Language barriers

Use of regular medical doctors by Canada's official language minorities

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Abstract

Objective To assess use of regular medical doctors (RMDs), as well as awareness and use of telephone health lines or telehealth services, by official language minorities (OLMs) in Canada.

Design Analysis of data from the 2006 postcensal survey on the vitality of OLMs.

Setting Canada.

Participants In total, 7691 English speakers in Quebec and 12376 French speakers outside Quebec, grouped into those who experienced language barriers and those with no language barriers.

Main outcome measures Health services utilization (HSU) by the presence of language barriers; HSU measures included having an RMD, use of an RMD's services, and awareness of and use of telephone health lines or telehealth services. Multivariable models examined the associations between HSU and language barriers.

Results After adjusting for age and sex, English speakers residing in Quebec with limited proficiency in French were less likely to have RMDs (adjusted odds ratio [AOR] 0.66, 95% CI 0.50 to 0.87) and to use the services of their RMDs (AOR 0.65, 95% CI 0.50 to 0.86), but were more likely to be aware of the existence of (AOR 1.50, 95% CI 1.16 to 1.93) and to use (AOR 1.43, 95% CI 0.97 to 2.11) telephone health lines or telehealth services. This pattern of having and using RMDs and telehealth services was not observed for French speakers residing outside of Quebec.

Conclusion Overall we found variation in HSU among the language barrier populations, with lower use observed in Quebec. Age older than 45 years, male sex, being married or in common-law relationships, and higher income were associated with having RMDs for OLMs.

EDITOR'S KEY POINTS

- In Canada, *official language minorities* is a term used to denote English speakers residing in the province of Quebec and French speakers residing outside of Quebec. In Quebec, English speakers make up 9.6% of the population (about 740 000 individuals); 80% of these individuals reside in the Montreal metropolitan area. The most recent census data revealed that there were 604 975 French speakers outside of Quebec, most of whom lived in the provinces of Ontario, New Brunswick, Nova Scotia, Alberta, and British Columbia.

- Regular medical doctors (RMDs) or GPs constitute the first line of contact for primary medical care in Canada. Having an RMD is associated with increased patient satisfaction, timely access to care, and receiving preventive care.

- The authors analyzed postcensal data to assess use of RMDs, as well as awareness and use of telephone health lines or telehealth services, by official language minorities to determine factors associated with the use of these services. They found that English speakers in Quebec reported lower rates of having RMDs and of using their services compared with French speakers outside of Quebec.

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Barrières linguistiques

Recours aux médecins réguliers par les minorités linguistiques officielles du Canada

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Résumé

Objectif Déterminer l'utilisation de médecins réguliers (MR) par les minorités linguistiques officielles (MLO) du Canada, ce qu'elles connaissent des lignes téléphoniques sur la santé ou des services de télésanté et comment elles utilisent ces services.

Type d'étude Analyse des données de l'enquête post censitaire de 2006 sur la vitalité des MLO.

Contexte Le Canada.

Participants Un total de 7691 anglophones du Québec et de 12 376 francophones hors Québec, répartis en 2 groupes: un étant confronté à des barrières linguistiques et l'autre non.

Principaux paramètres à l'étude Utilisation des services de santé (USS) selon l'existence ou non de barrières linguistiques; mesures de l'USS, ce qui incluait le fait d'avoir un MR; utilisation des services d'un MR; et connaissance et utilisation des lignes téléphoniques sur la santé ou des services de télésanté. Les associations entre l'USS et les barrières linguistiques ont été vérifiées à l'aide de modèles multivariables.

Résultats Après ajustements pour l'âge et le sexe, les anglophones résidant au Québec avec des capacités limitées en français étaient moins susceptibles d'avoir des MR (rapport de cote ajusté [RCA] 0,66, IC à 95% 0,50 à 0,87) et d'utiliser les services de leurs MR (RCA 0,65, IC à 95% 0,50 à 0,86), mais étaient plus susceptibles de connaître l'existence des lignes téléphoniques sur la santé et des services de télésanté (RCA 1,50, IC à 95% 1,16 à 1,93) et d'utiliser ces services (RCA 1,43, IC à 95% 0,97 à 2,11). Ce modèle consistant à avoir recours à un MR et aux services de télésanté n'a pas été observé chez les francophones vivant hors Québec.

