West	1156	12.5	140
	Mississauga Halton	1265	13.7	189
	Toronto Central	1600	17.3	250
	Central	2093	22.6	206
	Central East	3141	33.9	282
Residence Type before Placement	Hospital	1823	19.7	171
	LTC Home	1086	11.7	419
	Private Dwelling	3945	42.6	202
	Retirement Home	1714	18.5	248
	Other types*	687	7.4	265
First Language	English	3813	41.2	247
	French	31	0.3	208
	Other	1835	19.8	262
	No response	3576	38.6	197
Priority Category	1	3553	38.4	166
	2	352	3.8	167
	3A	630	6.8	503
	3B	19	0.2	326
	4A	4548	49.1	257
	4B	139	1.5	139
	Other**	14	0.2	244

\*Other types of residence include assisted living residence, cluster care residence, group home, homeless, out of country, out of province, residential hospice, and supportive housing unit.

\*\*Other priority categories included those recorded as EX, NR, READ, and 2.1 in the dataset.

Source: Modernized Client Profile Database, data received from the Ministry

## Wait Time Disparities

### By population groups: who waits longer?

The wait times for long-term care placement varied widely across different population groups as well as the five geographic regions. Table 1 presents median wait times for long-term care placement across different population groups and LHIN regions. While the median wait time was not much different between male and female residents, the wait time varied widely by all other reviewed factors including age, LHIN, residence type before placement, first language, and priority category.

**Older age was observed as associated with a longer wait time.** Overall, older residents, 85 years or older, waited longer than younger residents. Residents 95 years or older as a group had 50 days longer median wait time compared to those in under 65 years old or 65 to 74 years categories.

**Resident's first language had an impact on how long they waited for placement.** People who reported neither English nor French as their first language experienced the longest median wait time for placement. Those who reported French as their first language as a group experienced a shorter median wait time than those who reported English as their first language. While the group with no response showed the shortest wait time, our dataset offers no information about who this group might be.

**Wait times varied widely across LHINs.** The median wait time for long-term care residents in Central East LHIN was more than double (282 days) than the wait time for those in Central West LHIN (140 days). Toronto Central LHIN has the second longest wait time (250 days) across the five LHINs.

**Wait times varied depending on where people were waiting.** While people are waiting for care, they can be in a variety of settings (e.g., home, hospital, retirement home, and another long-term care home). People who waited from hospital had the shortest median wait time (171 days) compared to all other groups waited from other places. Those who waited from private homes had about 30 days longer median wait time than those waited from hospital, but their wait was shorter than those who waited from retirement homes, transitional facilities or other long-term care home.

**The wait time varied widely by priority category.** Overall, the median wait time was shorter for those who were designated as having urgent needs (category 1) and those who waited for spousal/partner reunification (category 2) than for most of those who were classified as having less urgent needs (3A, 3B, and 4A). However, while the number is small, we found that the group with the shortest median wait time was those classified as 4B - having lower needs and not waiting for a home serving those of a particular religion, ethnic origin or culture. We also found that waiting for a religious, ethnic, or cultural home was associated with much longer wait time. While the 3A and 4A categories represent the same level of needs (high care needs but still can be supported at home), the median wait time for the 3A group – those waiting for a religious, ethnic, or cultural home - was 246 days longer than that for the 4A group – those waiting for a mainstream home.

### By Facility: which homes have longer wait time?

The wait times for long-term care placement also varied widely across long-term care homes. Table 3 presents 20 long-term care homes with the longest median wait times across the GTA. **The median wait time for 2017/2018 among these homes vary from 516 days to 1,568 days.**

Most homes on this list are located in either the Central East LHIN or Toronto Central LHIN boundaries, and **many homes on very top of the list had approximately three years or more median wait time.**

The table also presents the wait time data based on the 90th per centile wait time. This refers to the wait time experienced by 90 per cent of residents admitted to a specific home in a given year. **For the 20 homes on this list, it took from 965 to 3,517 days until 90 per cent of clients were placed in 2017/2018.**

**Twelve out of 20 homes on the list are ethno-specific or religious homes.** These homes on the top 20 list serve diverse ethnocultural groups including Chinese, Finnish, Korean, and Ukrainian, as well as religious groups including Christian, Catholic, and Jewish. Among them, it is noticeable that the homes serving Chinese-Canadian residents, including four Yee Hong Centres and two Mon Sheong Long-Term Care Centres in various locations, are experiencing particularly longer wait times – about two to four years of median wait time and five to nine years of 90th per centile wait time.

**Table 2: Top 20 Long-Term Care Homes with the Longest Wait Time (2017/2018)**

	Facility Name	LHIN	Type	50% (median)	90%
1	Yee Hong Centre - Scarborough McNicoll	Central East	Ethnic: Chinese	1568	2478
2	Yee Hong Centre - Scarborough Finch	Central East	Ethnic: Chinese	1329	3252
3	Mon Sheong Scarborough Long Term Care Centre	Central East	Ethnic: Chinese	1214	3517
4	Mon Sheong Richmond Hill Long Term Care Centre	Central	Ethnic: Chinese	1137	1887
5	Yee Hong Centre - Markham	Central	Ethnic: Chinese and South Asian	947	2857
6	Chester Village	Toronto Central		714	1660
7	Yee Hong Centre - Mississauga	Mississauga Halton	Ethnic: Chinese	706	1735
8	Union Villa	Central		663	1368
9	Suomi-Koti Toronto Nursing Home	Toronto Central	Ethnic: Finnish	650	965
10	Rose of Sharon Korean Long Term Care	Toronto Central	Ethnic: Korean	619	1887
11	Belmont House	Toronto Central	Religious: Christian	597	1720
12	Winbourne Park	Central East		570	2129
13	Isabel and Arthur Meighen Manor	Toronto Central		561	973
14	Kensington Gardens (THE)	Toronto Central		561	1174
15	Ukrainian Canadian Care Centre	Central	Ethnic: Ukrainian	540	1081
16	Providence Healthcare	Toronto Central	Religious: Catholic	531	1045
17	Village of Taunton Mills	Central East		524	1743
18	Chartwell Wynfield LTC Residence	Central East		520	1427
19	Fairview Lodge	Central East		520	1475
20	Baycrest	Toronto Central	Religious: Jewish	516	1604

