Specialized Geriatric Services in Ontario

Human Resources Mapping
Geriatricians, Care of the Elderly Physicians and Geriatric Psychiatrists

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I. Background

The proportion of the population in Ontario over the age of 65 is increasing in a very predictable manner. Significant proportions of the population are frail with a complex mix of multiple co-morbid medical and psychiatric conditions. An estimate of those who are frail by age group has been made (Rockwood, K. 2018).

Table 1: Estimates of Frailty by Age Group (Rockwood, 2018)

Age	Frailty Percentage
65-69	3%
70-74	6%
75-79	12%
80-84	24%
85 +	50%

The cost of medical care in older individuals is most significant in the last two years of life. Comprehensive geriatric assessment and comprehensive mental health assessment has been shown to be cost-effective as well as to improve function and health in this vulnerable group of seniors (Stuck, 1993). In Canada, there is a shortage of internist-trained geriatricians, and psychiatrists trained in geriatric psychiatry (Hogan, 2012). As well there are some family physicians that have an additional six months to a year of training or additional expertise in the Care of the Elderly.

There is a need to expand Specialized Geriatric Services (SGS) and Specialized Mental Health Services, both within academic health science centres responsible for training family physicians and specialists in their respective fields as well as increasing the number of community-based geriatricians and geriatric psychiatrists. Within medical schools over the last ten years, there has been a grassroots evolution of geriatric interest groups (GIGs) for medical students and subsequently resident geriatric interest groups (RGIGs) (https://canadiangeriatrics.ca/students/publications/). This has increased the number of trainees that have enrolled in the subspecialty of geriatric medicine and over the last 8 years, the number of trainees in the 2 year subspecialty in geriatric medicine has more than tripled from 19 per year in 2010/11 to 65 in 2017/18 (CAPERS, 2018). Since 2013, the number of geriatric psychiatrist trainees in the 2 year subspecialty in geriatric psychiatry has increased from 5 to 19 in 2017/18.

In Canada, since 2017, Care of the Elderly physicians attain a designation recognizing their formal training or alternatively by attestation. Of the 300 + Care of the Elderly physicians in Canada, we initially estimated that less than 10% are engaged in Specialized Geriatric Services. This, we suspect is because of an absence of special billing codes and few positions funded by alternate funding mechanisms. We anticipated that most are engaged in regular family practice without a special focus on frail seniors. The number of Care of the Elderly physicians trained in Canada per year has fluctuated from 9 in 2009/10, 24 in 2015/16, and 16 in 2017/18 (CAPERS, 2018).

Geriatricians and geriatric psychiatrists who entered practice between 1980 and 2000 after their 5 year specialty training can be anticipated to retire in the foreseeable future. A conservative estimate of retirement age can be calculated from 40 years from the year of their medical degree (Hogan, 2012).

II. Provincial Geriatric Leadership Office (PGLO) Project Overview

In 2018, the Ministry of Health and Long Term Care (MOHLTC) asked the newly developed Provincial Geriatrics Leadership Office (PGLO) to identify and map the various programs, services and human resources that are delivering specialty health care services to older people living with complex health concerns (i.e. frailty) across Ontario.

The PGLO, which is a resource serving the broad clinical field of geriatrics, agreed to this request on the condition that information collected would be vetted, shared and available to any contributors from the field so that planning happens in concert with front line clinicians.

Fuller, Guy and Pletsch (2002) describe asset mapping as "make[ing] an inventory of all the good things about your community. This philosophy underpins the approach used.

III. Provincial Geriatric Leadership Office (PGLO) - Project Goal

A **current state view** summarizes the supply, utilization, demand, and needs of the area of the health system being examined. (Fuller, 2002).
This project is intended to produce a **partial current state view** of specialized geriatric services across the province of Ontario, with a focus on the supply and utilization of health services designed for older people living with frailty (e.g. referred to as specialized geriatric services), for the time period of 2017/18.

Collection of demand and need information, along with a gap analysis, is planned for 2019/20 and is out of scope in this initial phase (June 2018-March 2019).