Conclusion Dans l'ensemble, nous avons trouvé des différences dans l'USS par les groupes affectés par des barrières linguistiques, une utilisation plus faible étant observée au Québec. On notait une association entre le fait pour les MLO d'avoir un MR et celui d'avoir plus de 45 ans, d'être un homme, d'être marié ou en union de fait et d'avoir un revenu plus élevé.

Cet article a fait l'objet d'une révision par des pairs.
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POINTS DE REPÈRE DU RÉDACTEUR

- Au Canada, le terme « minorité linguistique officielle » désigne les anglophones résidant au Québec et les francophones résidant hors Québec. Au Québec, les anglophones représentent jusqu'à 9,6% de la population (environ 740 000 personnes); 80% de ces derniers habitent dans le Montréal métropolitain. Les données de recensement les plus récentes montraient qu'il y avait 604 975 francophones hors Québec, la plupart vivant en Ontario, au Nouveau-Brunswick, en Nouvelle-Écosse, en Alberta et en Colombie-Britannique.

- Au Canada, les médecins réguliers (MR) ou les omnipraticiens constituent la première ligne de contact pour les soins primaires. Le fait d'avoir un MR est associé à une plus grande satisfaction des patients, à un accès aux soins en temps opportun et au fait de recevoir des soins préventifs.

- Les auteurs ont analysé les données post censitaires pour évaluer l'utilisation par les minorités linguistiques officielles des MR, de même que leur connaissance et leur utilisation des lignes téléphoniques sur la santé et des services de télésanté, afin de déterminer les facteurs qui influencent l'utilisation de ces services. Selon leurs résultats, les anglophones du Québec disaient avoir un taux plus faible d'utilisation des MR et une moindre utilisation de leurs services par rapport aux francophones hors Québec.

Canada has 2 official languages, English and French. While French is widely used in the province of Quebec, English is the main language spoken in the other provinces and territories. In Canada, *official language minorities* (OLMs) is a term used to denote English speakers residing in the province of Quebec and French speakers residing outside of Quebec.[1] In Quebec, English speakers make up 9.6% of the population (about 740 000 individuals); 80% of these individuals reside in the Montreal metropolitan area.[2] The most recent census data revealed there were 604 975 French speakers outside of Quebec, most of whom lived in the provinces of Ontario, New Brunswick, Nova Scotia, Alberta, and British Columbia.[3]

There has been a considerable demographic change in the population of OLMs. The English speakers of Quebec, who were once represented in various parts of the province, are now mostly limited to the Montreal metropolitan area,[4] whereas the population of French speakers outside of Quebec is being assimilated into English-speaking communities.[5]

Presumably OLMs face challenges accessing health care services as a result of language barriers.[6] While linguistic minorities have been shown to face difficulties accessing health care services because of language barriers and socioeconomic disadvantage elsewhere,[7-10] this has not been studied in Canada.

Regular medical doctors (RMDs) or GPs constitute the first line of contact for primary medical care in Canada.[11] Having an RMD is associated with increased patient satisfaction,[12-15] timely access to care,[16] and receiving preventive care.[17-19] To ensure equity of services for the general population, telehealth is used across Canada to support medical work force supply, especially in remote and rural areas,[20-22] and in some areas to reduce the demand on emergency services. In 2006, Statistics Canada conducted a national survey on OLMs.[23] Access to and use of health care services were addressed in the survey. We analyzed these data to assess use of RMDs, as well as awareness and use of telephone health lines or telehealth services, by OLMs to determine factors associated with the use of these services.

METHODS

Study population

We analyzed data from the 2006 postcensal Survey on the Vitality of Official Language Minorities (SVOLM).[23] The survey was administered in all 10 provinces and 3 territories. The sample for the SVOLM was generated based on responses to 3 census questions about mother tongue, knowledge of the official languages, and the language most often spoken at home. Computer-assisted telephone interviewing was used to collect data from selected individuals from October 2006 to January 2007, with a survey response rate of 70%. The sampling frame and design methodology have been described in detail elsewhere.[24] We used the adult sample (20 067) in our study, including 7691 English speakers in Quebec and 12 376 French speakers outside Quebec.

