# Study of Aged Populations and Access to French-Language Long-Term-Care in Ontario

2024-12-19

Christopher Belanger[1], Patrick Timony[2], Normand Glaude[3], Louise Bouchard[1]

1. University of Ottawa
2. Centre for Rural and Northern Health Research – Laurentian University
3. Réseau des services de santé en français de l'Est de l'Ontario

*Please cite this report as:*

Belanger, C., Timony, P., Glaude, N., Bouchard, L. (2024). *Study of Aged Populations and Access to French-Language Long-Term-Care in Ontario*. University of Ottawa.

# Introduction

This report provides an analysis of the demand for and supply of French-language services (FLS) in Long-Term Care (LTC) in Ontario. Using both public data and administrative data supplied by the Ontario Ministry of Health ("the Ministry")[1], we examined 1) regional levels of demand for FLS (measured in terms of regional populations of all Ontarians aged 65+, and Ontarians aged 65+ with French as their First Official Language Spoken (FOLS)) and 2) supply of FLS (measured by both the number and type of LTC homes in each region, and the French-language abilities of their staff).

Our three main conclusions are:

- **The level of FLS at LTC homes varies greatly across the province.**
- **There are regional pockets of access to LTC homes providing FLS as well as regions where older Francophones' care needs cannot be met.**
- **Enhancements to provincial data collection tools are urgently needed to inform future investments and policymaking in the provision of FLS in Ontario LTC homes.**

This report outlines our methods and findings in more detail, and closes with suggestions for future analyses and data collection.

## Study Setting and Context

This study takes place in Ontario, Canada's most populous province and home to the largest representation of Francophones living outside of Quebec. The French Language Services Act (FLSA) guarantees the right to receive FLS from provincial government ministries and agencies in 27 designated areas (Ontario Ministry of Health 2024a). However, organizations that are either fully or partially funded by the province and provide services to the public, such as hospitals and LTC homes are not automatically subject to the FLSA.

While the Ministry has been clear that all health service providers (HSPs) in Ontario may contribute to the provision of FLS, it is also recognized that different HSPs have different capacities to contribute (Ontario Ministry of Health 2017, 13–14). As such, HSPs are classified as one of three levels of designation under the FLSA. We provide a summary of these designation levels here, and refer the reader to the FLSA, the Ministry of Health's website, and the Ministry's Guide to Requirements and Obligations Relating to French Language Health Services for details (Ontario Ministry of Health 2024b, 2017).

[1] Access to the data was obtained through a CIHR research grant entitled "Les ainés francophones de l'Ontario : conditions de vie, états de santé et expériences des soins en contexte minoritaire" (Bouchard L. et al. Grant # 178125, 2021-2025).

- **Designated organizations** meet the highest level of FLS requirements, and are considered fully able to provide FLS to their community. Designated organizations are required to meet formal service standards for the provision of FLS in accordance with the FLSA, including "active offer." Organizations can also be "partially designated" if regulations stipulate that designation applies only to some of its services, or that some of its services are excluded from designation.
- **Identified organizations** are assigned by the regional French-language health planning entities (FLHPEs) based on the prevalence of francophones in their patient population and the absence of local complimentary FLS to meet their needs. Identified organizations are responsible for offering FLS to the extent of their capacity, and are obligated to develop a FLS plan and work towards full designation.
- **Non-identified organizations** have not been identified by the French Language Health Planning Entities as potential FLS provider, have made no/limited steps towards becoming designated and have no legal requirements to offer FLS, but are still required to develop and implement a plan to address the needs of the local Francophone community, including the provision of information about local health services available in French.

HSPs are required to report to the Ministry on specific FLS-related issues depending on their level of designation, but all HSPs are required to collect and submit FLHS data in accordance Section 22 of the Local Health System Integration Act (LHSIA) (Ontario Ministry of Health 2017, 14).

We ran our analyses for two sets of regions: first, using the geographical boundaries of Ontario's FLHPEs; and second, using the boundaries of the former Local Health Integration Networks (LHINs). Although the LHINs no longer formally exist, their boundaries are still used to subdivide the FLHPEs and closely match the boundaries of the Ontario Health Regions, which could be the subject of subsequent work, if so desired.