IV. Physician Human Resources Project Statement

The purpose of this proposal was to map where geriatricians, geriatric psychiatrists or psychiatrists and Care of the Elderly physicians are working in the province within Specialized Geriatric Services/Senior's Mental Health. We planned to determine the current deficit for geriatricians and geriatric psychiatrists working within each Local Health Integration Network (LHIN) against an established ratio (Fisher, 2014). We also wanted to estimate the future deficit by calculating the anticipated need by 2025 taking into account physicians estimated to retire 40 years from their medical degree and adding newly trained geriatricians working in Ontario.

We planned to make transparent where there are current gaps in the provision of geriatric medicine and geriatric psychiatry expertise in Specialized Geriatric Services and Seniors Mental Health within each of the 14 LHINs. By making it transparent, we wanted communities to become aware of their deficits. We anticipate communities are receptive to attracting specialists in geriatric medicine and geriatric psychiatry. We also wanted to identify for LHINs where additional resources are needed to create and expand teams to work with specialists in geriatrics. We also wanted subspecialty trainees and HealthForce Ontario to know in which communities there are unmet needs and where the trainees in

geriatric medicine and geriatric psychiatry can be supported by specialized geriatric teams.

V. Methodology – Geriatricians

- The College of Physicians and Surgeons of Ontario website https://www.cpso.on.ca/ was the primary source for the initial list of geriatricians who have licenses to practice in Ontario. The CPSO website was searched using a filter of all physicians by the specialization of geriatric medicine.
- From the CPSO website the primary office practice postal code locations were determined and aligned with their respective LHIN. http://www.lhins.on.ca/FindYourLHIN.aspx
- Each LHIN list of geriatricians was then sent by email to academic and administrative leaders in each LHIN for validation.
- We corresponded with Division Chairs/Department of Geriatric Medicine to confirm the accuracy of the list and the full-time/part-time status of the geriatricians in academic health science centers.
- We corresponded by email with lead community geriatricians and LHIN/ SGS administrators to confirm the accuracy of the list and confirm part-time/full-time status of geriatricians in their communities.
- As well, emails and cold calls to geriatrician offices and or administrative staff were used to follow-up to confirm the full-time/part-time status for whom it was not known.
- We calculated the number of geriatricians required in the LHIN based on the benchmark of 1.175 geriatricians per 10,000 aged 65 and over.
- From the list of geriatricians in 2018 and the bench mark we calculated the deficit/surplus of geriatricians in each LHIN.
- We estimated the number of geriatricians that might retire by 2025 based on 40 years from MD graduation year from CPSO website.
- We calculated the number of geriatricians required in the LHIN in 2025 based on the same benchmark and subtracted the estimated number of retirements.
- We estimated the number of Geriatric Medicine trainees (average of PGY-5 2014-18) CAPERS Census, that graduated from the 5th year

of residency at 27.5 new trainees in Canada per year. We estimated that 40% or 11 of these trainees per year might practice in Ontario between 2016-2025 for a total of 110 in the province. We made no attempt to estimate how many geriatricians might leave the province or be recruited to the province from elsewhere in Canada or foreign trained geriatricians from the U.S. or overseas.

VI. FTE Calculations (Geriatricians)

Physician full-time/part-time status around the world is commonly defined by half days worked with in a 5 day work week. A half day is therefore 0.1 FTE and a physician working 5 half days would be considered 0.5 FTE. It is well recognized that physicians do not define full time equivalence by 1950 hours worked per year, unlike other health disciplines. They work in the evenings or at weekends to complete their many varied roles, in addition to clinical responsibilities typically fulfilled Monday-Friday, during daytime hours.

For this project we used full time status as someone who usually works 10 half days Monday – Friday. There was no estimate of the hours they might work in addition to this time frame.