Dependent variables

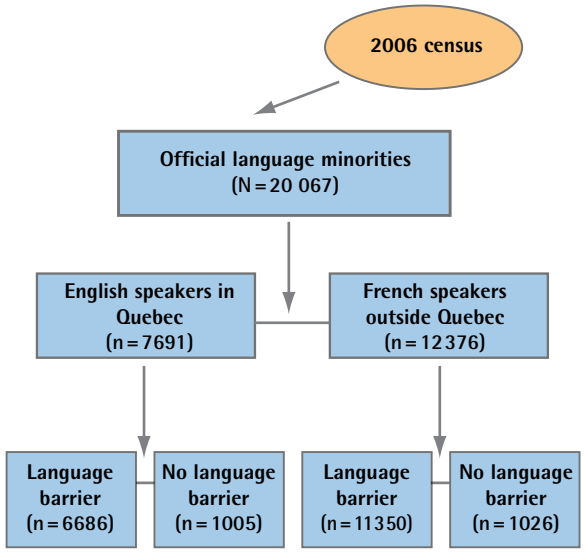
The dependent variable, having an RMD (indicator of access to care), was derived from responses to the survey question, "Do you have a regular medical doctor?" Two groups of respondents were defined: those who had RMDs and those who did not have RMDs. For those with RMDs, use of the RMDs' services was determined from the question, "In the last 12 months, have you used, either for yourself or to help another person, the services of [your] regular medical doctor?" Awareness and use of telephone health lines or telehealth services was also examined in our study. Awareness has been used as an indicator of adoption of technology.[21] Awareness of telephone health lines or telehealth services was determined from the question, "Are you aware of the existence of a telephone health line or telehealth service in your province or territory?" Among respondents who were aware, use was determined from the question, "In the last 12 months, have you used, either for yourself or to help another person, the services of professionals from a telephone health line or telehealth service?"

Independent variables

We defined language ability by grouping participants into *language barrier* or *no language barrier* groups based on responses to the question, "Which language(s), English or French, do you know well enough to conduct a conversation?" Given that French is the main language spoken in Quebec, "English only" respondents were categorized as having language barriers, and "French only" or "English and French" respondents were categorized as not having language barriers. Likewise, outside Quebec, where English is the main language spoken, "French only" respondents were categorized as having language barriers and "English only" or "English and French" respondents were categorized as having no language barriers (**Figure 1**). In this study, we used the terms *English speakers* to denote OLMs living in Quebec and *French speakers* to denote OLMs living in provinces and territories other than Quebec.

Independent predictor variables were defined, taking into account Andersen's health behaviour model,[25] a framework that describes determinants of health service use in terms of contextual, need, and predisposing characteristics, as well as enabling resources. The contextual characteristic for this study was rural-urban residence. The need characteristic was self-rated health status. Predisposing characteristics included age, sex,

Figure 1. Grouping of official language minorities by language barrier



marital status, educational attainment, and immigration status. Finally, enabling resources included personal income and employment status.

Statistical analysis

We analyzed the data separately for English speakers residing in Quebec and French speakers outside of Quebec because demographic characteristics might not have been the same for the 2 populations, and health care delivery and planning occur largely at the provincial or territorial level. We chose not to stratify the results by province and territory owing to small cell counts for some jurisdictions. Weighted proportions were used to describe HSU by language barrier group. We used sampling weights provided by Statistics Canada to account for the complex sampling procedure used in the SVOLM.[23] A logistic regression model was fitted to assess the association between HSU (having an RMD, use of services of an RMD, awareness of and use of telehealth services) and the predictive variables. Weighted values were used in the model. Significance was defined as $P<.05$. Analyses were performed using STATA, version 10. We obtained approval from Statistics Canada to access the public-use data file from which all personal identifying information had been removed.

