

Can after-hours family medicine clinics represent an alternative to emergency departments?

Survey of ambulatory patients seeking after-hours care

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ABSTRACT

OBJECTIVE To explore patients' motivations for seeking care in the emergency department (ED) after hours and their willingness to consult their family physicians instead, if their family physicians had been available.

DESIGN Survey using an 8-item questionnaire.

SETTING Two tertiary care hospital EDs in Ottawa, Ont, from June 4 to 22, 2007, between 5 PM and 9 PM.

PARTICIPANTS A total of 151 ambulatory patients. Patients who arrived by ambulance or who bypassed those waiting were excluded.

MAIN OUTCOME MEASURES Patients' self-reported motivation for seeking after-hours care in the ED, the perceived urgency of their medical complaints, and their willingness to have sought care from their family physicians instead, if they had been available.

RESULTS There were 218 eligible patients during the study period. Among the 151 respondents (69.3% response rate), 141 qualified for the study. Of the qualified respondents, 57.4% would have chosen to consult their family physicians instead if they had been available. The most common reason for choosing the ED was the perceived need for services unavailable at family medicine clinics, such as specialist consultation or diagnostic imaging. There were no differences in the perceived urgency of patients' medical conditions or the amount of time they were willing to wait before physician assessment between those who would have been willing to seek care from their family physicians and those who would not have been willing.

CONCLUSION After-hour family medicine clinics provide a desirable primary care service that most patients would choose over the ED if more were available.

EDITOR'S KEY POINTS

- For many Ontarians, the only source of primary care outside of business hours is the emergency department (ED). The introduction of Family Health Networks in recent years has increased the availability of after-hours care.
- This study aimed to understand why patients sought after-hours care in EDs and whether they would have been willing to visit their family physicians instead, if their physicians had been available.
- The findings suggest that increased after-hours availability of family physicians is desired by patients. While this study did not assess whether these patients could have been appropriately managed in family medicine clinics, it is possible that the ED workload could be reduced if these patients had the option of visiting after-hours clinics instead of EDs.

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L'ouverture des cliniques de médecine familiale après les heures normales est-elle une solution de rechange aux services d'urgence?

Enquête auprès de patients ambulatoires en quête de soins en dehors des heures normales

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RÉSUMÉ

OBJECTIF Déterminer les raisons qui amènent les patients à consulter les services d'urgence (SU) en dehors des heures normales et leur désir de consulter plutôt leur médecin de famille si celui-ci avait été disponible.

TYPE D'ÉTUDE Enquête à l'aide d'un questionnaire de 8 articles.

CONTEXTE Les SU de 2 hôpitaux d'Ottawa, du 4 au 22 juin 2007, entre 17 h et 21 h.

PARTICIPANTS Un total de 151 patients ambulants. Les patients arrivés en ambulance ou ayant devancé ceux qui attendaient ont été exclus.

PRINCIPAUX PARAMÈTRES À L'ÉTUDE Raisons invoquées par les patients pour consulter les SU en dehors des heures normales, leur perception de l'urgence de leur problème de santé et le désir qu'ils auraient eu de consulter plutôt leur médecin de famille s'il avait été disponible.

RÉSULTATS Il y a eu 218 patients admissibles durant la période étudiée. Parmi les 151 répondants (taux de réponse 69,3%), 141 se sont qualifiés pour l'étude. Parmi les répondants acceptés, 57,4% auraient choisi de consulter plutôt leur médecin de famille s'il avait été disponible. La raison la plus fréquente pour choisir le SU était l'idée que la clinique de médecine familiale ne disposait pas des services requis, tels que les consultations spécialisées et l'imagerie diagnostique. Il n'y avait pas de différence dans la perception de l'urgence de la condition médicale des sujets ou la quantité de temps qu'ils étaient prêts à attendre avant d'être évalués par un médecin entre ceux qui auraient préféré consulter leur médecin de famille et ceux qui n'en auraient pas eu l'intention.

CONCLUSION L'ouverture des cliniques de médecine familiale en dehors des heures normales constitue un service de soins primaires prometteur que la plupart des patients choisiraient au lieu des SU si de tels services étaient davantage disponibles.

