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Statistical analysis of health system utilization, use of diagnostic testing, and perceptions of quality and satisfaction with health care services of Official Languages Minority Communities

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Introduction

The various linguistic minorities in Canada can have language barriers that may affect their diagnosis, utilization, and access to health care.[1] There has been considerable interest in determining whether official language (OL) minority communities in Canada are affected by the language barrier and differ from the majority communities in terms of access to health care services. Empirical analysis on language barriers in these areas of health care can provide a portrait of their use and delivery in these communities.[2]

The purpose of the research is to determine whether individuals in the official language minority communities differ in terms of their health service utilization, use of diagnostic testing and perceptions of quality and satisfaction with health care services from that of the majority community.

[1] Bowen S. Language Barriers in Access to Health Care, Health Canada, November 2001.
[2] Office of the Commissioner of Official Languages. Research and Health in Official Language in Canada – final report. November 2002.

Methods / Analysis Steps

The data used for the analysis were obtained from Canadian Community Health Survey (CCHS 2005) and Health Services Access Survey (HSAS 2005). The CCHS is a cross-sectional survey of 130,000 Canadians ages 12 and older. It was used to provide estimates of health system utilization, disease prevention and detection, and also physical activity levels of OL minority/majority communities. HSAS is a cross-sectional survey of 34,000 Canadians that provides information on patient experiences accessing health care, including patient satisfaction and rating of quality of health care provided.

There is no standard for determining which definition of language to use in assigning individuals to the English-Speaking and French-Speaking majorities and minorities across Canada, nor for assigning bilingual English/French individuals to either language group.

Following consultation with Statistics Canada's Demographic and Language Characteristics Section (Census), in order to identify the OL minority/majority groups, each respondent was assigned to the OL minority group or OL majority group based on three CCHS questions (diagram is shown on Figure 1):

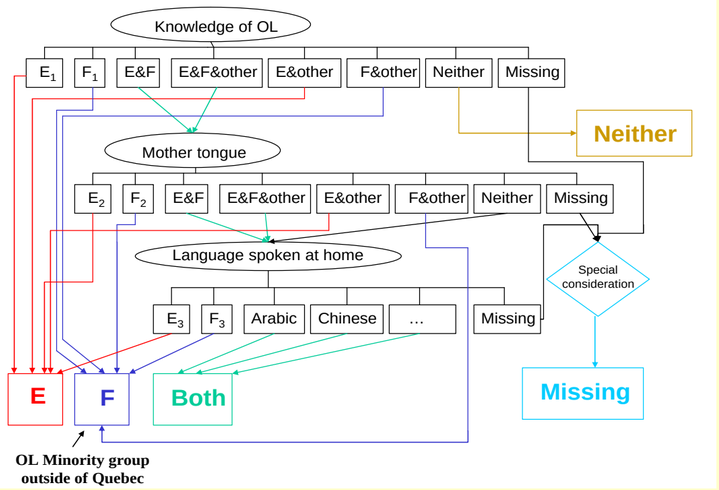
- Language respondent can converse in;
- First official language learned and still understood (mother tongue);
- Language spoken most often at home.

Bilingual English/French individuals and individuals speaking neither English nor French were not assigned to OL minority group.

Logistic regression analysis was performed to identify the odds of health system utilization, disease prevention and detection, and health system indicators, based on official language status while controlling for age, sex, urban/rural area, self-rated health, chronic conditions, education, employment, and household income. The bootstrap method was used for logistic regression in order to control for the complex survey design.

Results

Derivation of Official Language Minority/Majority groups



Odds ratios of health system utilization from CCHS 3.1 Share file for official language minorities

Controlling for Age, Sex, Urban/Rural area, Education, Employment status, Provincial Income, Self-Rated Health, Having Chronic Conditions

	Do you have a regular doctor?	Self-perceived unmet health care needs	Self-perceived health (%of e-excellent, very good and good)	Do you have chronic conditions?	Have you received home care services by Government?	Have you received home care services not covered by Government?	Self-perceived unmet home care needs?	Did you have a flu shot within last year?	Did you have a Pap Smear test within last 3 years?	Did you have a mammogram within last 2 years?	Do you participate in a daily physical activities > 15 min.
Francophones outside of Quebec	0.90	0.98	0.96	0.99	0.74	**0.64***	1.17	0.98	1.14	**1.31***	1.04
95%CI	(0.77, 1.04)	(0.86, 1.11)	(0.84, 1.10)	(0.89, 1.11)	(0.54, 1.01)	**(0.47, 0.87)**	(0.83, 1.66)	(0.87, 1.09)	(0.98, 1.32)	**(1.12, 1.54)**	(0.94, 1.14)
Anglophones outside of Quebec	1	1	1	1	1	1	1	1	1	1	1
Anglophones within Quebec	0.91	1.10	1.00	0.95	0.66	0.81	1.01	**1.29***	1.12	1.04	**1.40***
95%CI	(0.77, 1.07)	(0.91, 1.33)	(0.79, 1.28)	(0.82, 1.11)	(0.43, 1.02)	(0.53, 1.23)	(0.59, 1.73)	**(1.08, 1.52)**	(0.90, 1.40)	(0.79, 1.37)	**(1.21, 1.62)**
Francophones within Quebec	1	1	1	1	1	1	1	1	1	1	1