RESULTS

In total, our sample consisted of 7691 English speakers in Quebec (mean age 46.4 years) and 12 376 French speakers outside of Quebec (mean age 46.5 years). Among English and French speakers, those with language barriers were primarily female, were married or in common-law relationships, and had less education and lower income (**Table 1**). In Quebec, English speakers with language barriers were more likely to be between 25 and 44 years of age, employed, and living in urban areas, and were more likely to report fair or poor health status, compared with those without language barriers. Outside Quebec, French speakers with language barriers were more likely to be between 45 and 64 years of age, not employed, and living in rural locations, and were more likely to report fair or poor health status, compared with those without language barriers.

Table 2 illustrates overall use of services of RMDs and telephone health lines. In Quebec, English speakers with French language barriers were less likely to have RMDs; among those with RMDs, use of the RMDs' services was relatively low. Awareness and use of telehealth services were similar between those with language barriers and those without. Outside Quebec, French speakers with English language barriers were more likely to have RMDs compared with those with no language barriers. Use of RMD services and awareness and use of telehealth were similar in the populations with or without language barriers.

As outlined in **Table 3**, after adjusting for potential confounders (age, sex, marital status, education, income, employment status, health status, immigration status, and place of residence), English speakers in Quebec with language barriers were less likely to have RMDs and to use the services of RMDs, but were more likely to be aware of the existence of telephone health lines and to use these services. In contrast, French speakers outside Quebec had similar odds of having and using RMDs, being aware of telehealth, and using telehealth services, regardless of language barriers. Among those with language barriers who had no RMDs, English speakers in Quebec were less aware of the existence of telephone health lines or telehealth services than French speakers outside Quebec were (48.6% vs 61.9%).

Our logistic regression analysis showed that for both English speakers in Quebec and French speakers outside Quebec, age older than 45 years, male sex, being married or in common-law relationships, and higher income were factors associated with having an RMD. Being an immigrant in Quebec and living in a rural area outside of Quebec negatively influenced having an RMD (**Table 4**).

DISCUSSION

Our analysis of the SVOLM data demonstrated that the effects of language on HSU varied by geographic location and main language spoken. In Quebec, where French is

Table 1. Characteristics of study participants

VARIABLE	ENGLISH SPEAKERS IN QUEBEC (N = 7691)			FRENCH SPEAKERS OUTSIDE QUEBEC (N = 12 376)		
	LANGUAGE BARRIER, % (N = 6686)	NO LANGUAGE BARRIER, % (N = 1005)	UNWEIGHTED *P* VALUE	LANGUAGE BARRIER, % (N = 11 350)	NO LANGUAGE BARRIER, % (N = 1026)	UNWEIGHTED *P* VALUE
Age, y			.16			< .001
• 18-24	7.3	11.7		6.3	9.6	
• 25-44	41.9	39.4		27.1	33.3	
• 45-64	32.5	33.2		36.7	39.0	
• ≥ 65	18.4	16.7		29.9	18.1	
Sex			.027			< .001
• Male	47.7	51.4		38.0	45.6	
• Female	52.3	48.6		61.9	54.4	
Marital status			.014			< .001
• Single	18.3	26.3		21.3	18.7	
• Married or common law	64.8	59.8		54.9	67.2	
• Divorced or separated	16.4	13.9		23.8	14.2	
Immigration status			< .001			.100
• Born in Canada	5.2	53.1		88.5	86.7	
• Immigrant, in Canada < 10 y	26.3	7.1		3.4	2.8	
• Immigrant, in Canada ≥ 10 y	68.5	39.8		8.1	10.5	
Education			< .001			< .001
• High school or less	49.8	38.6		78.3	46.8	
• Some college or university	20.8	30.0		12.7	28.0	
• Completed college or university	29.4	31.4		9.0	25.2	
Income			< .001			< .001
• Lowest (< $30 000)	39.5	19.9		32.9	16.0	
• Middle ($30 000-$49 999)	22.8	21.6		28.2	18.7	
• Upper middle ($50 000-$80 000)	21.3	23.9		24.8	24.5	
• Highest (> $80 000)	16.5	34.6		14.1	40.8	
Employed	62.2	49.3	< .001	33.6	61.4	< .001
Urban residence	99.3	89.7	< .001	45.6	73.4	< .001
Fair or poor health status	14.5	9.5	.007	21.7	13.4	< .001