POINTS DE REPÈRE DU RÉDACTEUR

- Pour plusieurs ontariens, l'unique source de soins primaires en dehors des heures normales de travail réside dans les services d'urgence (SU). La création des réseaux de santé familiale au cours des dernières années a augmenté l'accès aux soins en dehors des heures normales.
- Cette étude voulait savoir pourquoi les patients consultent des services d'urgence en dehors des heures normales et s'ils auraient voulu consulter leur médecin de famille si celui-ci avait été disponible.
- Les résultats laissent croire que les patients souhaitent une disponibilité accrue des médecins de famille en dehors des heures normales. Bien que cette étude n'ait pas cherché à savoir si ces patients auraient pu recevoir des soins appropriés dans les cliniques de médecine familiale, on peut supposer que la charge de travail des SU serait réduite si les patients avaient l'option de consulter dans les cliniques au lieu des SU après les heures normales.

*Le texte intégral est accessible en anglais à www.cfp.ca.

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Research Can after-hours family medicine clinics represent an alternative to EDs?

Primarily medical care can be defined as the health care provided at the point where a patient first seeks assistance from the medical system. For many Ontarians without regular family physicians, the only source of primary care is the emergency department (ED). For those with family physicians, the same often holds true: a lack of access to appointments or a lack of physician availability outside of regular business hours can limit patients' ability to see their family physicians.

A key reason patients present to the ED for their medical care is because they lack access to primary care physicians.¹ This is true for adult and pediatric populations^{2,3} in Canada, in the United States,⁴ and in other countries.⁵ Canadian ED visits increase between 6 PM and 8 PM, corresponding to the closure time of most family medicine clinics.⁶

In 2001, the introduction of Ontario Family Health Networks and related practice models (family health groups, teams, and organizations) was an attempt to increase the availability of primary health care professionals in Ontario.⁷ This included the introduction of after-hours family medicine clinics provided to all patients of each network, with the workload divided among the physicians of the networked practices. These clinics were opened to reduce the number of low-acuity patients seeking care in the ED and to improve continuity of care. Few studies have examined patients' attitudes toward these clinics or described what factors contribute to patients' decisions to seek care at after-hour clinics or EDs.^{4,8,9}

The primary objective of this study was to determine if ambulatory patients seeking care in the ED after regular office hours would rather have chosen to consult their family physicians if they had been available. It was expected that most patients would have this preference to see their family physicians.

METHODS

Design

We conducted a survey among ambulatory ED patients seeking after-hours care in the Ottawa, Ont, region. Patients completed the survey immediately after the triage and registration process in the ED.

Setting

We recruited participants from the waiting rooms of 2 geographically distinct ED campuses of the Ottawa Hospital (civic and general campuses). The Ottawa Hospital is a tertiary care academic hospital with multiple campuses. It is a level 1 trauma centre with a total of 120468 ED visits per year. Each ED receives approximately 155 visits daily.

Population

Patients were eligible for enrolment if they, or a

caregiver in the case of pediatric patients, were able to give informed consent, were able to read and write in English or French, and had come to the hospital by their own means of transportation. Patients who arrived by ambulance or who bypassed the waiting room and were brought directly into the treatment area were excluded. We consecutively sampled participants over a 3-week period in June 2007 between the hours of 5 PM and 9 PM, Monday to Friday. This time period was chosen to include the hours during which after-hour clinics typically also operate. The Ottawa Hospital Research Ethics Board approved the study.

Survey design

We developed a questionnaire that focused on 2 main constructs, addressing patients' motivation for seeking after-hours care in the ED and the perceived urgency of their medical conditions. The research team, which included representation from family and emergency medicine, structured the questions and the answer options based on a review of the current literature.¹⁰⁻¹² We pilot-tested the questionnaires using medical and lay people, and subsequently improved them for understandability, readability, and clarity. The final 8-item questionnaire used questions with either dichotomous (yes or no) or multiple-choice answers. To better capture patients' motivations for choosing to seek care in the ED, we offered a free-form option in addition to the choices generated by the literature review and pilot-testing processes. Patients were able to select multiple reasons why they chose to seek care in the ED. We also asked about patients' individual access to family physicians. We used 5-point scales to assess the perceived urgency of the medical complaint and the length of time the patient thought it would be reasonable to wait before being assessed by a physician for that problem. With the addition of a 4-hour waiting cutoff to reflect the reality of potential ED wait times for the least urgent cases, the wait time scale (0, 0≤1, 1≤2, 2≤4, and >4 hours) reflects times adapted from the Canadian Triage Acuity Scale's (CTAS's) lowest acuity categories (CTAS IV—less urgent, and CTAS V—nonurgent).¹³

Data analysis

We divided participants according to the following 2 categories: 1) patients who attended the ED but who would have gone to their family physicians if they were available; and 2) patients who attended the ED who would not have gone to their family physicians. We analyzed our primary outcome using descriptive analysis. The 5-point scale (1 to 5) we used to assess the urgency of the medical complaint was collapsed to a 3-point scale (low [1, 2], moderate [3], and high urgency [4, 5]) to simplify data analysis and to facilitate the clarity of data presentation.