Note: Excluded homes that are beyond the GTA boundary

Source: Modernized Client Profile Database, data received from the Ministry

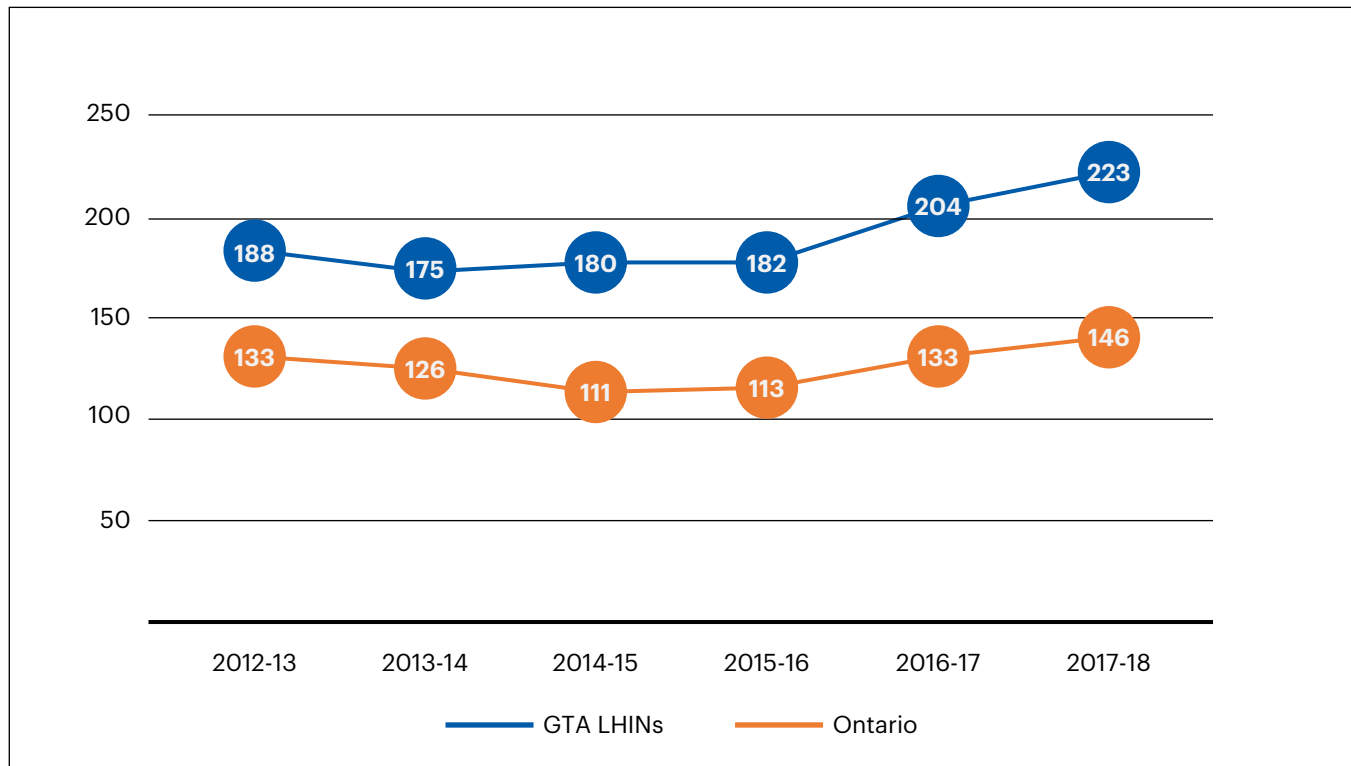


## Overall Wait Time Trend

The median wait time for Ontario has increased by almost two weeks (13 days) from 2012/13 to 2017/2018, while the number of placements per year has also increased from 20,930 to 22,375 over the five-year period.

Overall, residents in the GTA wait longer for placement than Ontario residents as a whole. The current median wait time for the GTA LHINs, 223 days in 2017/2018, is 77 days longer than for all Ontario LHINs. The wait time for the GTA LHINs has increased by 35 days over the last five years, at a more rapid rate than the increase across the province (Figure 1).

**Figure 1:** Change in Median Wait Time over Time from 2012/13 to 2017/2018



Source: Modernized Client Profile Database, data received from the Ministry

While the province has seen a slight increase in the number of placements over time, the MCPD data show a different story for the GTA: the number of total placements in the five GTA LHINs has declined from 10,131 in 2012/13 to 9,162 in the following year and remained at a similar level over the next four years. In 2017/2018, 9,255 placements were made in the GTA LHINs. While the number of placements stayed low, the waitlists for long-term care placement have grown rapidly across the five GTA LHINs: **the number of people on the waitlist reached 16,869 as of March 2018, a 36 per cent increase from March 2015.**<sup>5</sup>

## Median Wait Time Change Over Time: Findings from Regression Models

Regression analysis was used to describe median wait times from 2012/13 to 2017/2018, controlling for all factors included in our analysis. Note that there were no differences in wait time by age or gender. Those who spoke a language other than English or French waited significantly longer than those who spoke English or French as their first language, but this gap did not change over time, staying at about a median difference of 20 days longer.