Table 2. Weighted percentages illustrating overall use of health services by official language minorities

HEALTH SERVICE MEASURE	ENGLISH SPEAKERS IN QUEBEC (N = 7691)			FRENCH SPEAKERS OUTSIDE QUEBEC (N = 12 376)		
	LANGUAGE BARRIER, % YES	NO LANGUAGE BARRIER, % YES	UNWEIGHTED *P* VALUE	LANGUAGE BARRIER, % YES	NO LANGUAGE BARRIER, % YES	UNWEIGHTED *P* VALUE
Having regular medical doctor	60.7	70.7	.0001*	91.3	88.6	.029*
Using regular medical doctor	45.6	57.4	.0001*	76.7	75.4	.214
Aware of telehealth	55.4	49.8	.107	61.7	68.2	.672
Using telehealth	13.0	11.3	.097	13.3	13.7	.831

*Significant at $P < .05$.

Table 3. Risk-adjusted ORs for 4 measures of health services utilization: *ORs adjusted for age, sex, marital status, education, income, employment status, health status, immigration status, and place of residence.*

	OR (95% CI), LANGUAGE BARRIER VS NO LANGUAGE BARRIER	
HEALTH SERVICE MEASURE	ENGLISH SPEAKERS IN QUEBEC (N = 7691)	FRENCH SPEAKERS OUTSIDE QUEBEC (N = 12 376)
Having regular medical doctor	0.66 (0.50-0.87)	1.22 (0.82-1.81)
Using regular medical doctor	0.65 (0.50-0.86)	0.94 (0.72-1.24)
Aware of telehealth	1.50 (1.16-1.93)	0.86 (0.67-1.09)
Using telehealth	1.43 (0.97-2.11)	1.05 (0.74-1.48)

OR—odds ratio.

Table 4. Factors associated with having a regular medical doctor

VARIABLE	ENGLISH SPEAKERS IN QUEBEC (N = 7691), OR (95% CI)	FRENCH SPEAKERS OUTSIDE QUEBEC (N = 12 376), OR (95% CI)
Language barrier vs no barrier	0.66 (0.50-0.87)*	1.22 (0.82-1.81)
Age, y		
• 18-24	Reference	Reference
• 25-44	1.14 (0.89-1.47)	0.9 (0.71-1.32)
• 45-64	2.91 (2.19-3.84)*	1.76 (1.28-2.44)*
• ≥ 65	6.49 (4.50-9.35)*	2.90 (1.84-4.56)*
Sex		
• Female	Reference	Reference
• Male	1.93 (1.61-2.32)*	2.16 (1.74-2.67)*
Marital status		
• Single	Reference	Reference
• Married or common law	1.84 (1.46-2.33)*	1.82 (1.36-2.43)*
• Divorced or separated	1.61 (1.10-2.34)*	1.45 (0.98-2.14)
Education		
• High school or less	Reference	Reference
• Some college or university	1.02 (0.82-1.28)	1.05 (0.82-1.34)
• Completed college or university	0.80 (0.64-1.00)	1.07 (0.79-1.45)
Immigration status		
• Nonimmigrant	Reference	Reference
• Immigrant	0.79 (0.65-0.97)*	0.88 (0.63-1.22)
Income		
• Lowest (< $30 000)	Reference	Reference
• Middle ($30 000-$49 999)	1.29 (0.99-1.68)	1.21 (0.83-1.75)
• Upper middle ($50 000-$80 000)	1.43 (1.12-1.83)*	1.35 (0.92-2.00)
• Highest (> $80 000)	1.57 (1.23-2.01)*	1.90 (1.29-2.82)*
Employed		
• Yes	Reference	Reference
• No	0.87 (0.71-1.07)	0.93 (0.72-1.20)
Place of residence		
• Urban	Reference	Reference
• Rural	0.80 (0.63-1.01)	0.64 (0.50-0.82)*
Health status		
• Good or excellent	Reference	Reference
• Fair or poor	1.15 (0.86-1.53)	0.83 (0.59-1.18)