# Methods

## Data sources

Data for this study was collected from the following sources:

- Agency information, including names, designation status, long-term care provider status, and staff language ability, was provided by the Ministry of Health through a prior data request.
- Addresses and initial latitude/longitude coordinates for each agency were provided by our research partners: Le Réseau des services de santé en français de l'Est de l'Ontario (addresses) and Official Languages Branch, Canadian Heritage (geocoding).
- New latitude and longitude values for addresses were obtained from Google's commercial geocoding service (details below) (Google 2023).

- Geographic boundary information for LHINs was obtained from Statistics Canada (Statistics Canada 2018).
- Links between LHINs and FLHPEs were obtained from the Ministry of Health's public website (Ontario Ministry of Health 2024b).
- Population counts broken down by age and First Official Language Spoken at the census subdivision (CSD) level were calculated using Statistics Canada Table 98100170 (Statistics Canada 2023).
    - In this study we looked specifically at the population of individuals aged 65 years and older.
    - We defined "French-speaking" populations as those with French as their First Official Language Spoken (FOLS).

## Data Processing

### Re-geocoding data

All n=650 provided addresses were re-geocoded using Google's commercial geocoding service, which takes a human-readable address (e.g. "123 Main St., Ottawa, ON") and converts it to a set of latitude and longitude (lat/lon) coordinates. The new lat/lon coordinates were compared with those included in the initial data set, and it was found that while in most cases the differences were small, there were some cases where the new and old locations were dozens or hundreds of kilometres apart. All addresses with a difference of >499 metres between the new and old geocoded locations were reviewed manually, and the coordinate that most closely matched the address was selected. Street addresses were not verified for accuracy.

Less than 1% of LTC agencies had missing addresses, and latitudes and longitudes were obtained for these using Google Maps.

### Filtering for French-language Services

Because our focus is on access to French-language services at LTC homes, we took each LTC location's designation status under the FLSA into account. For our analysis of LTC homes we used all status, namely "Designated," "Identified," and "Non-Identified." However, many (n=250) non-Identified agencies did not provide language ability data for their staff, making it impossible to tell whether they had no staff with French-speaking abilities. As a result, our analysis of LTC staff includes only LTC locations that were "Designated" or "Identified."

### Identifying LTC Staff French-Language Ability

Our Ministry data source provided counts for each Identified or Designated agency of the number of staff with the following French-language ability levels: Advanced-to-superior; intermediate; elementary; and undetermined. This data provided only raw staff counts, without distinguishing between job titles or whether roles were patient-facing or not. In this

study we defined staff with advanced-to-superior and intermediate French-language skills as able to provide French-language services.

### Linking Agency Staff with Locations

Staff language information was provided for each agency, but many agencies have more than one location. Because location-level staff information was not available, we apportioned staff across agency locations using the following method.

First, we linked each address to its region (either LHIN or FLHPE), and then apportioned staff based on the ratios of their regions' numbers of French-speaking Ontarians aged 65+. In the absence of other information, we assumed that staff are apportioned in the same ratio as the French-speaking "demand" population. For example, if an agency had three locations, one in each in three regions, with corresponding populations of one Francophone, one Francophone, and two Francophones, then those regions would receive 25%, 25%, and 50% of the French-speaking staff respectively. Final apportioned staff values were rounded and adjusted to ensure that rounding errors would not add or reduce total staff counts.

### Accounting for Competition with the General Public

At several points in our results, we report ratios of French-language service providers to the full population, rather than only to the Francophone population. In brief, because Designated homes are open to anyone, not just Francophones, we believe that using the full population as a denominator better reflects the actual level of access for Francophones in a region. Reporting ratios of FLS providers-to-Francophones presents an ideal scenario where FLS providers only serve Francophones, but since Francophones are a minority community and must compete with the rest of the population for access to FLS, these ratios will greatly over-estimate their true level of access to language-concordant care.