Table 2: Current State Geriatricians 2016/2018

LHIN No. & Name	Population 65 + (2016)	Estimated Need [1] 2016	Current Resource FTE (2018)	Deficits [2] (2016)
1. Erie St. Clair	119,185	14.0	4.0	-10.0
2. South West	179,525	21.1	11.0	-10.1
3. Waterloo Wellington	113,425	13.3	6.0	-7.3
4. Hamilton Niagara Haldimand Brant	268,025	31.5	16.5	-15.0
5. Central West	116,205	13.7	4.8	-8.9
6. Mississauga Halton	163,810	19.2	15.7	-3.5
7. Toronto Central	172280	20.2	39.0	18.8
8. Central	278,800	32.8	16.9	-15.9
9. Central East	270,200	31.7	7.0	-24.7
10. South East	107,110	12.6	3.0	-9.6
11. Champlain	215,410	25.3	11.7	-13.6
12. North Simcoe Muskoka	90,835	10.7	4.0	-6.7
13. North East	113,760	13.4	2.3	-11.1
14. North West	41,310	4.9	3.0	-1.9
TOTAL	**2,249,880**	**264.4**	**144.9**	**-119.5**

[1] Calculated 1.175 FTE required per 10,000 pop 65+
[2] Based on need minus current

Table 3: Projected Need and Future Geriatric Medicine Resource Estimates (2025)

LHIN No. & Name	Population (2025)	Needed 2025 [1]	Possible Retirements (2025) [2]	Current Resource FTE (2018)	Recruitment Needed (2025) [3]	Estimated Trainees (2016-2025) [4]
1. Erie St. Clair	160,602	18.9	1	4.0	-15.9	
2. South West	245,493	28.8	1	11.0	-18.8	
3. Waterloo Wellington	165,625	19.5	0	6.0	-13.5	
4. Hamilton Niagara Haldimand Brant	366,656	43.1	2	16.5	-28.6	
5. Central West	176,840	20.8	1	4.8	-17.0	
6. Mississauga Halton	258,062	30.3	5	15.7	-19.6	
7. Toronto Central	267,907	31.5	11	39.0	-3.5	
8. Central	409,850	48.2	4	16.9	-35.3	
9. Central East	368,304	43.3	4	7.0	-40.3	
10. South East	142,253	16.7	1	3.0	-14.7	
11. Champlain	307,307	36.1	5	11.7	-29.4	
12. North Simcoe Muskoka	131,451	15.4	1	4.0	-12.4	
13. North East	146,736	17.2	0	2.3	-14.9	
14. North West	55,404	6.5	0	3.0	-3.5	
TOTAL	**3,202,490**	**376.3**	**36**	**144.9**	**-267.4**	****110**
					Estimated 2025 Deficit	***-157.4***

[1] Assumes 1.175 FTE required per 10,000 pop 65+
[2] Retirement Based on Year of Medical Degree +40
[3] Recruitment need based on Needed minus Current Resource plus Possible retirements
[4] Estimated newly trained geriatricians. In 2018 across Canada the total quota offered for medical school positions in geriatric medicine was 34 but to date no all positions are filled each year. (source CARMS MSM Report)
CAPERS Census PGY5: 2014-2018 average 27.5/yr. (For estimation purposes we assume 40% will be employed in Ontario)
11/year x 10 years ****110** (2016-25) – Assumes all new recruits will be FTE.
No assumptions about movement of geriatricians from Ontario or recruitment from outside of Canada or overseas.

VII. Methodology - Care of the Elderly Physicians

- We identified all Care of the Elderly physicians (COE) by training or attestation in the province using the College of Family Physicians (CFPC) of Canada website (https://www.cfpc.ca/Home/). This was time consuming as there were a maximum of 50 physicians per page to find those with the COE designation. There were 15,000+ names of all physicians in Ontario. We noted that the CFPC does not have a data sharing agreements available at this time.
- We confirmed with LHIN geriatrician leads and LHIN administration leads the names of the Care of the Elderly physicians practicing in Specialized Geriatric Services/Geriatric Mental Health, their full-time/part-time status and the nature of their roles within Specialized Geriatric Services.
- We calculated their potential retirement year using the CPSO listing of their year of medical degree and added 40 years.