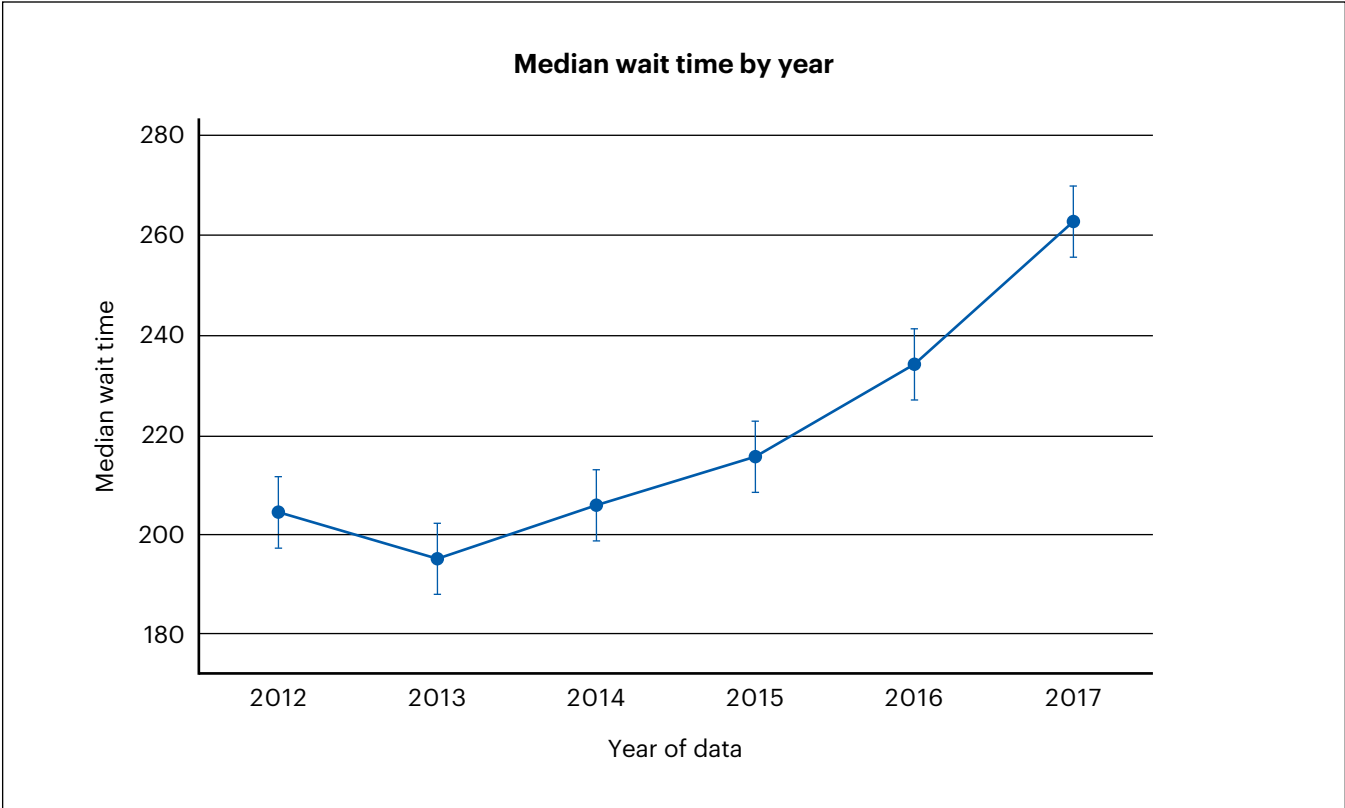
The next set of figures show results from our regression analyses. Note that these values were estimated from the model (see Appendix A for detailed methods and Appendix B for detailed results for quantile regression models).

**Overall changes in wait time.** Figure 2 shows the overall change in median wait time, starting in 2012/13, and up to the most recent year of data, 2017/2018. Although wait times dipped slightly from 2012/13 to 2013/14, since then there has been a steady increase with no signs of slowing. **By 2017/2018, median wait times are about 58 days longer than in 2012/13.** Again, note that this controls for gender, LHIN, priority category, age, and location before placement, meaning that regardless of any changes in the composition of placed individuals over time (e.g. changes in age breakdown, etc.), median wait times have still increased dramatically.

**Changes in wait times by LHIN.** Figure 3 separates the time trajectories in wait times by each LHIN. The Toronto Central LHIN shows the greatest increase over time, with Central West, Central, and Mississauga Halton remaining relatively stable. The Central East LHIN trends slowly upwards. **The growth in wait times is more heavily concentrated in the City of Toronto, rather than the surrounding areas.** Comparing the relative position of each LHIN to 2012/13, wait times in the Toronto Central LHIN surpasses every other LHIN except for Central East to become the region with the second-longest median wait time. If present trends continue, it is on track to supersede the Central East LHIN as well.

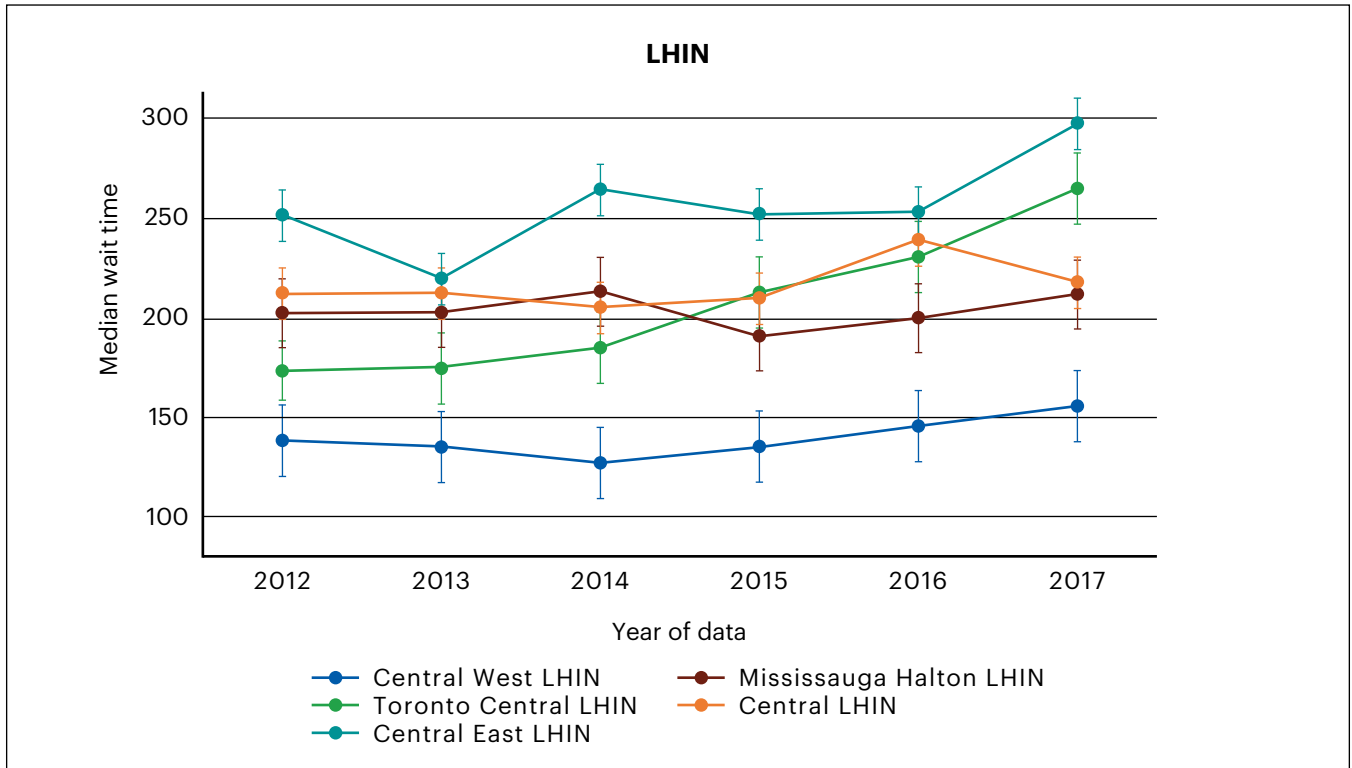
**Changes in wait time, based on where people are waiting.** Figure 4 presents that those waited from hospitals have been trending steadily upwards in their wait times, closing the gap with other locations. ‘Other’ locations and retirement homes show a somewhat curvilinear pattern, dipping in the middle of the time series before rising again. Only those in private dwellings show no real time trend. **Those who live in LTC homes before being placed in another LTC have consistently waited the longest for placement,** with a sharp increase in 2014/15 before plateauing up to the most recent year of data collection. **The picture here is therefore of a gradual increase in wait times among those waiting in hospital (at least at time of placement), and a dramatic step-up in wait times for those already in long-term care homes.**