### Analytical Software and Hardware

All analysis was performed using the R Language for Statistical Computing (R Core Team 2024) on a Dell R720 server.

## Results

### Distribution of LTC Homes

As an initial step we examined the province-wide distribution of LTC homes, counting the number and type of homes in each FLHPE (Table 1).

*Table 1: Number of LTC homes in each FLHPE by designated status.*

| Entity (Regions Served) | Designated | Identified | Non-Identified |
|---|---|---|---|
| 1 (Érie St. Clair; South West) | 0 | 9 | 112 |
| 2 (Hamilton, Niagara, Haldimand, Brant; Waterloo, Wellington) | 1 | 3 | 120 |
| 3 (Toronto Central; Mississauga Halton; Central West) | 0 | 4 | 89 |
| 4 (Central East; Central; North Simcoe Muskoka) | 0 | 2 | 141 |
| Réseau des services de santé en français de l'est de l'Ontario (Champlain; South East) | 18 | 8 | 81 |
| Réseau du mieux-être francophone du nord de l'Ontario | 12 | 29 | 27 |

As can be clearly seen, the vast majority of homes are Non-Identified, and Designated homes are almost completely concentrated in the eastern and northern regions of the province. Identified homes are also most common in the east and north, but also exist across each FLHPE.

## Distribution of Francophone Elders and LTC Homes

Next, we examined the province-wide distribution of older Francophones and Long-Term Care homes. Figure 1 shows, at the level of census sub-divisions, the proportion of the population aged 65 or more with French as their First Official Language Spoken, and the location and type of Long-Term Care homes. Note that population counts were not available for several regions (e.g. First Nations reserves), and these are excluded from the analysis and marked as "NA" in the plot.

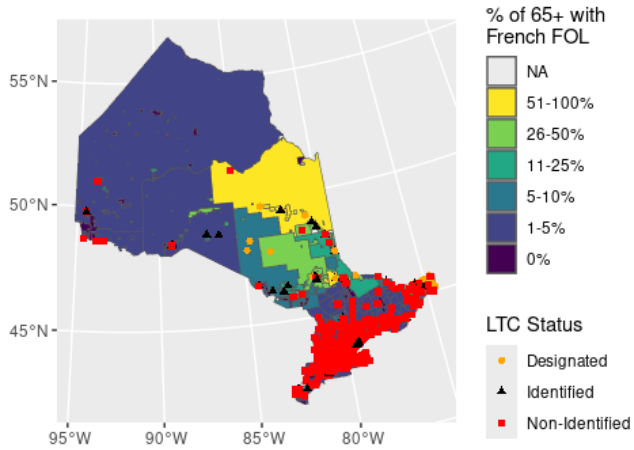


*Figure 1: For each of Ontario's census subdivisions, the percentage of the population aged 65+ who have French as their First Official Language Spoken, and the location and type of Long-Term Care Homes.*

Several observations can be made from Figure 1. First, the majority of LTC homes in Ontario are Non-Identified (red squares) and are located in the South. Second, those that are Designated (black triangles) or Identified (orange circles) tend to be clustered in Eastern Ontario and scattered across the North, particularly the North East, with limited locations in the Greater Toronto Area and the South West.

The distribution of older Francophones is also noteworthy. While they are a definite minority in most of the province, there are pockets of greater representation across the Province, and even regions where they comprise a majority or near-majority, for example in the east near Ottawa and in the North East near Sudbury.

## Results at the Entity Level

### *Entity-Level LTC Homes*

First we consider entity-level statistics for the number of homes per 100,000 population aged 65 and over (Table 2). Note that here we have used the total population of Ontarians aged 65 and over.