VIII. Defining Care of the Elderly Physician Roles

We grouped the Care of the Elderly physicians into four broad categories based on the types of existing practice.

1. Some COE physicians are directly employed within Specialized Geriatric Services. These direct support roles include attending/Most Responsible Physician for a Geriatric Rehabilitation Unit (GRU), Acute Care for the Elderly (ACE) unit, Day Hospital, Acute Care inpatient consultation services outpatient clinics or Geriatric Outreach team.
2. Some COE physicians work in indirect roles supporting SGS. These include attending as hospitalist in acute care on sub-acute medicine units (SAMUs), attending on complex continuing care units or as a medical director for one or more Long Term Care /Nursing Homes.
3. Some COE physicians work in their Family Health Team (FHT) but also support a Primary Care Collaborative Memory Clinic role which is specific to Ontario.
4. Most COE physician's work in a FHT or other family/general practice but with all ages of patients. Some of these COE physicians have a designation of "focused practice".

Table 4: Preliminary Current State Results (Care of the Elderly Physicians)

LHIN No. & Name	Current Resource 2018)	Current Resource FTE SGS Direct Support Role[1]	Indirect Supporting Role [2]	Family Health Team plus Primary Care Memory Clinic Role [3]	Regular Family Practice Role [4]	Possible Retirements (2025)
1. Erie St. Clair	6	0.2	0	0.5	5.3	1
2. South West	9	0.2	1.5	0.5	6.8	0
3. Waterloo Wellington	7	0	0	3	4	0
4. Hamilton Niagara Haldimand Brant	13	1	2	Pending	Pending	1
5. Central West	5	1	0	0	4	0
6. Mississauga Halton	6	0	3	0	3	0
7. Toronto Central	23	4	Pending	Pending	Pending	2
8. Central	16	4.6	2	0	8	2
9. Central East	8	0	1	Pending	3.5	2
10. South East	7	3.6	0.4	0	3	0
11. Champlain	25	11	5	0	9	1
12. North Simcoe Muskoka	5	0.5	1	0.5	3	2
13. North East	12	3.2	0.5	0	8.3	1
14. North West	1	0.75	0	0	0.25	0
TOTAL	**143**	**30.05**	**16.4**	**4.5**	**58.15**	**12**

Supporting Role Legend

[1]Directly employed in Specialized Geriatric Services. E.g. attending/MRP on a GRU or ACE unit, Day Hospital, outpatient or outreach assessments.
[2] Indirect role supporting SGS.
e.g. hospitalist in acute care sub-acute medicine unit (SAMU), attending on a complex continuing care unit, medical director for one or more Long Term Care /Nursing Homes.
[3] Working in a Family Health Team or community health centre setting and Primary Care Collaborative Memory Clinic.
[4] Working in a Family Health Team, other family/general practice but with all ages or a focused practice.
Pending: Limited response from COE offices

IX. Limitations – Geriatricians

- Because the total number of current geriatricians is small in most LHINs, any recruitment to a LHIN or loss for a LHIN will affect the ratio and number needed in each LHIN each year.
- Some geriatricians have been slow to confirm their full-time/part-time status.
- Some Academic Geriatricians have significant Leadership/Academic roles within their medical schools or hospitals. While they are in these roles and are considered "full-time" they are not contributing directly to the academic geriatric medicine roles within their LHIN and therefore this overstates the available geriatrician resource. In the six Academic Health Science Centres in Ontario, full-time geriatricians within Departments or Divisions of Geriatric Medicine are engaged in and support each other to deliver various academic roles. These include clinical service, teaching, curriculum development, quality improvement, research and leadership. In these centres, clinical service capacity is therefore lower than in the community where most geriatricians are primarily engaged in a clinical role.

