

**EFFECT OF DISTANCE TO PRIMARY CARE PROVIDER ON PATIENT HEALTHCARE
SATISFACTION**

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Introduction

There are a myriad of issues that complicate healthcare delivery in a rural setting, not the least of these being an increased distance that one may need to travel to see a doctor due to a provider shortage in their immediate vicinity. Primary care is the entry point into the medical system, providing advocacy for patients within the medical field, as well as giving cost effective care by addressing concerns when they arise rather than longer down the road.¹ Unfortunately, in some rural settings, it can often be difficult to find a primary care provider that is an accessible distance from a patients residence.² The Interlake-Eastern Regional Health Authority alone covers a massive area of 61 000 km squared, with a patient population of 126 000.³ An area as large as this makes primary care provider accessibility and distance a rather large issue. Additionally, it is not uncommon for patients to have at one time received primary care in their own community, but then have their physician leave for any number of reasons, while the patient is left to find primary care which may be many kilometres further away. All this together can leave patients disenfranchised with the healthcare system, and may lead to patients choosing to forgo their primary care due to difficulties in accessibility.

It is not fully understood how the effect of distance to a primary care provider relates to healthcare utilization and the burden of disease on patients, but we seek to get a basic understanding of patients outlook on their own healthcare based on the distance from their primary care provider. It is well known that a lack of primary care providers in rural areas leads to a higher disease burden on the patient population.⁴ Nearly 20% of Canada's population lives rurally, while under 10% of Canadian doctors practice rurally.⁵ Geography itself is known as a determinant of health, where patients living in rural communities usually have poorer health status.⁴ It has also been shown previously by a study from Michigan,⁶ that as distance from a family doctor increased, patient disease burden tended to increase as well. Here we try to not only understand how distance or lack of accessibility effects the disease burden on the

population, but how patient satisfaction and utilization of their primary care providers is changed based upon distance from their provider.

Methods

In order to assess the effect of patient distance to their primary care provider on healthcare satisfaction, an anonymous survey was provided to willing patients in the waiting room of the Stonewall Medical Clinic. The survey consisted on 9 questions with the first taking not of how long the commute was for the patient to their primary care provider. This question was stratified into 5 categories made up of <5 km, 5-10 km, 10-20 km, 20-30 km, and >30 km. The next 7 questions were rated on a scale of 1 to 5 with 5 always being the highest rating. The questions can be seen below:

- How would you rate the difficulty of getting to your doctors appointment?
- Do you often need to take time away from work or important responsibilities during an appointment?
- How confident are you that your health concerns are being adequately addressed currently?
- How important is your accessibility to family doctor when deciding where to live?
- Will you chose not to see your family doctor for certain health concerns due to distance away from home?
- Do you feel that your health has suffered due to distance and accessibility of your doctor?
- Rate your personal healthcare satisfaction at the time being.

The final question was an optional opinion question that patients could respond to individually.

The question was “What would allow for the biggest improvement in your own healthcare satisfaction?”

Results

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The results from the survey can be seen in Table 1 below. From the results of the survey,

Table 1. The effect of distance from primary care provider on personal health satisfaction.

Distance		<5 km	5-10 km	10-20 km	20-30 km	>30 km
Total Sample size		50	10	16	16	14
Difficulty of accessing appointment	1	84%	40%	50%	50%	57%
	2	16%	40%	38%	25%	14%
	3	0%	20%	13%	0%	0%
	4	0%	0%	0%	13%	14%
	5	0%	0%	0%	13%	14%
Need to take time away from work or responsibilities to see doctor	1	56%	60%	25%	13%	43%
	2	0%	0%	50%	25%	29%
	3	12%	0%	13%	13%	14%
	4	8%	0%	0%	25%	0%
	5	24%	40%	13%	25%	14%
Confidence in health concerns being addressed adequately	1	0%	0%	0%	0%	14%
	2	4%	0%	13%	0%	0%
	3	8%	40%	38%	25%	14%
	4	40%	20%	50%	50%	14%
	5	48%	40%	0%	25%	57%
Importance of accessibility of doctor when choosing where to live	1	16%	0%	38%	0%	14%
	2	0%	0%	38%	0%	0%
	3	12%	20%	0%	0%	0%
	4	12%	40%	0%	38%	0%
	5	60%	40%	25%	63%	86%
Choose not to see doctor due to distance away from home	1	80%	60%	50%	38%	29%
	2	4%	0%	25%	38%	29%
	3	4%	0%	25%	0%	14%
	4	12%	20%	0%	13%	14%
	5	0%	20%	0%	13%	14%
Feeling that health has suffered due to accessibility	1	84%	60%	50%	75%	43%
	2	12%	0%	13%	13%	14%
	3	0%	40%	38%	0%	0%
	4	4%	0%	0%	13%	0%
	5	0%	0%	0%	0%	43%