**Figure 2 - Median wait times over time, five GTA LHINs, from 2012/13 to 2017/2018, from regression models**



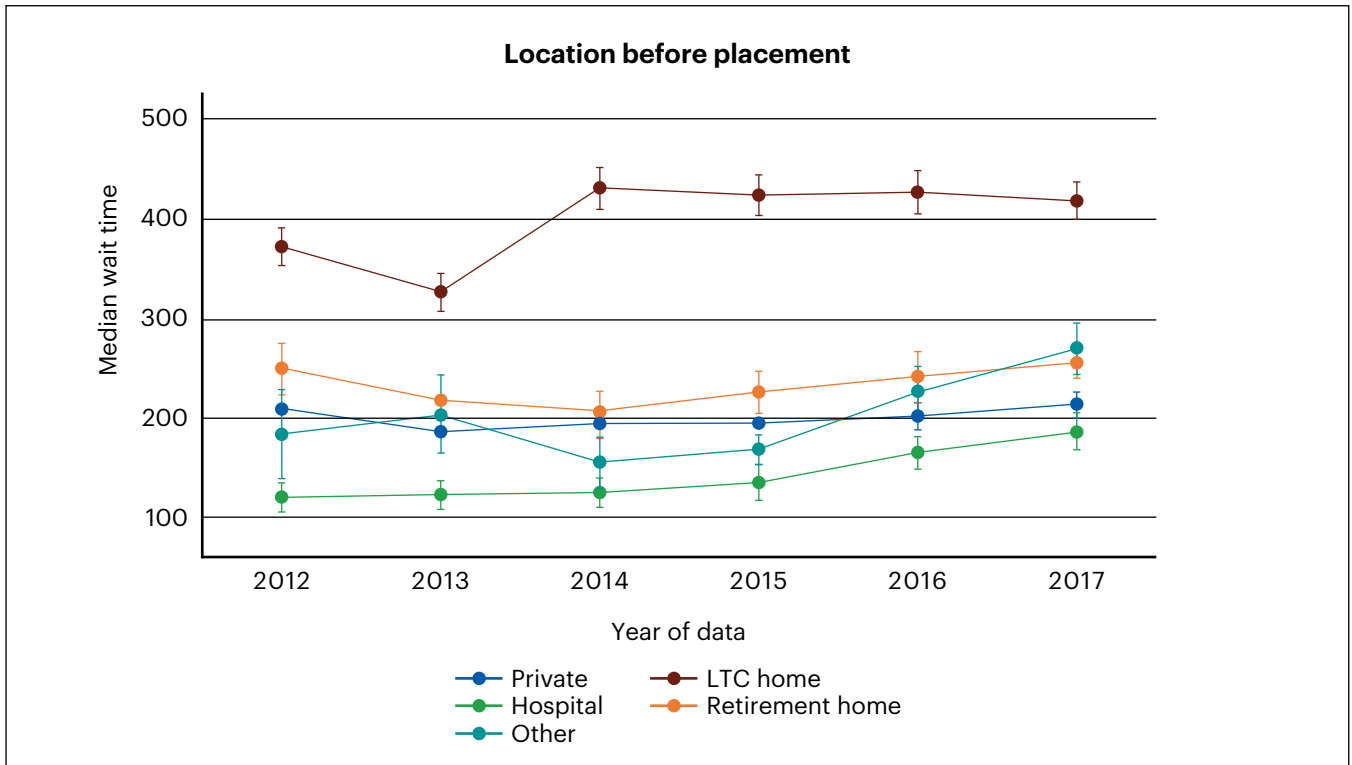
Source: Modernized Client Profile Database, data received from the Ministry

