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Regular doctor, changing doctor, no doctor: does it make a difference to rural residents?

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ABSTRACT

Introduction: In Canada, a larger proportion of rural residents than urban residents do not have a regular physician. In addition to lacking physicians, many rural communities also have a high rate of physician turnover. In order to discover the effect of this we compared health status, lifestyles, preventative care, and perceptions of the health system among rural residents with a regular doctor, those who did not have a regular doctor, and those whose regular doctor changed.

Methods: We examined data from the 1995 Newfoundland Panel on Health and Medical Care and the 2001 Adult Health Survey. In each year, we compared these three groups of residents using χ^2 tests and multiple logistic regression.

Results: In 1995, 78.1% of rural residents had a regular doctor, 8.4% had changing doctors, and 13.5% did not have a regular doctor. In 2001, 84.6% of rural residents had a regular doctor, 4.9% had changing doctors, and 10.6% did not have a regular doctor. In 1995, compared with those with regular doctors, those whose doctors changed were less likely to have a disability or physical restriction, have their blood pressure checked or be satisfied with the healthcare system; while those without a regular physician were less likely to have poor health status, preventative care or be satisfied with the healthcare system. In 2001, there were no differences between those with a regular doctor and those whose doctor changed. Compared with those with a regular doctor, those without a regular doctor were less likely to have poor health status.

Conclusion: The proportion of rural residents who had a regular doctor increased between 1995 and 2001. Disparities between those who had a regular doctor and those with a frequently changing doctor diminished.

Key words: health status, regular doctor, regular source of care.

Introduction

Recent surveys estimate that approximately 14% of Canadians do not have a regular doctor[1-3]. In Canada, 20.3% of the total population live in rural areas, however, only 9.3% of all physicians in Canada work in rural areas[4]. Not surprisingly, a larger proportion of rural residents than urban residents do not have a regular physician. For example, in Newfoundland and Labrador, Canada's easternmost province, almost three-quarters of the residents who did not have a regular doctor lived in rural communities[5].

In addition to lacking physicians, many rural communities have a high rate of physician turnover; an estimated 18 to 30% of rural physicians in Canada leave their jobs each year[6-8]. A survey of physicians in British Columbia found that 35 of 195 (18%) rural/remote physicians indicated they were planning to relocate to an urban setting[7]. In Saskatchewan, 52% of rural physicians left their communities over a 5 year period, from fiscal 1992/1993 to 1996/1997[9]. Similarly, a survey of US physicians reported that 27.1% intended to leave their practices in the next 2 years[9].

A number of factors contribute to high physician turnover rates in Newfoundland and Labrador. Many physicians leave for higher pay in other parts of Canada and the USA. The average retention rate among newly licensed family physicians is 25 months[10]. Moreover, provisional licensing policies allow international medical graduates (IMG) to work in the province while completing requirements for full licensure. International medical graduates make up a large proportion (44.5%) of family physicians in the province[4], and provisionally licensed IMG work an average of 22 months before leaving the province, 7 months after qualifying for a full license.

A number of studies have compared individuals with and without a regular physician in a publicly insured healthcare system[1,5,11-13]. However, we were unable to find studies that examined the impact of a changing doctor. Using data from two population-based telephone surveys, we compared socio-demographic status, health status, lifestyle, preventative care, and health system access correlates among rural residents who had a regular doctor, those whose regular doctor frequently changed and those who did not have a regular doctor. We hypothesized that rural residents whose doctor changed would have poorer health status, lifestyles, preventative care, and perceptions of the health system than residents with a regular doctor; but better health status, lifestyles, preventative care, and perceptions of the health system than residents who did not have a regular doctor.

Methods

With the approval of the Human Investigations Committee (Memorial University of Newfoundland) we examined data from the 1995 Newfoundland Panel on Health and Medical Care and the 2001 Adult Health Survey[14,15]. Both surveys gathered data on the self-assessed health status of adult residents in Newfoundland using many of the same questions, thus allowing for comparisons to be made between the samples on a number of variables. Both telephone surveys randomly sampled house households on the island of Newfoundland and selected adults 19 years and older to interview. The 1995 survey interviewed all adults from selected households, while the 2001 survey randomly selected one individual from each household to interview. Both surveys included the non-institutionalized population who both owned a telephone and were covered by the provincial health insurance plan. They excluded members of the armed forces, the Royal Canadian Mounted Police, students with parental homes elsewhere in the province, as well as foreign and out-of-province students.