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Personal healthcare satisfaction	1	0%	0%	0%	0%	0%
	2	0%	0%	0%	25%	14%
	3	4%	60%	38%	25%	14%
	4	28%	20%	50%	25%	43%
	5	68%	20%	13%	25%	29%

one can observe that there are some trends that are revealed as distance from primary care provider increases. It is apparent that the difficulty in accessing doctor appointments tends to increase with distance from the office, as the 20-30 km and >30 km patients have a higher percentage of 4 and 5 ratings than the other distance groups. Additionally, the importance of accessibility of a primary care giver when choosing where to live seemed to be of more importance in this same 20-30 km and >30 km group, as nearly every patient rated this as either a 4 or a 5. This question was also important to the other distance groups, but not quite to the same extent as the responses were distributed more equally throughout the rating scale. One last place where this was seen was in the patient responses to if they believed that their healthcare had suffered due to accessibility issues. While most of the responses throughout distance groups agreed that they had not suffered significantly (ratings of 1-3), only the groupings of 20-30 km and >30 km had response rates above 5% for ratings of either 4 or 5.

Another interesting response was seen in two of the multiple choice questions of the survey. The distance group of <5 km provided a much higher percentage of favourable responses than the other distance groups for these two questions. Firstly, 80% of the <5 km group selected 1 (very rarely) for the question of if they would chose not to see their doctor for certain concerns due to distance from home. The next highest percentage for the answer of very rarely was the 5-10 km group with 60%, while the percentages decreased for the rest of the distance groupings. Lastly, personal healthcare satisfaction showed this as well as 68% of responses from the <5 km group rated their satisfaction as a 5. This was significantly higher than any of the other distance groups.

There were also some questions that interestingly provided very little difference in their answer distributions between distance groups. The first was needing to take time off of work or away from responsibilities to see the doctor. All distance groupings had answers ranging relatively equally from 1 to 5, showing that this question may not be dependent specifically on distance. The same can be said for patient confidence that their health concerns are being adequately addressed. Regardless of distance, patients seemed to be quite content with this question, as most responses showed a confidence rating of 4 or 5. The lowest confidence among these distances was the 10-20 km range, where 50% of responses were either a 2 or 3, with the other 50% being a 4. The other groupings all had much higher 4 and 5 confidence ratings.

The final question of the survey was an optional written response on what the patient thinks would allow for greater healthcare satisfaction. The response rate to this question was quite a bit smaller than the total sample size of the survey as it was optional, but there were still some responses from which insight into patient issues with could be gained. Throughout all distance groupings the response of more available appointments and wait time reduction in general could be seen. The issue of wait times and lack of appointments is an issue for nearly every rural and urban family practice and should not be understated. However, it was only in the 20-30 km and >30 km range that the issue of doctors being on time for their actual appointments was discussed. In the >30 km grouping the response of "Would like to see doctors to be on time" was seen, and in the 20-30 km group there was a comment of "I should not have to have an appointment when my doctor is on call in ER. Don't know how long I will have to wait in waiting room".