**Figure 3 - Median wait times over time, five GTA LHINs, from 2012/13 to 2017/2018, by LHIN, from regression models**



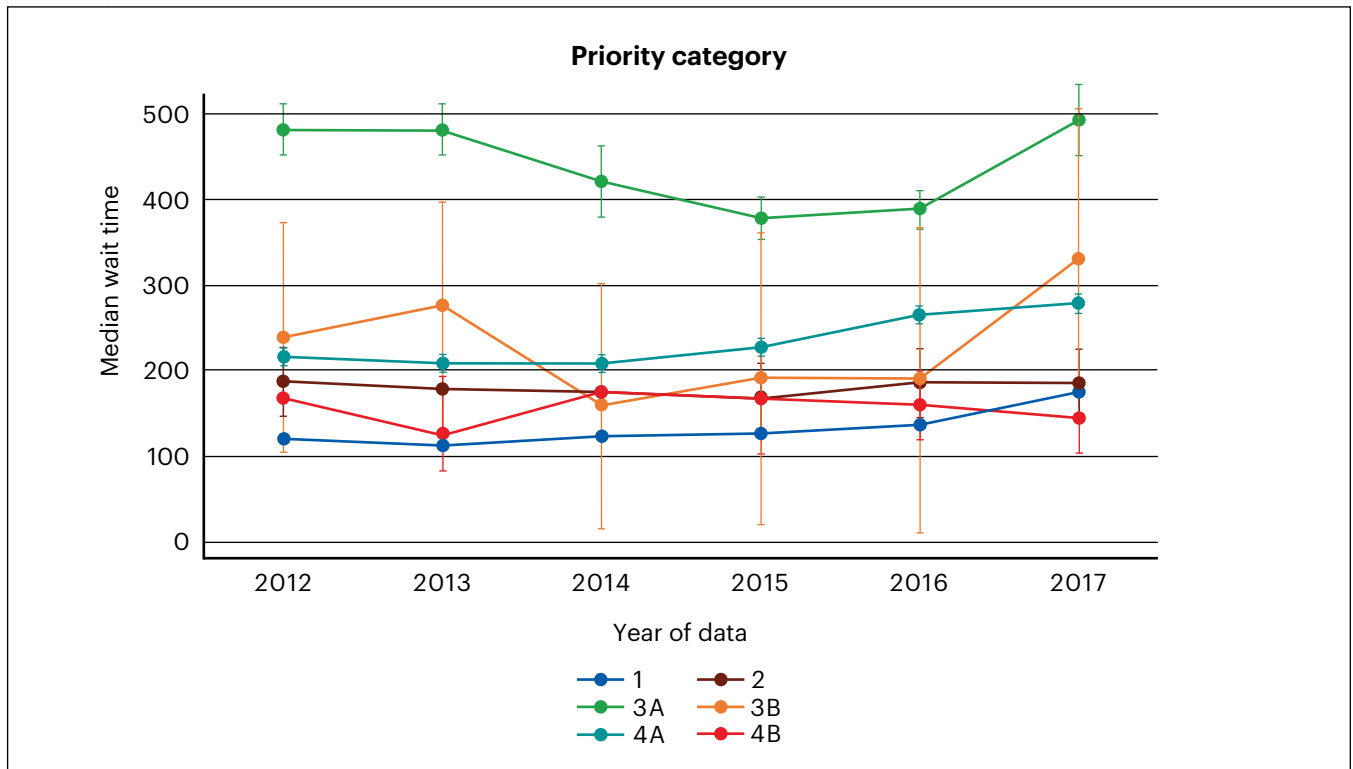
Source: Modernized Client Profile Database, data received from the Ministry

**Figure 4 - Median wait times over time, five GTA LHINs, from 2012/13 to 2017/2018, by location before placement, from regression models**



Source: Modernized Client Profile Database, data received from the Ministry

**Figure 5 - Median wait times over time, five GTA LHINs, from 2012/13 to 2017/2018, by priority category, from regression models**



Source: Modernized Client Profile Database, data received from the Ministry

**Changes in wait time by priority categories.** Finally, Figure 5 shows wait times over time by priority category. Category 3A (i.e. high-needs people waiting for culturally-specific care) has consistently been the group with the longest wait times. Note the contrast between this and 4A, which represents people at the same level of need, but without the requirement for culturally-specific care. Wait times for 4B have remained relatively steady and low, while wait times for category 1, the highest priority, have risen slightly. **Those waiting for a religious, ethnic, or cultural home have therefore consistently waited the longest, and there has been very little change.**

## Discussion

Significant disparities exist in wait times for long-term care placement in the GTA. Findings from descriptive analyses on wait times by region and residence type prior to placement are consistent with what has been reported by the Health Quality Ontario' annual long-term care performance reports. Building on the existing work, however, this study provides new insights into some of other important factors that contribute to the wait time disparities, for example primary language and priority categories. Further, over-time regression analyses allowed this study to highlight persistent disparities by various individual factors, including primary language, residence type prior to placement, region, and priority categories, when controlling for all other factors.

The results from our regression analysis provide a clear message: as wait times for long-term care placement have increased over time, this increase has not been felt evenly across population groups or areas across the GTA. Although gaps have not widened or narrowed by gender, age, or language (when controlling for other characteristics of those who were placed), our findings from the regression analysis on the median wait time by residence type prior to placement, LHIN, and priority code provide important implications for future system planning.

Our descriptive data show disparities in wait times across different language groups: the median wait time for placement was the longest for those whose first language is neither English nor French. However, as noted earlier, this dataset has a very high non-response rate for the language data. The no-response group had the shortest wait time – shorter than those whose first language was English or French. With no information about who makes up this group, we cannot offer a full picture on the impact of language on wait times.

We should therefore work to improve future data collection in the long-term care system. In the current administrative datasets for long-term care clients, first language is the only variable that captures information about client's ethnocultural and linguistic backgrounds. The Modernized Client Profile Database does not ask any other demographic questions such as immigration status or ethnic/racial backgrounds, which are routinely collected from hospital patients in Toronto. Within the Toronto Central LHIN, while hospitals are asking such information through their standardized patient-level demographic data collection, long-term care homes are excluded from this initiative. Collecting additional demographic information about long-term care clients will help the system better understand who they are serving and promote system-level approaches to improve services for diverse ethnocultural and linguistic groups who may experience access barriers.

Those on long-term care waitlists are waiting from various places, such as hospitals, homes, retirement homes, another long-term care home, or others. While the wait time for people in hospitals has been consistently much shorter than for people living in the community (i.e. the non-institutionalized population), people in hospitals still must wait a median of 5.5 months before being placed, and this is alarming. According to Cancer Care Ontario,<sup>6</sup> 59 per cent of cumulative Alternative Level of Care (ALC) days in hospitals are currently attributed to those waiting to be discharged to long-term care homes. Further, the results from over-time regression analysis highlight that the wait times for those in hospitals have seen a noteworthy increase over time, when controlling all other factors. If current trends continue, the increasing demand for long-term care will likely increase the number of ALC days, and accordingly greater pressure on our health care system.