Both surveys included identical questions to determine whether respondents had a regular doctor, to which

respondents could answer 'yes', 'no' or 'visit same healthcare facility but doctor changes'. We considered socio-demographic status, health status, lifestyle, preventative care, and health system variables. Socio-demographic variables were: age, sex, marital status, income, employment, and education level. Marital status was coded into partnered (married or common law) or not partnered (single, separated, divorced, or widowed). Health-status variables included self-reported health status, number of chronic conditions, permanent disability, the number of restrictions to activities of daily living (ADL). Lifestyle variables were lifestyle exercise and healthy weight. Healthy weight was based on body mass index (BMI) calculated from self-reported height and weight. Unhealthy weight included BMI under 20 and over 25. Less than 1% of the sample was underweight. Preventative care variables were Papanicolaou (Pap) test and annual blood pressure check, while health system variables were satisfaction with the healthcare system and unmet need.

The 1995 and 2001 data were coded into identical response categories; however, this was not possible for all variables because the survey questions and/or response categories were different. For example, we were unable to re-code income into identical categories. Likewise, in 1995, the survey asked women whether they had a Pap smear in the previous 2 years, while the 2001 survey asked about Pap smears in the previous 3 years. Although education, health status and health system satisfaction were coded in similar categories, the original questions were dissimilar. For example, the 1995 health status and health system question used a four-point Likert scale, while the 2001 survey used a five-point Likert scale. Sensitivity analyses were conducted to ensure that re-coding of the data, as well as missing values, did not change the overall results.

We examined residents of rural communities. "Rural" was defined as a community with 10 000 or less population. Using SPSS v 12.0, frequencies were used to describe the 1995 and 2001 samples. For each year, χ^2 tests were used to compare individuals who had a regular doctor and those whose doctors changed, and to compare individuals without a regular doctor and those whose doctors changed for each of the socio-demographic, health status, health behaviour, preventative care and health system variables. Multiple logistic regression was used to assess the impact of having a changing doctor on each of the health status, health behaviour, preventative care and health-system variables. The regressions controlled for socio-demographic variables. The independent, or comparator, variable of interest in the regressions was 'had regular physician'; specifically, those whose doctor changed and those who did not have a regular doctor were compared with residents with a regular doctor.

Results

We studied 6156 and 4192 rural residents in our 1995 and 2001 samples, respectively. Tables 1 and 2 present the characteristics of the samples. A larger proportion of rural residents had a regular family doctor in 2001 (84.5%) than in 1995 (78.1%). The proportion of residents without a family doctor decreased from 8.4% in 1995 to 4.9% in 2001, and those whose doctors changed decreased from 13.6% in 1995 to 10.5% in 2001.

In 1995, compared to those with a regular doctor, a significantly larger proportion of respondents whose doctor changed were male, under 40 years of age, not partnered, had income between $20 000 and $39 999, and were employed for pay (Table 3). A larger proportion of respondents whose doctor changed had no chronic conditions, no permanent disability, no ADL restrictions, were active, had not had their blood pressure checked, and were dissatisfied with health care compared with those with a regular doctor. There was no significant differences in terms of education, health status and BMI, having a Pap test or having unmet need. In 2001, there were no statistically significant differences between those who had a regular doctor and those who doctor changed (Table 4).