X. Limitations – Care of the Elderly Physicians

- We have found that leads and contacts are not always aware of who is practicing in their geographical area.
- Some identified COE's by LHIN Leads or support staff do not have "official" COE designation. These are not included in the final count and may understate the current number of COE's or equivalents supporting Specialized Geriatric Services (SGS).
- In some instances we have had limited responses from COE physicians.

XI. Methodology – Geriatric Psychiatrists

- Different methodologies were used initially to determine the number of geriatric psychiatrists in Ontario as there is no CPSO designation for geriatric psychiatrists (all geriatric psychiatrists are listed as general psychiatrists on the CPSO website).
- We included all individuals who were registered psychiatrists that who were practicing in geriatric psychiatry programs regardless of Royal College of Physicians and Surgeons of Canada subspecialty exam status. The Royal College first approved examinations for Geriatric Psychiatry in 2012 and many individuals who were practicing in geriatric psychiatry prior to 2012 did not complete Royal College examinations.
- We first contacted academic psychiatry programs in Ontario and then non-academic seniors mental health programs in Ontario. For each program we also requested information regarding other clinical programs in their neighboring regions to identify all seniors' mental health programs in Ontario.
- We recorded the primary practice location for identified geriatric psychiatrists using information provided by the academic and clinical programs, if location information was unclear for an individual physician we used the CPSO registration information for practice location. Practice locations were then aligned with LHINs.
- We calculated the number of geriatric psychiatrists required in the LHIN based on the benchmark of 1 geriatric psychiatrist per 10,000 aged 65 and over (13).
- From the list of geriatric psychiatrists in 2018 and the bench mark we calculated the deficit/surplus of geriatric psychiatrists in each LHIN (similar to the methods used for geriatric medicine).
- We estimated the number of geriatric psychiatrists that might retire by 2025 based on 40 years from MD graduation year from CPSO website.
- We calculated the number of geriatricians required in the LHIN in 2025 based on the same benchmark and subtracted the estimated number of retirements.
- We estimated the number of Geriatric Psychiatry training positions available in 2017- 2018 using the CAPERS Census. A total of 19 positions were available in Canada in 2017 – 2018, the total number

of graduates each year can fluctuate significantly so the total number of positions were used in this calculation and we did not average over multiple years as there has been significant growth in the number of positions over the past 5 years. We estimated that 40% or 8 of these trainees per year might practice in Ontario between 2016-2025 for a total of 80 in the province. We made no attempt to estimate how many geriatric psychiatrists might leave the province or be recruited to the province from elsewhere in Canada or foreign trained geriatricians from the U.S. or overseas.

XII. FTE Calculations (Geriatric Psychiatrists)

We then determined the clinical full-time equivalent for each geriatric psychiatrist. Clinical and administrative leads for each program were asked to provide the total amount of time that each geriatric psychiatrist worked within a clinical program (including direct and indirect clinical care) and then to specify the amount of total time spent in the program which was clinical.

As many geriatric psychiatrists have some degree of clinical and educational activities, we only reduced the full-time clinical equivalent of geriatric psychiatrists provided that >20% of their time was spent in non-clinical activities (i.e. teaching, research, or administrative time <20% for someone who was working full-time in a program was counted as 100% clinical FTE.

For this project we used full time status as someone who usually works 10 half days Monday – Friday. There was no estimate of the hours they might work in addition to this time frame (consistent with the definitions used for geriatric medicine).

Table 5: Geriatric Psychiatrist in Ontario Current State Clinical Full-Time Equivalents

LHIN No. & Name		Population 65+ (2016)	Needed[1] (2016)	Currently Supply FTE (2018)	Deficits[3] (2016)
1. Erie St. Clair		119,185	11.9	1.0	-10.9
2. South West		179,525	18	10.4	-7.6
3. Waterloo Wellington		113,425	11.3	5.2	-6.1
4. Hamilton Niagara Haldimand Brant		268,025	26.8	6.2	-20.6
5. Central West		116,205	11.6	3.6	-8.0
6. Mississauga Halton		163,810	16.4	4.6	-11.8
7. Toronto Central		172,280	17.2	31.2	+14.0
8. Central		278,800	27.9	3.8	-24.1
9. Central East		270,200	27.0	8.0	-19.0
10. South East		107,110	10.7	5.1	-5.6
11. Champlain		215,410	21.5	20.9	-0.6
12. North Simcoe Muskoka		90,835	9.1	4.8	-4.3
13. North East		113,760	11.4	2.3	-9.1
14. North West		41,310	4.1	1.5	-2.6
TOTAL		2,249,880	224.9	108.6	-116.3