The results also show that, while the GTA LHINs overall have experienced longer wait times than the province, the five LHINs across the GTA have shown vastly different wait time experiences. In the most current year, the median wait for long-term care placement ranged from 140 days in Central West to 282 days in Central East LHIN. The LHINs experiencing higher wait times tend to be more densely populated with a larger number of older adults 75 plus (e.g., approximately 130,000 in Central East versus 50,000 in Central West LHIN according to data from OLTCA, 2018). The number of people on the waitlist, as of June 2018, ranged from 921 individuals in Central West LHIN to 6,649 in Central East LHIN.<sup>5</sup> Such vast regional disparities in long-term care wait times require immediate actions from the government. In reforming health care, the new model for Ontario's healthcare system should establish a concrete, effective strategy for each Ontario Health Team to accurately understand the healthcare needs of local populations, to address existing access barriers for underserved groups, and to provide a more timely, equitable access to long-term care.

Furthermore, our regression results show that the Toronto Central LHIN has seen particularly dramatic increases compared to other four LHINs. There may be various factors contributing to the rapid increase in wait times within the City of Toronto, compared to surrounding regions. A recent report by Ontario Health Coalition suggests that the longer wait times in the most densely populated areas, in part, reflect the extremely long waitlists for ethno-cultural homes in these urban areas. Our review of the information on the LHIN Dashboards prepared by Ontario Long-Term Care Association<sup>5</sup> found that the LHINs with longer wait times have higher volume of individuals with 3A and 3B category codes (those waiting for a religious, ethnic, or cultural home) on their waitlist: the share of 3A and 3B groups was, as of June 2018, 47 per cent for Toronto Central, 28 per cent for Central East, 17 per cent for Central, 7 per cent for Mississauga Halton, and 2 per cent for the Central West LHIN.

As shown on the list of twenty long-term care homes with the longest wait times, older adults waiting for homes that accommodate their culture and/or religion can wait for up to several years to receive placement in their preferred homes. Although some changes have happened for people in other categories, none have surpassed the wait times for those waiting for culturally-specific placement. This reflects the high demand for culturally appropriate care for the GTA's older population with diverse ethnic, linguistic, cultural, and religious backgrounds. As our population is aging and becoming more diverse ethnoculturally and linguistically, the need for culturally appropriate long-term care will continue to rise. Therefore it is critical that we invest more in care for diverse seniors in the GTA.

## Limitations

Although the data provide detailed information on where disparities in wait times exist in the GTA, there are several limitations to this study. First of all, this study is based on the data recorded as part of the intake process. They refer to characteristics at time of placement, rather than time at the start of the resident's application for long-term care or during the course of her/his wait. Thus, this study could not capture the impact of individuals' health or other status changes on their wait time.

Second, as mentioned earlier, the language data had a high non-response rate, limiting this study's ability to analyze and present more accurate results on the impact of language on the long-term care wait time. Since the language data were grouped into three major categories, the analysis could not be taken to examine differences across non-official-language groups. Also, the language data collected by the Modernized Client Profile Database only captures resident's primary language spoken at home on a regular basis. It does not provide information on resident's proficiency level in official languages.

Lastly, the data provided by the Ministry of Health and Long-Term Care do not offer information on long-term care applicants who died while waiting for long-term care. It may be that although the number of people placed each year has remained relatively stable, the rate at which people die while waiting for care has increased. If so, estimates of wait times would be biased downwards by those who waited so long that they died while waiting. Future work should seek data linkages that allow researchers to incorporate information on mortality while waiting for long-term care.

## Conclusion

Waiting for a long-term care home is a very different experience for different people. People who are older, do not speak an official language, who are already in a care home, or who are waiting for culturally-specific care – they can all expect to wait longer than those who are not in these groups. Geography plays a key role in wait times as well, and people living within the boundaries of the central LHIN have seen their wait times dramatically increase. We can do better, and must, for everyone in the city, and especially for people who are waiting the longest for care.

Delayed admission to a long-term care home can lead to adverse health outcomes for people waiting for care as well as their caregivers.<sup>2</sup> Data from the 2011/12 fiscal year, presented in the Office of the Auditor General of Ontario's annual report,<sup>8</sup> show that 15 per cent of Ontario clients died before receiving long-term care home accommodation. Our findings suggest that it is highly likely that the number of people dying while waiting for placement has increased in recent years given the longer waitlists and wait times, particularly in areas like the GTA experiencing high demand for long-term care. The significant disparities in wait times, as presented in this report, indicate that some population groups and areas within the GTA experience the impact of waiting for long-term care more heavily than others across the region.

The results in this report should draw the attention of those hoping to improve the healthcare system to ensure better service and better health outcomes for older Ontarians. Timely access to the right care is so important for the health and well-being of older adults and their family caregivers. In reforming our healthcare system, it is crucial to recognize the existing disparities in wait times, particularly regional disparities, and better understand the source of these inequities. Importantly, with the growing diversity in older population, advancing health and well-being of all Ontarians requires significant work towards improving timely, fair access to culturally appropriate care in the long-term care system.

## Appendix A: Detailed methods for regression Analysis

In order to investigate changes in wait times, we used quantile regression. Quantile regression differs from ordinary linear regression because instead of finding the conditional mean, quantile regression finds a conditional per centile (in our case, the median). The model is fit by minimizing least absolute deviations from the regression line, as opposed to the conventional least squares criterion. Quantile regression is an appropriate technique when the distribution of the outcome variable (more specifically its residual errors) is highly non-normal. Because medians are a more robust measure of central tendency, quantile regression therefore provides an estimate of how wait times are changing, without our estimates being distorted by the skewness of the data or highly-influential outlying values (i.e. persons who waited an unusually long time). Quantile regression is also often used in the analysis of wait times, further recommending it for use in this study.

Differences in time trends were tested by interacting time with each other predictor in the regression models (age, gender, LHIN, priority code, location before placement, and language). Then, F-tests of interaction terms were conducted to check whether there was at least one significant interaction between year of data collection and other factors (conventional log-likelihood ratio tests comparing nested models were not possible with this regression technique). We then visualized differences in time trends, with 95 per cent confidence intervals. All analyses were carried out in Stata version 15; quantile regressions were computed with the command `'qreg,'` and predicted probabilities were visualized with Stata's suite of `'margins'` commands. Predicted probabilities were calculated using average adjusted predictions, that is, without setting other variables in the regressions to specific values (e.g. their mean, median, or mode).