*Table 2: Supply of LTC homes, segmented by designation status, for each FLHPE per 100,000 total population aged 65+ (i.e. including Francophones and the general population).*

| Entity (Regions Served) | # Total LTC Homes per 100,000 Age 65+ Population | # Designated LTC Homes per 100,000 Age 65+ Population | # Identified LTC Homes per 100,000 Age 65+ Population | # Non-Identified LTC Homes per 100,000 Age 65+ Population |
|---|---|---|---|---|
| 1 (Érie St. Clair; South West) | 34.4 | 0.0 | 2.6 | 31.9 |
| 2 (Hamilton, Niagara, Haldimand, Brant; Waterloo, Wellington) | 30.1 | 0.2 | 0.7 | 29.2 |
| 3 (Toronto Central; Mississauga Halton; Central West) | 12.6 | 0.0 | 0.5 | 12.1 |
| 4 (Central East; Central; North Simcoe Muskoka) | 27.9 | 0.0 | 0.4 | 27.5 |
| Réseau des services de santé en français de l'est de l'Ontario (Champlain; South East) | 28.9 | 4.9 | 2.2 | 21.9 |
| Réseau du mieux-être francophone du nord de l'Ontario | 39.8 | 7.0 | 17.0 | 15.8 |

### *Entity-Level French-Speaking LTC HR*

Next we consider entity-level ratios of French-speaking LTC staff both to older Francophones and to the total population aged 65+. We can see a large level of disparity in access levels between different entities. But even within entities, there is a large difference between the ratio of French-speaking LTC staff to older French-speakers and the ratio of French-speaking TLC staff to all older Ontarians.

*Table 3: Supply of French-speaking LTC staff for each FLHPE per 1,000 population aged 65+, for both Francophones and the total population.*

| Entity (Regions Served) | # Population Age 65+ FOLS French | # Population Age 65+ Total | # French - Speaking LTC HR | # LTC French-Speaking HR per 1,000 Age 65+ French FOLS | # LTC French-Speaking HR per 1,000 Age 65+ Total |
|---|---|---|---|---|---|
| 1 (Érie St. Clair; South West) | 7,770 | 351,245 | 45 | 5.8 | 0.1 |
| 2 (Hamilton, Niagara, Haldimand, Brant; Waterloo, Wellington) | 8,560 | 411,615 | 74 | 8.6 | 0.2 |
| 3 (Toronto Central; Mississauga Halton; Central West) | 9,190 | 736,255 | 0 | 0.0 | 0.0 |
| 4 (Central East; Central; North Simcoe Muskoka) | 7,740 | 512,470 | 55 | 7.1 | 0.1 |
| Réseau des services de santé en français de l'est de l'Ontario (Champlain; South East) | 52,170 | 369,620 | 1,253 | 24.0 | 3.4 |
| Réseau du mieux-être francophone du nord de l'Ontario | 30,340 | 171,060 | 850 | 28.0 | 5.0 |

## Results at the LHIN Level

### *LHIN-Level LTC Homes*

This section presents an analysis of LTC homes at the level of the former LHINs. We can see that the situation is similar as in the entity level. However, this more granular approach further highlights inter-regional disparities, with ten LHINs having no designated LTC homes at all (Table 4).

*Table 4: Supply of LTC homes, segmented by designation status, for each LHIN per 100,000 total population aged 65+ (i.e. including Francophones and the general population).*

| LHIN | # Total LTC Homes per 100,000 Age 65+ Population | # Designated LTC Homes per 100,000 Age 65+ Population | # Identified LTC Homes per 100,000 Age 65+ Population | # Non-Identified LTC Homes per 100,000 Age 65+ Population |
|---|---|---|---|---|
| Central | 24.8 | 0.0 | 0.0 | 24.8 |
| Central East | 33.5 | 0.0 | 0.5 | 33.0 |
| Central West | 24.6 | 0.0 | 0.0 | 24.6 |
| Champlain | 28.4 | 6.9 | 2.4 | 19.0 |
| Erie St. Clair | 27.0 | 0.0 | 2.3 | 24.8 |
| Hamilton Niagara Haldimand Brant | 30.9 | 0.4 | 0.7 | 29.8 |
| Mississauga Halton | 15.7 | 0.0 | 0.0 | 15.7 |
| North East | 35.0 | 9.5 | 11.9 | 13.5 |
| North Simcoe Muskoka | 23.9 | 0.0 | 0.9 | 23.0 |
| North West | 52.9 | 0.0 | 30.9 | 22.0 |
| South East | 30.1 | 0.8 | 1.6 | 27.7 |
| South West | 39.0 | 0.0 | 2.8 | 36.2 |
| Toronto Central | 8.9 | 0.0 | 0.9 | 8.0 |
| Waterloo Wellington | 28.4 | 0.0 | 0.8 | 27.7 |