[1] Assumes 1.0 FTE required per 10, 000 65+
[2] Based on Year of Graduation +40
[3] Based on needed minus current

Table 6: Geriatric Psychiatrist in Ontario Future Projections of Clinical Full-Time Equivalents

LHIN No. & Name	Population 65+ (2025)	Needed[1] (2025)	Possible Retirements[2] (2025)	Recruitment Needed (2025)	Estimated Trainees (2016-2025)
1. Erie St. Clair	160, 602	16.1	0	-16.1	
2. South West	245, 493	24.5	2	-16.1	
3. Waterloo Wellington	165, 625	16.6	1	-12.4	
4. Hamilton Niagara Haldimand Brant	366, 656	36.7	3	-33.5	
5. Central West	176, 840	17.7	1	-15.1	
6. Mississauga Halton	258, 062	25.8	2	-23.2	
7. Toronto Central	267, 907	26.8	20	-15.6	
8. Central	409, 850	41	2	-38.2	
9. Central East	368, 304	36.8	4	-32.8	
10. South East	142, 253	14.2	3	-12.1	
11. Champlain	307, 307	30.7	7	-16.8	
12. North Simcoe Muskoka	131, 451	13.1	1	-9.3	
13. North East	146, 736	14.7	1	-13.4	
14. North West	55, 404	5.5	0	-4.0	
Total	3,202,490	320.2	46	-258.6	80

[1] Assumes 1.0 FTE required per 10, 000 65+
[2] Based on Year of Graduation +40
[3] Based on needed minus current
Note: In Canada, there are 22 geriatric psychiatry residency positions per year. For estimation purposes, we assume 40% will find work in Ontario. 19 x 0.4= 7.6. 8 Trainees per year x 10 years = 80 trainees.

XIII. Analysis of Numbers of Older Adults, Dementia and Frailty and Current Utilization of Physician Specialty Services

- This analysis first determined the numbers of older adults in Ontario first for the total province and by LHIN. For the purposes of this analysis we included all individuals who were aged 66 years or older as of April 1, 2018. The age restriction of 66 years and older was used to allow one year of prescription information in the Ontario drug benefits program which was required to identify individuals with dementia.

- These analyses were completed at ICES-Queen's using multiple linked datasets. These datasets were linked using unique encoded identifiers and analyzed at ICES.
- The total population was then stratified based on place of residence at the time of cohort entry which was categorized as long-term care or community dwelling.
- Two subgroups of older adults were then defined:
    - Individuals with dementia according a validated algorithm used to identify individuals with dementia using ICES data (14).
    - Individuals living with frailty using a validated algorithm for use with administrative databases (15).
- For each population of older adults we recorded the number of individual who received physicians services in the year preceding cohort entry including visits to geriatric medicine, geriatric psychiatrists and neurologists (neurologists were only included for the dementia subgroup. Each type of physician visit was further categorized as:
    - Number of individuals receiving any visit, mean and standard deviation of visits, median and interquartile range
    - New consultations or other type of visit
    - Location of the visit: hospital/emergency room, long-term care, home visit, or outpatient
    - Other visits: telemedicine, case conferencing, e-consults
- Final results for this project are in progress and undergoing data quality assurance and privacy review. This study was supported by ICES, which is funded by an annual grant from the Ontario Ministry of Health and Long-Term Care (MOHLTC). The opinions, results and conclusions reported in this paper are those of the authors and are independent from the funding sources. No endorsement by ICES or the Ontario MOHLTC is intended or should be inferred.

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