*Significant at $P < .05$.

the main language spoken, English speakers with French language barriers were less likely to have or to use the services of RMDs but were more likely to be aware of telehealth services. Outside of Quebec, where English is the main language spoken, there were no significant differences in HSU among French speakers. This contrasting result might reflect a number of factors. English speakers with French language barriers might have less need for the services of RMDs, as they might use other services such as walk-in clinics. The fact that English speakers in Quebec reported lower use of services suggests that there are factors beyond language barriers that hinder access to health care services for this population. Current evidence points to acute shortages in the supply of GPs in Quebec,[24,26] especially in Montreal, which accounts for a third of the province's population and where most of the English-speaking population lives. Thus, English speakers, especially those with language barriers, are likely to face stiff competition for RMDs from the larger French-speaking population.

One could argue that the observed low rates of having and using RMDs in Quebec are the result of a relatively younger and healthy population compared with French speakers outside of Quebec. However, we controlled for age and health status in our analysis and the pattern of HSU remained unchanged between those inside and outside Quebec.

The difference in awareness and use of telephone health lines

between English speakers and French speakers observed in our study is likely because in some urban areas (eg, Calgary or Edmonton in Alberta), telephone health lines were introduced to reduce the demand on emergency departments, or at least to ensure appropriate use of emergency services. In contrast, some provinces have used telehealth mainly for medical consultation to meet the health care needs of those in rural areas.

Overall, our findings concur with those from other studies that have shown that language barriers and socioeconomic disadvantage negatively influence access to health care services for linguistic minorities.[7,8] In the United States for example, linguistic minorities with limited proficiency in English are less likely to access and use preventive services[27-29] and less likely to establish new or maintain existing patient-provider relationships.[30] Variations in HSU have been documented among the Dutch-, French-, and German-speaking populations of Belgium. These linguistic groups (Flemish-Dutch, Walloon-French, German-German) differ from our sample in that they constitute the majority where they live. Thus, discrepancies in use of health services are mostly attributed to differences in socioeconomic gradients[31] and are not necessarily owing to language barriers. Groups with lower socioeconomic status use health services more often[31] and more often report poorer health.[32]

Improving health care for OLMs

Although language was not observed as a barrier to accessing health care among French speakers outside of Quebec, language remains a problem that needs to be addressed for some populations. This barrier can be addressed by providing language interpretation services for those with limited proficiency who are seeking medical care. This model of using interpreters has been implemented in some parts of Canada. Another way to reduce the effects of language barriers is by providing language training to health care providers.

Limitations

Our study has some limitations. First, the SVOLM is a cross-sectional survey; thus, data are subject to recall bias and causality cannot be established. Second, sampling for the SVOLM in Ontario, New Brunswick, and Quebec was limited to selected regions. Therefore, generalizability of our findings to other regions might be limited. Third, our data lacked clinical information to properly define the need for services. Fourth, we defined our study population according to language barrier or no language barrier based on self-reported ability to hold conversations in English or French and could not determine how inability to communicate in the main language influenced the decision to seek care. Nonetheless, the response rate for the SVOLM of 70% is relatively high compared with many other large surveys involving racial and ethnic minorities.[33]

Conclusion

We found that English speakers in Quebec reported lower rates of having RMDs and using their services compared with French speakers outside of Quebec. Overall we found variations in HSU by language barrier, with lower use observed in Quebec. Our study is a snapshot of HSU by OLMs in Canada. More studies are needed to provide an understanding of the health care challenges faced by Canada's linguistic minorities and to improve use of health services for this group.

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Contributors

Dr Ngwakongnwi and **Dr Quan** contributed to the concept and design of the study, analysis and interpretation of data, and drafting the article for submission. **Drs Hemmelgarn, Musto,** and **King** contributed to the concept and design of the study and the interpretation of data. All authors revised, read, and approved the final manuscript to be published.

Competing interests

None declared

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