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# The experience of primary health care users: a rural–urban paradox

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**Introduction:** We sought to assess the care experience of primary health care users, to determine whether users' assessments of their experience vary according to the geographical context in which services are obtained, and to determine whether the observed variations are consistent across all components of the care experience.
**Methods:** We examined the experience of 3389 users of primary care in 5 administrative regions in Quebec, focusing on accessibility, continuity, responsiveness and reported use of health services.
**Results:** We found significant variations in users' assessments of the specific components of the care experience. Access to primary health care received positive evaluations least frequently, and continuity of information received the approval of the highest percentage of users. We also found significant variations among geographical contexts. Positive assessments of the care experience were more frequently made by users in remote rural settings; they became progressively less frequent in near-urban rural and near-urban settings, and were found least often in urban settings. We observed these differences in almost all of the components of the care experience.
**Conclusion:** Given the relatively greater supply of services in urban areas, this analysis has revealed a rural–urban paradox in the care experience of primary health care users.

**Introduction :** Nous avons voulu évaluer l'expérience des utilisateurs de soins primaires, afin de vérifier si leur appréciation varie en fonction du milieu géographique où les services leur sont dispensés et si les variations enregistrées sont constantes pour toutes les composantes de l'expérience de soins.
**Méthodes :** Nous avons analysé l'expérience de 3389 utilisateurs de soins primaires de 5 régions administratives du Québec, en mettant l'accent sur l'accessibilité, la continuité et la rapidité des interventions et sur l'utilisation rapportée des services de santé.
**Résultats :** Nous avons noté des variations importantes dans les évaluations des utilisateurs pour ce qui est des éléments spécifiques de l'expérience de soins. L'accès aux soins de santé primaires a fait l'objet d'un moins grand nombre d'évaluations favorables et la continuité de l'information a reçu l'approbation du plus fort pourcentage d'usagers. Nous avons aussi découvert d'importantes variations selon le milieu géographique. Ce sont les usagers des régions rurales éloignées qui ont évalué le plus favorablement leur expérience des soins; la fréquence des évaluations favorables a été inversement proportionnelle à la proximité du milieu urbain et elle a été la plus faible dans les villes. Nous avons observé ces différences pour la quasi totalité des composantes de l'expérience de soin.
**Conclusion :** Compte tenu de l'accès relativement plus facile aux services dans les régions urbaines, cette analyse met au jour un paradoxe concernant l'expérience des utilisateurs de soins primaires selon qu'ils vivent en milieu rural ou en milieu urbain.

## INTRODUCTION

Urban settings exhibit characteristics generally perceived as favourable to a satisfying care experience for patients, particularly with respect to accessibility and use of services. Rural settings exhibit characteristics considered less favourable to a satisfying care experience. These characteristics are tied to



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the nature of the local population (its size, density, and socio-economic profile), the availability of health resources, and the distance from and dependence on large urban centres. In contrast, some qualities of rural settings, such as community integration and cohesion, are perceived as having a positive influence on other components of the care experience, such as continuity and responsiveness.[1–5] The scientific evidence available at this time does not fully support these perceptions (unpublished data, 2001–2003).[6–12] Part of the difference appears to lie in the specific components of the care experience analyzed.

This article is intended to shed light on the relationship between users' experience of their care and the geographical context in which services are obtained. Our study had 3 specific objectives: to assess the care experience of primary health care users, to determine whether assessments vary according to the geographical context in which services are obtained and to determine whether the observed variations are consistent across all components of the care experience.

## METHODS

### Sources of data

This study consists of a secondary analysis of data from a survey of primary health care users. A detailed description of the methodology has been presented elsewhere.[13] The survey of 3389 primary health care users collected data on the users' evaluations of the accessibility, continuity and responsiveness of the services as well as their reported use of services.

These users came from a random sample of 100 medical clinics drawn from 5 administrative regions of Quebec: the North Shore, the Lower Saint Lawrence, Gaspé, Montérégie and Montréal. The sample of clinics was stratified in 2 ways: by geographical context, to bring out the rural–urban difference, and by the types of organizations of primary health care found in Quebec (i.e., community-based health centres, medical group clinics and solo medical practices). To be eligible, an organization had to provide general medical services to an undifferentiated and predominantly English- and French-speaking client base. These clinics represented 60% of those invited to participate. The remaining organizations declined to participate.