### *LHIN-Level French-Speaking LTC HR*

Next we present an analysis of French-language LTC staff abilities at the LHIN level (Table 5). Although the situation appears somewhat better, since only 6 LHINs have zero staff with FLS abilities, the total ratios of LTC French speaking HR per 1000 total population aged 65+ still appear quite low across the province.

*Table 5: Supply of French-speaking LTC staff for each LHIN per 1,000 population aged 65+, for both Francophones and the total population.*

| LHIN | # Population Age 65+ FOLS French | # Population Age 65+ Total | # French-Speaking LTC HR | # LTC French-Speaking HR per 1000 Age 65+ French FOLS | # LTC French-Speaking HR per 1000 Age 65+ Total |
|---|---|---|---|---|---|
| Central | 2,130 | 209,640 | 0 | 0.0 | 0.0 |
| Central East | 3,125 | 193,955 | 33 | 10.6 | 0.2 |
| Central West | 935 | 101,445 | 0 | 0.0 | 0.0 |
| Champlain | 49,020 | 246,750 | 1,253 | 25.6 | 5.1 |
| Erie St. Clair | 4,940 | 133,190 | 45 | 9.1 | 0.3 |
| Hamilton Niagara Haldimand Brant | 6,680 | 281,525 | 68 | 10.2 | 0.2 |
| Mississauga Halton | 2,405 | 171,930 | 0 | 0.0 | 0.0 |
| North East | 28,755 | 125,700 | 834 | 29.0 | 6.6 |
| North Simcoe Muskoka | 2,485 | 108,875 | 22 | 8.9 | 0.2 |
| North West | 1,585 | 45,360 | 16 | 10.1 | 0.4 |
| South East | 3,150 | 122,870 | 0 | 0.0 | 0.0 |
| South West | 2,830 | 218,055 | 0 | 0.0 | 0.0 |
| Toronto Central | 5,850 | 462,880 | 0 | 0.0 | 0.0 |
| Waterloo Wellington | 1,880 | 130,090 | 6 | 3.2 | 0.0 |

# Discussion

## Analysis of the Findings

We found that access ratios for language-concordant French-language LTC services vary greatly across the province. Although we identified some regions (Ottawa and parts of the North) with higher ratios of designated/identified homes and French-speaking LTC personnel, we also identified clear access deserts (i.e. regions with no designated or identified homes).

But even regions with higher ratios of Designated LTC homes and French-speaking staff relative to the population will not necessarily present good patient access to FLS, for three compounding reasons.

First, even in the best-case scenario, Francophones have to compete with the general population for access to those spots, meaning that many French-capable LTC spots will go to non-Francophones.

Second, with the passage of the "More Beds, Better Care Act, 2022" (2014), patients in hospital with long-term-care-type needs (alternate level of care, or "ALC") can be placed in a LTC home without their consent or inclusion in the decision-making process. Patients are generally placed in the first available home and it is highly unlikely that linguistic needs or preferences will be considered when making this selection.

And third, given the lack of designated and identified homes in many regions, the designated and identified homes that do exist are likely in high demand from Francophones across the province. This has the dual effect of putting greater pressure on the designated facilities that do exist and limiting access to these homes even if local ratios seem favorable, and of forcing older French-speakers to choose between local care that does not meet their needs, or else traveling far from family and friends to receive language-concordant care.

Finally, this analysis does not suggest an ideal ratio of LTC homes (or staff) per population. Although our results enable us to compare access levels across regions, we cannot determine if these levels of access are adequate to meet their populations' needs.

## Limitations of the Data

We briefly note here some limitations in the data, both to provide context for some of our analytical choices above, and to potentially guide further data collection. Where feasible we provide suggestions for how the data could be improved.