Odds ratios of patient satisfaction and rating of quality of health care from HSAS 2005 for official language minorities

Controlling for Age, Sex, Urban/Rural area, Education, Employment status, Provincial Income, Self-Rated Health, Having Chronic Conditions

	Received health care services?	Rating of quality of HC received (% of excellent and good)	Satisfaction with way HC provided (% of very satisfied and somewhat satisfied)	Received health care services at hospital?	Rating of quality of HC at hospital received (% of excellent and good)	Satisfaction with way HC at hospital provided (% of very satisfied and somewhat satisfied)	Received physician care?	Rating of quality of physician care received (% of excellent and good)	Satisfaction with way physician care provided (% of very satisfied and somewhat satisfied)	Received community-based care?	Rating of quality of community-based care received (% of excellent and good)	Satisfaction with way community-based care provided (% of very satisfied and somewhat satisfied)	Experienced difficulties getting specialist care	Experienced difficulties getting non-emergency surgery	Experienced difficulties getting test	Experienced difficulties getting health information	Experienced difficulties getting on-going care	Experienced difficulties getting immidiate care
Francophones outside of Quebec	**0.43***	1.08	1.24	1.08	0.88	1.23	0.84	1.04	0.81	0.94	**2.61***	**2.40***	1.21	2.04	0.62	1.45	1.19	0.71
95% CI	**(0.29, 0.63)**	(0.79, 1.47)	(0.90, 1.72)	(0.87, 1.35)	(0.57, 1.35)	(0.76, 1.98)	(0.68, 1.03)	(0.66, 1.64)	(0.50, 1.32)	(0.71, 1.23)	**(1.16, 5.89)**	**(1.07, 5.41)**	(0.78, 1.87)	(0.77, 5.40)	(0.26, 1.51)	(0.98, 2.16)	(0.83, 1.69)	(0.47, 1.08)
Anglophones outside of Quebec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Anglophones within Quebec	0.77	**0.63***	**0.55***	0.74	0.63	0.75	1.01	0.59	0.69	**2.01***	**0.16***	**0.22***	**1.93***	0.59	2.47	1.36	0.99	1.46
95% CI	(0.48, 1.24)	**(0.42, 0.95)**	**(0.37, 0.83)**	(0.53, 1.03)	(0.31, 1.26)	(0.36, 1.59)	(0.74, 1.38)	(0.31, 1.12)	(0.38, 1.26)	**(1.35, 2.98)**	**(0.06, 0.40)**	**(0.09, 0.57)**	**(1.12, 3.33)**	(0.02, 19.5)	(0.83, 7.39)	(0.79, 2.32)	(0.60, 1.64)	(0.82, 2.60)
Francophones within Quebec	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Conclusions

The analysis does not reveal significant overall differences between OL minorities and majorities for most of the questions analyzed, although certain differences are significant and presented below.

Controlling for age, sex, urban/rural area, self-rated health, chronic conditions, education, employment status, and income, several logistic regression models were fit and the following was learned:

Quebec Anglophones were about:

- 37% less likely to rate the quality of health care as excellent or good compared to Francophones.
- 45% less likely to be satisfied or somewhat satisfied with the way health care is provided compared to Francophones.
- 93% more likely to report difficulties getting specialist care than Francophones.
- 28% more likely to have a flu shot within last 2 years than Francophones.
- 40% more likely to participate in daily physical activities greater than 15 minutes. Also, their physical activity index was about 19% less likely to be "Inactive" compared with Francophones in Quebec; and
- Are twice as likely to receive community based care compared to Francophones. However, they were about 6 times less likely to rate the quality of community based care as excellent or good and they are about 4.5 times less likely to be satisfied or somewhat satisfied with the way community based care provided compared to Francophones.

Outside of Quebec Francophones:

- Were less than half as likely to receive health care services compared to Anglophones.
- 34% less likely to receive home care services not covered by government than Anglophones.
- About 2.6 times more likely to rate the quality of community based care as excellent or good and they are about 2.4 times more likely to be satisfied or somewhat satisfied with way community based care provided compared to Anglophones.
- Francophone females outside of Quebec were about 30% more likely to have a mammogram within the last two years than their Anglophone counterparts.

Limitations / Next Steps

This analysis was able to show the difference between OL minority/majority groups for Quebec and for Canada outside of Quebec. However, the picture of OLMC populations differs from province to province but a small sample size for many provinces precludes reliable estimates for those provinces.

The Post-census survey currently being conducted by Statistics Canada may shed new light on self-perceived health and access to health services by OLMCs. Preliminary results will be available in the Fall of 2007.

Policy Implications

The analysis provides baseline data for the evaluation of the Contribution Program to Improve Access to Health Services for Official Language Minority Communities. The news is essentially good – there are no overall significant differences in access and satisfaction for OL minorities.

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Statistically significant difference is indicated in **BOLD***