## Appendix B: Detailed results

**Table B1.** Quantile regression analyses predicting median wait times

	Model 1: 2017	Model 2: All years
<b>Year (Ref. = 2012)</b>		
2013		-7.57
2014		2.48
2015		13.20*
2016		31.20***
2017		57.96***
<b>Gender (Ref. = Female)</b>		
Male	13.40	0.22
Else		-80.41
<b>Age (Ref. = Less than 65)</b>		
65 to 74	-26.00	-18.41
75 to 84	-36.40	-21.20*
85 to 94	-24.00	-14.41
95 and above	-3.00	-12.85
<b>LHIN (Ref. = LHIN 9)</b>		
LHIN 5	-136.60***	-107.30***
LHIN 6	-70.40***	-28.24***
LHIN 7	-45.40***	-48.80***
LHIN 8	-64.80***	-31.80***
<b>Location before placement (Ref.=home)</b>		
LTC	164.20***	155.87***
Hospital	-70.40***	-89.22***
Retirement home	38.60**	23.59***
Other	36.40*	-4.50
<b>Priority category (Ref. = Priority 1)</b>		
Priority 2	-8.80	36.48***
Priority 3A	286.80***	280.80***
Priority 3B	133.20	87.61**
Priority 4A	84.80***	92.20***
Priority 4B	-53.20	-17.35
All else	6.40	425.33***
<b>Language (Ref. = English)</b>		
Any French	-7.40	-28.00
Else	-8.40	19.52***
Missing	-54.20***	-44.28***
<b>Constant</b>	262.20***	179.02***
<b>N</b>	<b>9254</b>	<b>56205</b>

Note: \* p<.05; \*\* p<.01; \*\*\* p<.001

**Table B2.** Interactions between LHIN and year

<b>Year (Ref. = 2012)</b>		<b>Age (Ref. = Less than 65)</b>	
2013	-31.94**	65 to 74	-20.34*
2014	8.19	75 to 84	-23.47**
2015	10.22	85 to 94	-17.06*
2016	20.22*	95 and above	-5.94
2017	79.59***		
<b>Interactions between LHIN and year</b>		<b>LHIN (Ref. = LHIN 9)</b>	
<b>LHIN 5</b>		LHIN 5	-100.94***
2013	21.88	LHIN 6	-22.41
2014	-13.16	LHIN 7	-60.25***
2015	1.66	LHIN 8	-34.31***
2016	-2.75		
2017	-47.25**	<b>Location before placement (Ref.=home)</b>	
		LTC	154.44***
<b>LHIN 6</b>		Hospital	-90.41***
2013	35.94*	Retirement home	23.84***
2014	1.44	Other	-6.00
2015	-10.81		
2016	-9.53	<b>Priority category (Ref. = Priority 1)</b>	
2017	-53.81**	Priority 2	35.75***
		Priority 3A	278.56***
<b>LHIN 7</b>		Priority 3B	87.81**
2013	21.66	Priority 4A	92.63***
2014	-6.75	Priority 4B	-18.53
2015	20.38	All else	425.22***
2016	31.09		
2017	4.47	<b>Language (Ref. = English)</b>	
<b>LHIN 8</b>		Any French	-25.5
2013	23.13	Else	19.19***
2014	-10.66	Missing	-43.81***
2015	1.47		
2016	31.09*	<b>Constant</b>	182.06***
2017	-38.50**		
Male	0.00	<b>N</b>	56205
Else	-86.88		

Note: \* p<.05; \*\* p<.01; \*\*\* p<.001

**Table B3.** Interactions between gender and year

<b>Year (Ref. = 2012)</b>		<b>LHIN (Ref. = LHIN 9)</b>	
2013	-9.92	LHIN 5	-106.33***
2014	4.42	LHIN 6	-28.00***
2015	9.08	LHIN 7	-48.67***
2016	30.17***	LHIN 8	-31.33***
2017	51.08***		
<b>Interactions between gender and year</b>		<b>Location before placement (Ref.=home)</b>	
<b>Male</b>		LTC	156.25***
2013	4.58	Hospital	-89.17***
2014	-6.92	Retirement home	24.58***
2015	9.75	Other	-4.33
2016	0.92		
2017	19.67	<b>Priority category (Ref. = Priority 1)</b>	
<b>'Else' gender</b>		Priority 2	35.75***
2013	-123.17	Priority 3A	282.50***
2014	0.00	Priority 3B	73.42*
2015	0.00	Priority 4A	92.33***
2016	0.00	Priority 4B	-16.33
2017	0.00	All else	431.75***
Male	-2.75	<b>Language (Ref. = English)</b>	
Else	-77.33	Any French	-30.33
		Else	19.33***
<b>Age (Ref. = Less than 65)</b>		Missing	-44.25***
65 to 74	-17.25	<b>Constant</b>	178.42***
75 to 84	-19.50*		
85 to 94	-13.17	<b>N</b>	56205
95 and above	-10.58		

Note: \* p<.05; \*\* p<.01; \*\*\* p<.001

**Table B4.** Interactions between age and year

<b>Year (Ref. = 2012)</b>		<b>Age (Ref. = Less than 65)</b>	
2013	-5.57	65 to 74	-14.35
2014	-4.57	75 to 84	-14.22
2015	31.08	85 to 94	-6.42
2016	62.43*	95 and above	11.05
2017	81.43**		
		<b>LHIN (Ref. = LHIN 9)</b>	
<b>Interactions between age and year</b>		LHIN 5	-109.75***
<b>65 to 74</b>		LHIN 6	-31.07***
2013	17.05	LHIN 7	-48.65***
2014	11.7	LHIN 8	-31.60***
2015	-22.45		
2016	-20.3	<b>Location before placement (Ref.=home)</b>	
2017	-17.05	LTC	157.65***
		Hospital	-88.40***
<b>75 to 84</b>		Retirement home	24.70***
2013	15.4	Other	-4.75
2014	8.42		
2015	-17.3	<b>Priority category (Ref. = Priority 1)</b>	
2016	-33.28	Priority 2	34.85***
2017	-32.58	Priority 3A	281.53***
		Priority 3B	87.00**
<b>85 to 94</b>		Priority 4A	91.50***
2013	3.42	Priority 4B	-18.48
2014	8.52	All else	422.08***
2015	-19.05		
2016	-34.68	<b>Language (Ref. = English)</b>	
2017	-27.23	Any French	-28.00
		Else	18.55***
<b>95 and above</b>		Missing	-44.35***
2013	-24.2		
2014	-16.3	<b>Constant</b>	172.32***
2015	-24.95		
2016	-42.4	<b>N</b>	56205
2017	-18.98		
<b>Gender (Ref. = Female)</b>			
Male	0.15		
Else	-72.35		