A maximum of 4 physicians per clinic were either designated by their clinic director or had the time to participate in the study, for a total of 221 physicians.

The patients of these physicians were approached by the research assistant to establish their eligibility, explain the study and negotiate informed consent. Eligible patients were those able to give informed consent by themselves (aged ≥ 18 yr and mentally competent) or by proxy (e.g., children) and were able to complete the questionnaire in English or French. Of the eligible patients, 76.9% completed the survey.

### Description of the variables

Care experience refers to users' assessment of the accessibility, continuity and responsiveness of primary health care as well as their reported use of health services. Appendix 1 shows the survey instrument of 14 variables used to delineate components of the care experience. Accessibility measures the ease with which users can access primary health care services.[14] Continuity is a measure of whether services are provided as a coherent series of events that meet service needs and the life circumstances of the patient.[15] Responsiveness expresses the degree to which the organization of services meets users' expectations.[16] Use of services refers to services provided by family physicians, medical specialists and hospital emergency departments.

To assess the various components of the care experience, we constructed ordinal variables by grouping questions according to our views of what best fit together. For each variable, we defined categories based on a rigorous analysis of question–response profiles. The goal was to differentiate user assessments of the care experience as much as possible. It should be noted that most of the responses fell into the most positive appraisal categories. As a result, responses classified in the higher categories of these variables must often be understood as very positive appraisals of the care experience. Responses classified in the lower categories signify a poorer appraisal of this dimension, albeit without constituting a negative appraisal.

Our interest in geographical contexts was based on the hypothesis that each setting provides a different set of social, psychologic, geographic and economic conditions. These circumstances are significant and identifiable, and they influence the values, attitudes and behaviours of the people living there.[17,18]

For the purposes of this study, 2 features of the contexts were included: the size of the population in the municipality where the patient's clinic was located and the distance of these municipalities from the

large urban centres of Montréal and Québec City. This led to the definition of 4 distinct geographical contexts, presented in Appendix 2.

Some characteristics of primary health care users influence both their appreciation of the care experience and their use of services, and therefore may have a confounding influence on the relationship between the geographical contexts and the care experience. To control for the influence of these characteristics, we constructed an index of vulnerability to poorer health and, consequently, to a greater need for services by primary health care users. The index was based on the following risk factors: financial position (poor or very poor), level of education (no high school diploma), employment (other than employed), civil status (single), age (≥ 65 yr) and perceived state of health (poor). A high level of vulnerability represents users who had more than 4 of these factors (11.6% of users) and a low level of vulnerability represents users with less than 2 factors (11.7% of users). The vulnerability of the rest of the sample was considered moderate.

### Analysis

We used weighted and nonweighted data. The user scores of reported care experience (see Results and Table 1) were weighted according to the inverse of the sampling fraction for the clinics where the services were provided, so that scores would be representative of the regions in which clinics were sampled. We used a logistic regression with nonweighted data to analyze the relationship between the scores of reported care experience and the geographical settings where services were used (see Results and Table 2). Logistic and ordinal logistic regression models were used, depending on the coding of the dependent variables. Service users in urban centres served as the reference category for all the analyses.