Discussion

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Figure 1. Patient rated difficulty in accessing doctor appointments

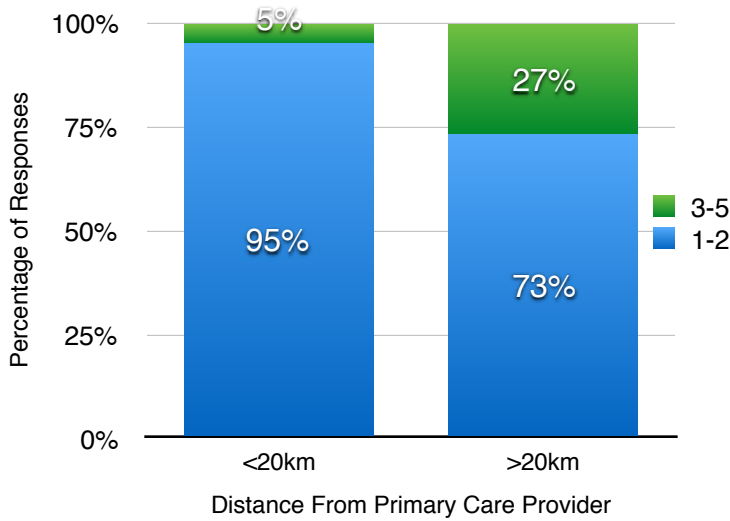


Figure 2. Patient rated importance of primary care provider accessibility when choosing where to live

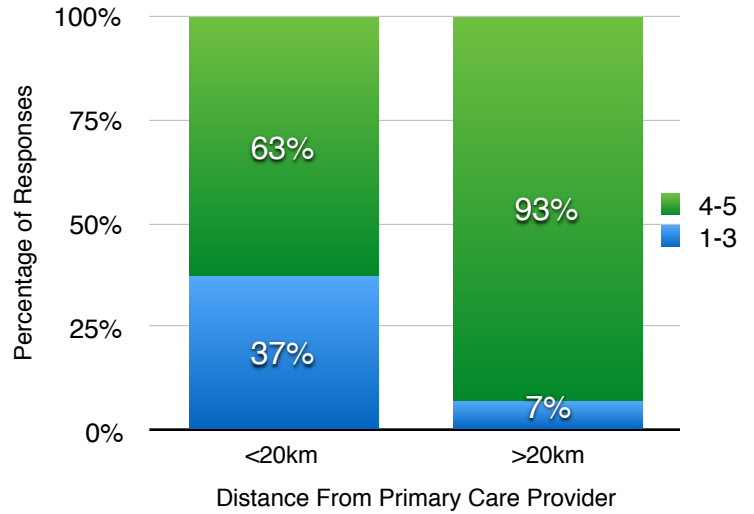


Figure 3. Patient response to "has your healthcare suffered due to accessibility of your doctor"

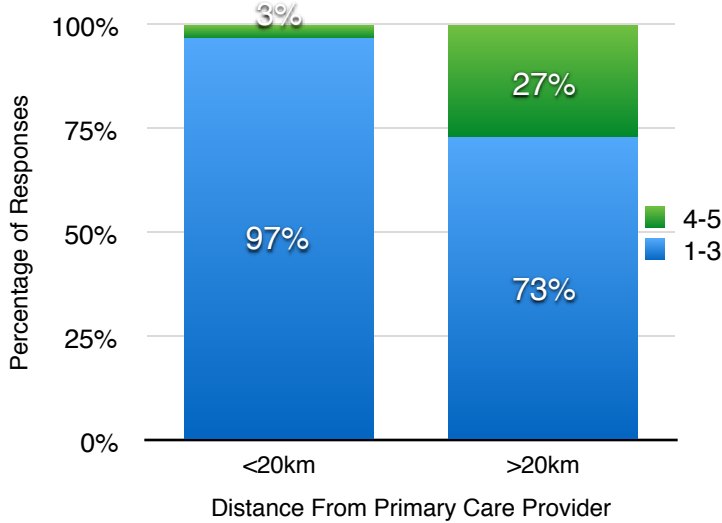


Figure 4. Patient response to if they would choose not to see their family doctor for certain concerns due to distance