Table 1: Characteristics of 1995 sample

Characteristic	*n* (%)	Characteristic	*n* (%)
Has regular doctor		Health status	
Yes	4805 (78.1)	Excellent/good	4665 (75.8)
Doctor changes	835 (13.6)	Fair/poor	1491 (24.2)
No	515 (8.4)	Chronic conditions	
Sex		0	1625 (26.4)
Male	2912 (47.3)	≥1	4529 (73.6)
Female	3244 (52.7)	Permanent disability	
Age (years)		No	5202 (84.5)
19–39	2400 (42.5)	Yes	954 (15.5)
40–59	2090 (37.0)	ADL restrictions	
≥60	1152 (20.4)	0	5785 (95.6)
Marital status		≥1	267 (4.4)
Not partnered	1551 (25.2)	Exercise	
Partnered	4605 (74.8)	Not active	1666 (27.1)
Income		Active	4490 (72.9)
<$20 000	2021 (33.3)	Weight	
$20 000–$39 999	2453 (39.8)	Unhealthy	3878 (63.0)
$40 000–$59 999	1090 (17.7)	Healthy	2278 (37.0)
≥$60 000	503 (8.3)	Pap test in last 2 years	
Employment		No	1216 (38.1)
Employed for pay	2768 (45.0)	Yes	1979 (61.9)
Not employed for pay	2413 (39.2)	BP this year	
Retired	696 (11.3)	No	1305 (22.0)
Student	275 (4.5)	Yes	4636 (78.0)
Education		Satisfaction	
<Grade 12	2984 (48.5)	Satisfied	5493 (90.5)
High school graduate	1169 (19.0)	Not satisfied	577 (9.5)
Trade school	1317 (21.4)	Unmet need	
Some university	363 (5.9)	No	5519 (89.7)
University graduate	321 (5.2)	Yes	637 (10.3)

BP, Blood pressure check.

In 1995, compared to those without a regular doctor, a significantly larger proportion of respondents whose doctor changed were female, were in fair/poor health and had one or more chronic conditions (Table 3). There were no significant differences in the other socio-demographic status, health status, healthy behaviour, preventative care or health system variables. In 2001, there were a number of significant differences between these two groups (Table 4). A significantly larger proportion of those whose doctors changed were female, were over 60 years of age, were partnered, retired, had fair/poor health, had one or more chronic conditions, had a permanent disability and ADL restriction, than those without a regular doctor. There were no significant differences in income, employment, education, BMI, or any of the preventative care or health system variables.

Table 2: Characteristics of 2001 sample

Characteristic	*N* (%)	Characteristic	*N* (%)
Has regular doctor		Health status	
Yes	3541 (84.5)	Excellent/good	3493 (83.5)
Doctor changes	442 (10.5)	Fair/poor	692 (16.5)
No	205 (4.9)	Chronic conditions	
Sex		0	1235 (29.5)
Male	2009 (47.9)	≥1	2957 (70.5)
Female	2183 (52.1)	Permanent disability	
Age		No	3531 (84.3)
19–39	1243 (29.9)	Yes	660 (15.7)
40–59	1949 (46.9)	ADL restrictions	
≥60	967 (23.3)	0	3888 (92.7)
Marital status		≥1	304 (7.3)
Not partnered	968 (23.1)	Exercise	
Partnered	3222 (76.9)	Not active	471 (12.0)
Income		Active	3461 (88.0)
<$20 000	112 (32.1)	Weight	
$20 000–$45 000	1601 (46.2)	Unhealthy	2707 (64.6)
$45,001–$75 000	584 (16.8)	Healthy	1334 (31.8)
>$75,00	170 (4.9)	Pap test in last 3 years	
Employment		No	577 (13.8)
Employed for pay	1526 (36.4)	Yes	1540 (72.7)
Not employed for pay	1535 (36.7)	BP this year	
Retired	1008 (24.0)	No	724 (17.5)
Student	118 (2.8)	Yes	3405 (82.5)
Education		Satisfaction	
<Grade 12	1760 (42.0)	Satisfied	2840 (72.6)
High school graduate	1069 (25.5)	Not satisfied	1072 (25.6)
Trade school	660 (15.8)	Unmet need	
Some university	326 (7.8)	No	3745 (89.5)
University graduate	371 (8.9)	Yes	440 (10.5)

BP, Blood pressure check.