## RESULTS

### Assessment of experience by component of care

The analysis (Table 1) revealed large variations in

**Table 1. Perceptions of 3389 primary health care users about their care experience**

| Care experience | Assessment categories;* % of users | | | |
|---|---|---|---|---|
| | – – | – | + | ++ |
| **Accessibility** | | | | |
| Ease of contact† | 13.7 | 30.2 | 23.5 | 32.6 |
| Emergency or urgent need† | 32.0 | 29.4 | 28.8 | 9.8 |
| **Continuity** | | | | |
| *Relational continuity* | | | | |
| Duration of affiliation with a physician‡ | — | 16.7 | 46.1 | 37.2 |
| Duration of affiliation with a clinic‡ | — | 25.8 | 36.4 | 37.8 |
| Regular use of care services§ | 18.7 | 17.6 | 35.5 | 28.2 |
| Extent of physician's knowledge of the patient§ | 21.5 | 20.3 | 24.7 | 33.5 |
| Quality of patient–physician communication§ | 24.2 | 29.8 | 25.2 | 20.9 |
| *Consistency of approach§* | 17.5 | 22.3 | 32.4 | 27.8 |
| *Continuity of information§* | 8.7 | — | — | 91.3 |
| **Responsiveness** | | | | |
| Respect for the person§ | 9.6 | 5.2 | 10.9 | 74.3 |
| Length of waiting time† | 25.7 | 30.1 | 28.3 | 15.9 |
| **Use of services** | | | | |
| Primary care consultations¶ | 22.5 | 35.8 | 18.9 | 22.9 |
| Specialist consultation** | 75.4 | — | — | 24.6 |
| Use of hospital emergency department** | 59.4 | — | — | 40.6 |

*Symbols – –, –, + and ++ show the variation of users' care experience, whether measured as levels of appreciation, duration of the relationship or the use of services. See Appendix 1 for further definitions of the assessment categories.
†Four categories from very poor to excellent, where – – is very poor and ++ is excellent.
‡Three categories: – is 0–1 yr, + is 2–9 yr and ++ is ≥ 10 yr.
§Four categories from absolutely not to absolutely, where – – is absolutely not and ++ is absolutely.
¶Four categories: – – is 1–2 times, – is 3–5 times, + is 6–8 times and ++ is ≥ 9 times in the past year.
**Two categories: – – is no and ++ is yes.

the reporting of the care experience. Some components received more positive assessments than others. Access to primary care services was one aspect of the care experience that received positive evaluations least frequently. Access to services for an emergency or an urgent need received positive evaluations from the lowest percentage of users.

The vast majority of users appreciated having a long-term relationship with a family physician and being able to regularly use his or her services as required. However, the qualitative aspects of this relationship received poorer appraisals. Almost half of the respondents could not say whether their physician knew them well, and most of them judged communication with their doctor as poor.

Consistency of approach, or the integration of care from different providers, received positive assessments from most of the people interviewed. Continuity of information was the aspect of the care experience that received the approval of the highest percentage of users.

Users responded very differently to the 2 measures of responsiveness. The physician's consideration and respect for the patient as a person received a positive assessment from a high percentage of users, yet the little importance that physicians attach to waiting time was one of the least appreciated aspects of the care experience.

Lastly, 58% of users had made between 1 and 5 visits to a primary care physician during the previous year, and 42% reported more than 5 visits. In addition, 25% of users had consulted a medical specialist during the previous year, and 41% had visited a hospital emergency department at least once during the previous 2 years.

### Care experience and geographic context

Table 2 presents significant odds ratios ($\alpha \leq 0.05$) associating a positive assessment of the care experience with the geographic setting in which the services were obtained, controlling for the degree of vulnerability of the service user.

The results indicate that a larger percentage of

**Table 2. Probability (odds ratio: $p < 0.05$) of a primary health care user having a positive perception of the care experience, by geographical context and adjusted for user vulnerability**

| Care experience | Odds ratio, adjusted for user vulnerability | | | |
|---|---|---|---|---|
| | Remote rural | Near-urban rural | Near urban centre | Urban centre |
| **Accessibility** | | | | |
| Ease of contact | 2.3 | 1.5 | 1.4 | 1.0 |
| Emergency or urgent need | 1.6 | 1.2 | — | 1.0 |
| **Continuity** | | | | |
| *Relational continuity* | | | | |
| Duration of affiliation with a physician | — | — | 1.6 | 1.0 |
| Duration of affiliation with a clinic | 1.2 | 1.2 | 1.3 | 1.0 |
| Regular use of care services | 1.6 | — | — | 1.0 |
| Extent of physician's knowledge of the patient | 1.8 | 1.4 | 1.3 | 1.0 |
| Quality of patient–physician communication | 1.7 | 1.3 | 1.2 | 1.0 |
| *Consistency of approach* | 2.4 | 1.9 | 1.4 | 1.0 |
| *Continuity of information* | 2.2 | 1.8 | — | 1.0 |
| **Responsiveness** | | | | |
| Respect for the person | 1.5 | — | 1.3 | 1.0 |
| Length of waiting time | 2.6 | 1.4 | 1.5 | 1.0 |
| **Use of services** | | | | |
| Primary care consultations | 1.8 | 1.3 | — | 1.0 |
| Specialist consultation | — | 0.6 | 0.6 | 1.0 |
| Use of hospital emergency department | 2.4 | 1.7 | 1.7 | 1.0 |