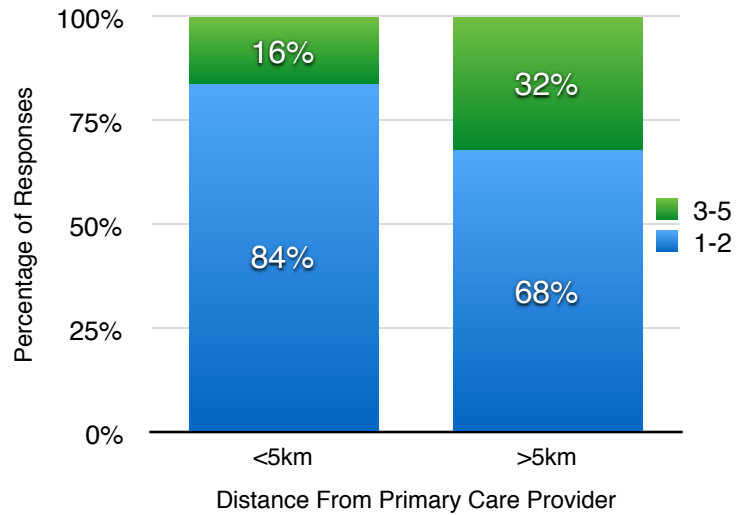
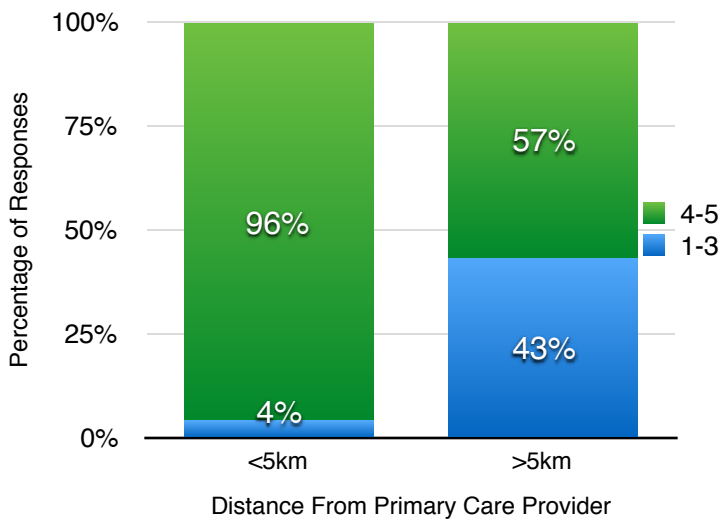


Figure 5. Patient rated personal healthcare satisfaction



Some of the trends that were seen in the results are more clear when distances are grouped together. The following five figures demonstrate this. Figures 1 through

3 show the divide in patient responses when the patients are grouped into distances either below 20 km or above 20 km. In Figure 1 it is seen that the >20 km patient group seems to have at the very least a more difficult time in accessing their primary care appointments. 27% of these patients gave a difficulty score of between 3-5 (somewhat to severe difficulty), whereas only 5% of the <20 km patient group gave scores of 3-5. Figure 2 again shows how distances of greater than 20 km affected survey responses. 93% of responses rated the importance of primary care accessibility when choosing where to live as a 4 or 5 (moderate to very important). Only 63% of responses for the <20 km group scored this importance to them as a 4 or 5. Most importantly in Figure 3, it is seen that living a distance of greater than 20 km from primary care does seem to affect how people view their healthcare. 27% of patients in this group believe that their healthcare has suffered either moderately or severely (ratings of 4 or 5), while only 3% of patients under 20 km responded the same way.

It is interesting that the 20 km mark seems to be where real differences emerge in responses for these three questions. It is not surprising that patients further away experience more difficulties accessing primary care⁷ and this was seen in Figure 1, especially as the distance becomes greater than 20 km. The longer patients need to commute to their appointment, the more difficult getting there can become. Other transportation methods such as walking, biking, or taxiing become unrealistic. Figure 2 is interesting in that it seems as if the healthcare experience of those patients who live greater than 20 km away from their primary care provider had a direct impact on their responses to the importance of primary care accessibility when choosing where to live. Perhaps the experience of living a large distance from primary care has made these patients realize the importance of easy accessibility and the challenges that arise when that is lost. The response rate of moderate to very important was 30% greater than that of the under 20 km group. Most importantly, and unfortunately, it was seen that distance seems to negatively effect the perception of patients healthcare, as a much

greater percentage of patients in the >20 km group said that their healthcare had suffered due to the distance and accessibility of their doctor. This of course could be for reasons other than just the distance they have to travel, and more direct question are necessary to finding out specific reasons why that may be the case. However, one factor may be that many patients travelling these distances at one time did have a primary care provider within 20 km or much closer. Unfortunately, for a number of reasons some physicians will leave these communities and the patients will have to travel further for care. This added distance along with the discontinuity of care could be contributing to the feeling their healthcare is suffering.