Table 5 describes the results of the regression analyses. In each regression, we controlled for socio-demographic variables. In 1995, respondents whose doctors changed shared characteristics with both those with a regular doctor and those without a regular doctor. For example, those whose doctors changed were not significantly different from those who had a regular doctor in terms of health status, ADL restrictions, or having a Pap test. Like those without a regular doctor, respondents whose doctors changed were less likely to have one or more chronic conditions or a permanent disability, have had their blood pressure checked in the last year or be satisfied with the healthcare system. In 2001, those whose doctors changed were like respondents with a regular physician; there were no significant differences between these groups in any of the regression models. Those who did not have a regular physician were 'healthier'; that is, they were less likely to have poor health, chronic conditions, a permanent disability, or any ADL restriction. Having a regular physician was also no longer related to any of the preventative care or health system variables. In both 1995 and 2001, having a regular doctor was not related to any of the healthy behaviour variables or having unmet need.

Table 3: Comparison of respondents whose doctors change to those with regular doctors and no doctors, 1995

	Has doctor %	Changing doctor %	No doctor %	*P* value†	*P* value¶		Has doctor %	Changing doctor %	No doctor %	*P* value†	*P* value¶
Sex				<0.000	0.003	Health status				0.118	0.010
Male	43.7	55.0	63.1			Excellent/good	74.3	77.5	83.1		
Female	56.3	45.0	36.9			Fair/poor	25.7	22.5	16.9		
Age				<0.000	0.710	Chronic Conditions				<0.000	<0.000
20–39	39.7	51.6	53.2			0	23.0	32.4	42.6		
40–59	37.6	35.3	35.1			≥1	77.0	67.6	57.4		
60+	22.7	13.1	11.6			Permanent disability				<0.000	0.079
Marital Status				0.032	0.987	No	85.6	92.8	95.1		
Not partnered	24.3	28.5	28.5			Yes	14.4	7.2	4.9		
Partnered	75.7	71.5	71.5			ADL restrictions				0.010	0.209
Income				<0.000	0.041	0	94.9	97.5	98.4		
<$20,000	34.5	28.3	29.6			≥1	5.1	2.5	1.6		
$20 000–$39 999	39.3	48.2	42.2			Exercise				0.006	0.103
$40 000–$59 999	17.8	17.8	18.9			Not active	28.8	23.1	19.4		
≥$60,000	8.4	5.7	9.3			Active	71.2	79.6	80.6		
Employment				0.004	0.513	Weight				0.468	0.316
Employed for pay	43.6	48.3	50.9			Unhealthy	63.0	61.4	64.1		
Not employed pay	39.9	37.9	35.9			Healthy	37.0	38.6	35.9		
Retired	12.5	8.2	6.6			Pap test last 2 yrs				0.600	0.053
Student	4.0	5.6	6.6			No	37.6	35.8	44.1		
Education				0.219	0.136	Yes	62.4	64.2	55.9		
<Grade 12	49.2	46.0	45.9			BP this year				<0.000	0.091
High school grad.	18.7	22.3	18.8			No	18.6	31.7	36.3		
Trade school	21.3	21.7	21.6			Yes	81.4	68.3	63.7		
Some university	5.7	6.0	7.1			Satisfaction				<0.000	0.224
University grad.	5.1	3.9	6.7			Not satisfied	8.0	16.4	13.9		
						Satisfied	92.0	83.6	86.1		
						Unmet need				0.536	0.868
						No	89.9	88.9	89.2		
						Yes	10.2	11.1	10.8		

†Comparing those with regular doctors to those whose doctors changed.
¶Comparing those without regular doctors to those whose doctors changed.
BP, Blood pressure check.