users in remote rural settings make a positive evaluation of the care experience than in urban centres. The odds ratios are higher for remote rural users than for urban users in almost all dimensions of access, continuity, responsiveness and use of services. The exceptions are affiliation with a family physician for longer than 2 years and consultations with medical specialists. The results also confirm the existence of a gradient by geographic context: the probability of a positive appreciation of the care experience is higher in remote rural settings, diminishing progressively in near-urban rural settings and settings near urban centres, and reaching its lowest level in the urban centres.

## DISCUSSION

This study reveals large variations in the care experience among users of primary care services. A high proportion of users reported very positive perceptions of the care experience. For the most part, the highest percentages of users gave positive assessments to the various forms of continuity, and the lowest rates were associated with various components, including accessibility (especially in cases of an emergency or an urgent need), the quality of the relationship with the family physician (including the physician's knowledge of the patient), the quality of communication with the physician and the importance given by physicians to waiting times.

Our analysis reveals that the probability of a positive reporting of the care experience is highest in remote rural settings, falling progressively in near-urban rural settings and near urban centres. The probability of a positive reporting is lowest in urban centres. This analysis highlights the existence of what may be seen as a rural–urban paradox. The paradox affects every component of the care experience, including accessibility, continuity, responsiveness and use of health services, with the exception of consultations with medical specialists. The paradox is not explained by user profiles in different geographic contexts, because the relationships between assessments of the care experience and geographic context hold after controlling for the users' degrees of vulnerability.

Several hypotheses may explain this paradox (unpublished data, 2009). It may be that expectations of the care experience are lower in remote rural settings than in urban centres, or that the instruments used to measure the care experience highlight aspects that are deemed more important in urban settings than they are in remote rural settings. It is not likely that expectations of care are lower in rural settings. Residents of rural settings have been reported to attribute higher value to different components of the care experience than their counterparts in urban centres (unpublished data, 2009). But no significant difference was found in the level of their expectations. If a difference does exist, it is that rural residents have higher expectations than urban residents, not lower (unpublished data, 2009).

The paradox may also be explained in part by the nature of the collaboration between professionals in the health organizations operating in these territories. There are some indications that this collaboration plays an important role in users' evaluations of the care experience.[19] Another explanation may reside in how primary care services are organized. It has been shown that care experiences vary according to the form of organization of primary care services.[19,20] It is possible that remote rural settings are more likely to have primary care services organized in a manner that is associated with more satisfactory care experiences, as compared with urban centres. Conversely, forms of organization of primary care services associated with less satisfactory care experiences may be more prevalent in urban centres than in remote rural settings. The factors that could explain this situation are unknown and need to be explored further.

Some limitations of this study need to be highlighted. Our study was based on the response of primary health care users. This selection criterion may have skewed positively the assessment of the care experience. The extent to which this bias differs across geographical contexts is unknown.

We assessed users' vulnerability by integrating socio-economic and health-related factors into a single index. This has the advantage of providing an overall assessment of vulnerability while taking into account the additional influence that the accumulation of risk factors may have on the care experience. However, it might prove to be less sensitive and specific in controlling for users' vulnerability, because the association of each factor included in the index may vary across components of the care experience.

Finally, this study did not control for the influence of organizational factors that could be associated with both the care experience and the geographic context. Examples of such factors include the characteristics of the primary care organizations used and the relationships that they maintained with general and specialized hospitals. Whether such factors account for the observed difference is unknown. If they do, it could be argued that they should also be considered characteristics of the contexts.

## CONCLUSION

This analysis highlights the existence of what has been called the rural–urban paradox. Further research is needed to determine whether the paradox is present in other parts of the country as well and to pinpoint the factors that could account for its existence. A better understanding of these factors would allow the improvement of the care experience of users in urban settings without altering those associated with a positive care experience in rural and near rural settings.

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