In Figures 4 and 5 it is seen how the effect of being very close (<5 km) to primary care changed patient responses to two different questions. In Figure 4, 84% of patients who lived under 5 km away from primary care said that they would rarely (ratings of 1 or 2) choose not to see their family doctor due to distance or accessibility issues, whereas only 68% of patients over 5 km responded this way. In Figure 5 there is a dramatic differences between the two distance groups in their personal healthcare satisfaction. 96% of people in the <5 km group rated their healthcare as either very good or excellent (4 or 5), and only 57% of patients who lived greater than 5 km away answered the same way. These differences in results, for the most part, disappear when other distance groupings were assessed, such as the over and under 20 km patient groups. It is of course not realistic to expect that most patients in rural settings be within 5 km of their primary care provider, but it is interesting to see the positive effect of this on both consistency in seeing primary care for any concerns and patient personal healthcare satisfaction. This may be due to the fact that if a patient lives within this 5 km vicinity, they know that it will be possible to see their family physician without too much added planning. Additionally this short distance could be more conducive to a flexible schedule so that they can adapt to what is usually a changing physician schedule on short notice.

There were also questions which had relatively similar responses regardless of distance. The first of these was if patients found themselves needing to take time away from work or responsibilities to attend appointments. The relatively similar responses can likely be partially explained due to a couple of factors. The first is the issue of wait times at the doctors office. This was the most common written response that was collected back from the opinion portion of the survey, and was seen in all patient distance groupings. Patients wrote about how wait times affected their day, and about how it was unfortunate that at times they would have to wait for up to an hour in the waiting room for their doctor to see them. Because of this, it seems that regardless of distance from a patients primary care provider, wait times can sometimes be the factor that causes time away from work or responsibilities. Even if a patient only has to drive five minutes to get to the doctors office, if they need to wait an additional hour once they get there, they will likely need to take time away from their day to day life as appointments are typically scheduled during weekday work hours. Another factor which could weigh towards answers of less likely to miss work or responsibilities for appointments regardless of distance was patient demographics. Older patients are more likely to be retired and ultimately less likely to need to visit the doctor at times which interfere with their responsibilities. Similar responses throughout all distance groups were also observed when patients were asked if they believed that their health concerns were being adequately addressed. Further questions may need to be asked as to why this question returns similar results, whereas healthcare satisfaction and patients feeling that their healthcare is suffering seems to be more dependent on distance. One possible reason may be that when patients do come to their family doctor, regardless of their distance away, they are generally confident that the doctor will attend to them properly. The differences in satisfaction and personal outlook on their healthcare may then be due to how often they visit, or the burden that it takes to travel further distances to receive this healthcare.

Conclusion

The distance that a patient must travel to see their primary care provider seems to play an important role in how that patient views their own healthcare. When a patient lives a significant distance, such as over 20 km from primary care, this seems to have an effect on how they perceive difficulty in accessing care, how much importance they put on having accessible primary care when deciding where to live, and the perception of how their healthcare is suffering due to accessibility. Additionally, having to travel a very short distance to a primary care provider such as under 5 km, seems to increase healthcare satisfaction for patients along with making patients less likely to skip appointments for certain concerns due to distance or accessibility issues.

Although it is most likely unrealistic to try to place a primary care provider within 5 km of most patients, it may be possible to decrease the distance for some patients travelling significant distances by attempting to place a small number of clinics outside of larger rural cities and into smaller municipalities where more patients could benefit from decreased travel time. This, along with attempting to decrease wait times once patients are in the office could improve how patients perceive accessibility issues when it comes to their primary care, with the end goal of ultimately improving overall patient healthcare satisfaction.

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