Table 4: Comparison of respondents whose doctors change to those with regular doctors and no doctors, 2001

	Has doctor %	Changing doctor %	No doctor %	*P* value†	*P* value¶		Has doctor %	Changing doctor %	No doctor %	*P* value†	*P* value¶
Sex				0.609	0.001	Health status				0.086	0.021
Male	46.7	44.9	59.0			Excellent/good	82.1	86.8	92.5		
Female	53.3	55.1	41.0			Fair/poor	17.9	13.2	7.5		
Age				0.370	0.006	Chronic conditions				0.204	<0.000
20–39	28.4	32.7	40.0			0	26.7	30.7	50.7		
40–59	47.3	42.9	45.7			≥1	73.3	69.3	49.3		
≥60	24.3	24.4	14.4			Permanent disability				0.270	<0.000
Marital status				0.721	0.010	No	82.8	85.8	95.0		
Not partnered	78.1	77.1	67.1			Yes	17.2	14.2	5.0		
Partnered	21.9	22.9	32.9			ADL restrictions				0.417	0.009
Income				0.323	0.150	0	92.1	93.7	97.7		
≤$20 000	32.4	34.7	28.1			≥1	7.9	6.3	2.3		
$20 001–$45 000	45.8	49.4	47.9			Exercise				0.099	0.874
$45 001–$75 000	16.9	12.5	18.7			Not active	12.7	8.7	8.3		
>$75 000	4.9	3.4	5.3			Active	87.3	91.3	91.7		
Employment				0.695	0.002	Weight				0.214	0.050
Employed for pay	36.4	32.7	38.7			Unhealthy	67.2	71.5	63.4		
Not employed for pay	35.9	39.5	41.6			Healthy	32.8	28.5	36.6		
Retired	25.6	25.4	14.0			Pap test last 3 years				0.637	0.748
Student	2.5	2.4	5.7			No	27.2	30.2	27.7		
Education				0.482	0.395	Yes	72.8	69.8	72.3		
<Grade 12	42.1	46.8	39.2			BP this year				0.243	0.961
High school graduate	25.0	25.9	29.3			No	17.0	20.2	20.4		
Trade school	7.7	6.3	8.8			Yes	83.0	79.8	79.6		
Some university	16.0	14.6	14.7			Satisfaction				0.398	0.816
University graduate	9.1	6.3	7.9			Not satisfied	25.3	27.9	28.8		
						Satisfied	74.7	72.1	71.2		
						Unmet need				0.635	0.360
						No	89.6	90.6	88.2		
						Yes	10.4	9.4	11.1		

†Comparing those with regular doctors to those whose doctors changed.
¶Comparing those without regular doctors to those whose doctors changed.
BP, Blood pressure check.

Table 5: Summary of multiple logistic regression analyses

Outcome	1995			2001		
	Has doctor	Changing doctor	No doctor	Has doctor	Changing doctor	No doctor
HEALTH RELATED						
Health status[α]						
Fair/poor	1.00	NS	0.65 (0.81-0.52)	1.00	NS	0.43 (0.29-0.65)
Chronic conditions[β]						
1 or more	1.00	0.72 (0.58-0.88)	0.49 (0.41-0.58)	1.00	NS	0.39 (0.31-0.49)
Disability[γ]						
Yes	1.00	0.55 (0.38-0.80)	0.35 (0.25-0.50)	1.00	NS	0.30 (0.19-0.48)
Restrictions (ADL)[β]						
1 or more	1.00	NS	0.45 (0.25-0.81)	1.00	NS	0.30 (0.14-0.65)
LIFESTYLE						
Exercise[ε]						
Active	1.00	NS	NS	1.00	NS	NS
Weight[λ]						
Healthy	1.00	NS	NS	1.00	NS	NS
PREVENTATIVE						
Pap test[†γ]						
Within 2 or 3 years	1.00	NS	0.61 (0.46-0.81)	1.00	NS	NS
BP check[γ]						
Within last year	1.00	0.55 (0.44-0.69)	0.49 (0.41-0.59)	1.00	NS	NS
HEALTH SYSTEM						
Satisfaction[κ]						
Satisfied	1.00	0.47 (0.36-0.62)	0.59 (0.46-0.75)	1.00	NS	NS
Unmet need[γ]						
Yes	1.00	NS	NS	1.00	NS	NS

†Within 2 years for 1995, within 3 years for 2001 data.
NS, Not significant.
α, Reference category 'excellent/good'; β, reference category '0'; γ, reference category 'no'; ε, reference category 'not active'; λ, reference category 'unhealthy'; κ, reference category 'unsatisfied'.