The foremost limitation in the data provided by the Ministry of Health about French-language abilities in LTC homes is that French-language ability is only given at the level of agencies, while each agency can have many different locations. This makes it impossible to know where French-language services are actually offered, and the problem can be

acute for agencies with several locations in different regions. This could be fixed by providing HR language data at the finer-grained level of LTC home addresses, rather than agencies overall.

Second, the Ministry's data does not clearly demarcate between patient-facing staff (nurses, PSWs, etc.) and support staff (office clerks, custodians, etc.), nor does it include full-time equivalent (FTE) counts. In this analysis we have assumed that all French-capable staff in the data are able to offer patient care full-time, but this may not be the case. This could be improved through segmenting staff by role (even as simply as "patient-facing" vs. "non-patient-facing") and FTE when reporting language ability.

Third, the Ministry's data does not include HR staff counts for non-identified agencies, which limits the comparisons and analyses we can do. For example, we calculated ratios of French-speaking LTC staff per 1,000 Francophones aged 65+, but without staff counts or language abilities in non-identified homes we cannot determine whether French-speaking LTC staff are equitably distributed in comparison to general LTC staff, or determine the French language capacity in non-identified homes. This could be improved through also reporting total staff counts for non-identified homes.

Finally, we also found several smaller data-quality issues: not all designated/identified homes have HR info at all (Pinecrest Nursing Home and Lady Dunn Health Centre did not); and most designated and identified homes were listed as having all HR with advanced/superior French abilities, which is improbable province-wide. We also note that although there is some validation for the data collected, there is no auditing process to ensure its accuracy.

## Limitations of the Analysis

There are several limitations that should be kept in mind when interpreting this report. First, to measure access levels we have used regional provider-to-population ratios. This ratio-based "density analysis" approach has known limitations: for example, it assumes equal access from everyone in a region to everything in a region, and assumes that people do not access services outside of their region. However, it is also a common approach, and is reasonable given the data set. Second, as described above, our regional staff analysis relies on approximations about which locations staff work at, which we also judged to be a reasonable approach given the data set. In addition, we could only use simple staff counts without the ability to differentiate between job titles or whether roles are patient-facing. However, we expect to have job title information available in new data for upcoming analyses. Finally, we have only considered designation of LTC homes, and not designated areas (Ontario Ministry of Health 2024a).

## Opportunities to Improve Data Quality for Future Analyses

Building on our comments above in Section 3.2, we summarize here our suggestions for how data quality could be improved for future analyses. First, human-resources data (including counts, roles, linguistic abilities, FTEs) for all LTC homes could be provided at

the level of address, not just by agency, enabling more accurate and fine-grained analyses. Second, data compliance and auditing measures should be put in place to ensure that reliable FLS data is collected from all LTC homes in the province, to enable better comparisons and analyses of FLS supply in relation to total LTC supply.

These data-quality improvements would enable more detailed and accurate comparisons of regional access ratios, but they would also enable more detailed distance-based analyses at finer-grained levels of resolution. Such analyses could potentially be done at the level of municipalities or below, providing vital local knowledge of French-language service availability to inform Ontario's healthcare investments.

# Appendix: OZi-Aligned HR Tables

This appendix contains revised HR tables that align with OZi's approach to calculating region FLS HR capacity.

The two differences between these tables and those in the body of the report are:

- These tables include staff at **all** agencies; and,
- These tables include **only** staff with advanced-to-superior French skills, not intermediate French skills.

As can be seen below in Table 6 and Table 7, this approach yields tables with larger absolute values but similar patterns. The North East and Champlain still have FLS staffing ratios (10.1 and 8.7 respectively) that are much higher than the rest of the province, which has ratios ranging from 0.0 to 0.9 French-speaking LTC HR per 1,000 age 65+ population.