Note: \* p<.05; \*\* p<.01; \*\*\* p<.001

**Table B5.** Interactions between priority category and year

<b>Year (Ref. = 2012)</b>		<b>All else</b>	
2013	-5.18	2013	127.65
2014	18.59	2014	336.26***
2015	20.15	2015	-96.94
2016	27.94*	2016	526.35***
2017	62.53***	2017	-240.5
<b>Interactions between priority category and year</b>		<b>Gender (Ref. = Female)</b>	
<b>Priority 2</b>		Male	1.44
2013	-0.35	Else	-80.85
2014	-29.88	<b>Age (Ref. = Less than 65)</b>	
2015	-30.18	65 to 74	-22.85*
2016	-29.53	75 to 84	-24.76**
2017	-56.56	85 to 94	-17.41*
<b>Priority 3A</b>		95 and above	-16.82
2013	0.21	<b>LHIN (Ref. = LHIN 9)</b>	
2014	-73.71**	LHIN 5	-105.74***
2015	-127.56***	LHIN 6	-25.29***
2016	-115.62***	LHIN 7	-48.71***
2017	-45.74	LHIN 8	-31.18***
<b>Priority 3B</b>		<b>Location before placement (Ref.=home)</b>	
2013	13.44	LTC	157.06***
2014	-82.03	Hospital	-88.79***
2015	-79.85	Retirement home	23.38***
2016	-53.15	Other	-3.68
2017	46.18	<b>Priority category (Ref. = Priority 1)</b>	
<b>Priority 4A</b>		Priority 2	56.79**
2013	-1.62	Priority 3A	343.21***
2014	-22.5	Priority 3B	106.85
2015	-1.18	Priority 4A	94.24***
2016	17.09	Priority 4B	-7.15
2017	3.85	All else	231.18**
<b>Priority 4B</b>		<b>Language (Ref. = English)</b>	
2013	-15.09	Any French	-28.5
2014	11.62	Else	17.71***
2015	-4.85	Missing	-45.68***
2016	-4.65	<b>Constant</b>	176.56***
2017	-47.62	<b>N</b>	56205

Note: \* p<.05; \*\* p<.01; \*\*\* p<.001

**Table B6.** Interactions between language and year

<b>Year (Ref. = 2012)</b>		<b>LHIN (Ref. = LHIN 9)</b>	
2013	-10.14	LHIN 5	-106.29***
2014	3.29	LHIN 6	-28.57***
2015	15.43	LHIN 7	-49.14***
2016	26.57***	LHIN 8	-31.57***
2017	66.29***		
<b>Interactions between language and year</b>		<b>Location before placement (Ref.=home)</b>	
<b>Any French</b>		LTC	155.86***
2013	-70.43	Hospital	-89.86***
2014	-69.43	Retirement home	24.00***
2015	-53.29	Other	-5.29
2016	-117.71		
2017	-66.29	<b>Priority category (Ref. = Priority 1)</b>	
<b>Else</b>		Priority 2	36.71***
2013	-9.00	Priority 3A	281.71***
2014	-5.14	Priority 3B	75.00*
2015	-14.00	Priority 4A	92.71***
2016	4.57	Priority 4B	-17.29
2017	-38.86*	All else	421.86***
<b>Missing</b>		<b>Language (Ref. = English)</b>	
2013	10.57	Any French	44.43
2014	0.29	Else	28.14**
2015	-0.29	Missing	-47.86***
2016	10.43		
2017	-4.71	<b>Constant</b>	179.29***
<b>Gender (Ref. = Female)</b>		<b>N</b>	56205
Male	0.57		
Else	-78.29		
<b>Age (Ref. = Less than 65)</b>			
65 to 74	-18.57		
75 to 84	-22.29*		
85 to 94	-15.14		
95 and above	-13.71		

Note: \* p<.05; \*\* p<.01; \*\*\* p<.001

**Table B7.** Interactions between location before placement and year

<b>Year (Ref. = 2012)</b>		<b>Gender (Ref. = Female)</b>	
2013	-9.80	Male	0.00
2014	4.20	Else	-56.8
2015	8.20		
2016	19.80*	<b>Age (Ref. = Less than 65)</b>	
2017	39.00***	65 to 74	-20.60*
		75 to 84	-24.60**
<b>Interactions between location before placement and year</b>		85 to 94	-16.80*
		95 and above	-15.2
<b>LTC</b>		<b>LHIN (Ref. = LHIN 9)</b>	
2013	-26.6	LHIN 5	-107.00***
2014	41.00*	LHIN 6	-27.40***
2015	40.80*	LHIN 7	-48.60***
2016	46.80**	LHIN 8	-32.00***
2017	29.2		
<b>Hospital</b>		<b>Location before placement (Ref.=home)</b>	
2013	8.8	LTC	138.20***
2014	0.8	Hospital	-100.40***
2015	8.4	Retirement home	32.60*
2016	22.6	Other	-0.60
2017	39.40**		
<b>Retirement home</b>		<b>Priority category (Ref. = Priority 1)</b>	
2013	-9.00	Priority 2	33.20***
2014	-27.2	Priority 3A	281.80***
2015	-2.4	Priority 3B	83.20**
2016	-8.8	Priority 4A	92.40***
2017	4.00	Priority 4B	-17.00
		All else	404.40***
<b>Other</b>		<b>Language (Ref. = English)</b>	
2013	19.8	Any French	-30.00
2014	-43.00	Else	19.60***
2015	-28.2	Missing	-44.80***
2016	9.6		
2017	39.00	<b>Constant</b>	187.00***
		<b>N</b>	56205

Note: \* p<.05; \*\* p<.01; \*\*\* p<.001

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