Discussion

The proportion of rural residents without a regular doctor or whose doctor frequently changed, decreased between 1995 and 2001. During this time, the number of family physicians, including GPs, in the province was stable. There were 606 family physicians in 1995, and 599 family physicians in 2001. However, the population : family physician ratio decreased from 940 in 1995 to 845 in 2001, indicating that the improvement in access to physician resulted from a decrease in the population, rather than an increase in physician supply[4,16]. In 1995, residents whose doctors changed shared characteristics with both those with regular doctors and those without regular doctors, suggesting that residents whose doctors changed represented an intermediate group. By 2001, however, those whose doctors changed were distinct from those without a regular doctor, who, based on regression results for the health status variables, were healthier than either those with regular doctors or those whose doctors changes. These findings suggest that residents who most need care are more likely to seek it out, and that the disparities between those who had a regular doctor and those whose doctor changed diminished.

As access to doctors improved, rural residents without a regular doctor appear more like urban residents without regular doctors. A previous study found that urban residents in Newfoundland and Labrador who did not have a regular doctor were younger adults, male, in better health, and for whom not having a regular doctor may have been a matter of personal choice rather than limited access[5].

Health behaviours, specifically being physically active and maintaining a healthy weight, were not related to having a

regular physician in either 1995 or 2001. Newfoundland and Labrador has the highest proportion of overweight and obese residents among Canadian provinces, and among the highest incidence of obesity related chronic illnesses such as diabetes and cardiovascular disease[17]. This study suggests that access to a regular physician in itself does not lead to improved lifestyle, but rather community-based, multidisciplinary initiatives are needed to address this local health priority[18].

Similarly to other studies in Canada that examined having a regular source of care[12,13], residents without a regular doctor in 1995 were less likely to have their blood pressure checked or to have had a Pap smear. However, in 2001, there was no relationship between having a regular doctor and receiving preventative care. We believe that this finding is likely to be a result of greater access to these services from non-physician providers. For example, by 2001, as part of an organized cervical screening program, public and community health nurses were providing Pap tests. Between 1995 and 2001, a greater number of pharmacies were offering automated blood pressure testing. The overall increase in both these preventive services is likely to have resulted from increased access to these services in general, particularly since the surveys did not specifically ask whether these services were provided by a physician.

Having a regular physician was not related to having unmet need. This is in part because in Canada's publicly insured healthcare system, residents may access health care regardless of whether they have a regular provider. Patients are also able to seek care from other sources, such as emergency departments, if their physician is not available.

Despite the improved access to regular doctors, which is suggested by the increased proportion of rural residents with a regular doctor, dissatisfaction with the healthcare system rose from 9.5% in 1995 to 25.6% in 2001. In addition in 2001, unlike 1995, satisfaction was no longer related to having a regular physician. Recent reports suggest that dissatisfaction with the Canadian healthcare system is related in part to access issues, including access to a regular physician[19-21]. These findings suggest that more research is needed to understand the complex relationship between access and public satisfaction with the healthcare system.

Limitations

This study used secondary data from two population-based telephone surveys. Although the survey methods share many similarities, there are a number of notable differences. The questions and response categories for the independent variable, having a regular doctor, was identical in both surveys. However, there were slight differences in either the wording of the questions or the response categories in 14 of the 23 variables considered in the study. Moreover, the 1995 surveys included all members of a household in its sample, while the 2001 survey included only one randomly selected adult in its sample, specifically the adult who last had a birthday. The design effect of the 1995 survey is small[15] and unlikely to account for the findings. Moreover, our results are consistent with other recent, national studies which found that more Newfoundlanders have a regular doctor[3,19]. It is unlikely, therefore, that the differences we report between 1995 and 2001 are solely the result of differences in sampling strategies.

Conclusion

Access to a regular doctor in rural Newfoundland has improved. Disparities, particularly in health status, between those whose doctors changed and those with regular doctors decreased; by 2001, the characteristics of those whose doctors changed were similar to those who had a regular doctor. In 2001, rural residents without regular doctors were healthier than residents with a regular doctor or whose doctors changed, suggesting that the residents who seek a regular source of care are those most in need.

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