## LHIN Table

*Table 6: Supply of French-speaking LTC staff for each LHIN per 1,000 population aged 65+, for both Francophones and the total population, including all LTC homes regardless of designation, and only includes staff with "advanced to superior" French-language abilities.*

| LHIN | # Population Age 65+ FOLS French | # Population Age 65+ Total | # French-Speaking LTC HR | # LTC French-Speaking HR per 1000 Age 65+ French FOLS | # LTC French-Speaking HR per 1000 Age 65+ Total |
|---|---|---|---|---|---|
| Central | 2,130 | 209,640 | 30 | 14.1 | 0.1 |
| Central East | 3,125 | 193,955 | 97 | 31.0 | 0.5 |
| Central West | 935 | 101,445 | 12 | 12.8 | 0.1 |
| Champlain | 49,020 | 246,750 | 2,135 | 43.6 | 8.7 |
| Erie St. Clair | 4,940 | 133,190 | 126 | 25.5 | 0.9 |
| HNHB | 6,680 | 281,525 | 142 | 21.3 | 0.5 |
| Mississauga Halton | 2,405 | 171,930 | 26 | 10.8 | 0.2 |
| North East | 28,755 | 125,700 | 1,266 | 44.0 | 10.1 |
| North Simcoe Muskoka | 2,485 | 108,875 | 55 | 22.1 | 0.5 |
| North West | 1,585 | 45,360 | 28 | 17.7 | 0.6 |
| South East | 3,150 | 122,870 | 41 | 13.0 | 0.3 |
| South West | 2,830 | 218,055 | 78 | 27.6 | 0.4 |
| Toronto Central | 5,850 | 462,880 | 18 | 3.1 | 0.0 |
| Waterloo Wellington | 1,880 | 130,090 | 50 | 26.6 | 0.4 |

## Entity Table

*Table 7: Supply of French-speaking LTC staff for each FLHPE per 1,000 population aged 65+, for both Francophones and the total population. This table includes all LTC homes regardless of designation, and only includes staff with "advanced to superior" French-language abilities.*

| Entity (Regions Served) | # Population Age 65+ FOLS French | # Population Age 65+ Total | # French-Speaking LTC HR | # LTC French-Speaking HR per 1,000 Age 65+ French FOLS | # LTC French-Speaking HR per 1,000 Age 65+ Total |
|---|---|---|---|---|---|
| 1 (Érie St. Clair; South West) | 7,770 | 351,245 | 204 | 26.3 | 0.6 |
| 2 (Hamilton, Niagara, Haldimand, Brant; Waterloo, Wellington) | 8,560 | 411,615 | 192 | 22.4 | 0.5 |
| 3 (Toronto Central; Mississauga Halton; Central West) | 9,190 | 736,255 | 56 | 6.1 | 0.1 |
| 4 (Central East; Central; North Simcoe Muskoka) | 7,740 | 512,470 | 182 | 23.5 | 0.4 |
| Réseau des services de santé en français de l'est de l'Ontario (Champlain; South East) | 52,170 | 369,620 | 2,176 | 41.7 | 5.9 |
| Réseau du mieux-être francophone du nord de l'Ontario | 30,340 | 171,060 | 1,294 | 42.6 | 7.6 |

# References

Google. 2023. “Overview  Geocoding API  Google Developers.” https://developers.google.com/maps/documentation/geocoding/overview.

“More Beds, Better Care Act, 2022.” 2014. https://www.ontario.ca/laws/view.

Ontario Ministry of Health. 2017. “Guide to Requirements and Obligations Relating to French Language Health Services,” November.

———. 2024a. “Government Services in French.” *Ontario.ca*. http://www.ontario.ca/page/government-services-french.

———. 2024b. “French Language Services at the Ministry of Health.” *Ontario.ca*. http://www.ontario.ca/page/french-language-services-ministry-health.

R Core Team. 2024. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Statistics Canada. 2018. “Health Region Boundary Files.” https://www150.statcan.gc.ca/n1/pub/82-402-x/2018001/hrbf-flrs-eng.htm.

———. 2023. “Table 98100170: Mother Tongue by First Official Language Spoken and Knowledge of Official Languages: Canada, Provinces and Territories, Census Divisions and Census Subdivisions.” https://open.canada.ca/data/dataset/08fe2f19-f74a-49df-8204-44ca7d7e714b.