The 5 options we used to assess a reasonable wait time in the ED (immediately, 1 hour or less, 2 hours or

less, 4 hours or less, more than 4 hours) were also collapsed into 3 options (1 hour or less, 2 hours or less, and more than 2 hours) to simplify data analysis and to come in line with our change in the scale for the urgency of medical complaints. The groups were compared between the 2 study populations using χ^2 analysis in Microsoft Excel 2003.

RESULTS

Of the 218 patients approached in the ED between June 4 and 22, 2007, 151 responded (69.3% response rate) and 141 qualified for the study. Ten participants were excluded because they had arrived by ambulance and were subsequently sent to the waiting room. Two patients did not indicate whether or not they had family physicians; of the 139 who did answer the question, 30 (21.6%) did not have family physicians and 109 (78.4%) did. Among those who did have family physicians, 31 (28.4%) did not know if their family physicians offered after-hours services. A summary of demographic characteristics for all participants is provided in **Table 1**.

Table 1. Demographic characteristics of study participants: Participants were a mean of 43.8 (range 3-91) years of age.

CHARACTERISTIC	N (%) N = 141
Female sex*	73 (53.2)
Province of residence†	
• Ontario	118 (83.7)
• Quebec	9 (6.4)
• Other	5 (3.5)
Had a family physician‡	109 (78.4)

*Four participants did not answer this question.

†Nine participants did not answer this question.

‡Two participants did not answer this question.

Of the 141 patients recruited in the ED, 81 (57.4%) stated they would have consulted their family physicians if their family physicians had been available at the time. Of those who would not have, 20.0% did not have family physicians. Participants were also asked to state their reasons for presenting to the ED instead of to their family physicians' offices. They were allowed to make multiple selections. The most common reason was the perceived need for services unavailable through a family medicine clinic, such as specialist consultation (37.6%) and diagnostic imaging (31.2%). Some (17.0%) thought they would get better care in the ED. A third (33.6%) were referred from their family physicians' offices, and 9.9% were advised by Telehealth Ontario to seek care at the ED.

There was no difference in the perceived urgency of patients' medical conditions between those willing and those not willing to go to their family physicians ($P = .46$)

(**Figure 1**). The amount of time patients (those willing and those not willing to go to their family physicians) were willing to wait before being evaluated by a physician is presented in **Figure 2**. There was no difference between groups ($P = .25$).

DISCUSSION

The primary objective of this study was to find out whether ambulatory patients presenting to the ED after hours would have considered going to their family physicians instead if they had been available. Most (57.4%) of this patient population had this preference.

Other studies have also found similar results regarding after-hour clinics. Howard et al (2005) interviewed patients presenting to the ED and found that access to family physicians was desired but unavailable.⁴ Howard and colleagues' 2007 study included Ontario Family Health Network practices and found patients attending these after-hour clinics to be more satisfied than those seeking after-hours care in EDs or walk-in clinics.⁸ Another study found that patients in Ontario were more satisfied with the shorter waiting room delays experienced at their family practices than with those in the ED.⁹ The findings of our study reinforce the general preference for receiving primary care from one's usual physician when available.

Among our ED participants, 30 (22%) did not have family doctors. This is higher than the 17% national average in 2006 reported by the College of Family Physicians of Canada, and might represent a selection bias in patients primarily using the ED to receive their primary care. Thirty-one patients in our study with family physicians were unaware of whether they had access to after-hour clinics. This was also the case among 20% of patients previously surveyed from one University of Ottawa family medicine teaching site that did offer an after-hours clinic.¹⁴ Studies have shown, however, that less than 26% of patients even attempt to contact their family physicians before seeking service elsewhere.^{15,16}

It is difficult to determine a priori the appropriateness of an ED visit that is triaged as a lower-acuity case.¹⁷ A study by Campbell et al (2005), however, found that ED assessment of minor acute illnesses was associated with higher initial costs to the health care system, as well as higher rates of health service re-utilization.¹⁸ This could not be avoided in some cases, such as among the 10% of our patients who were advised by Telehealth Ontario to visit the ED or those referred to the ED by physicians (34%). By having increased after-hours availability of family physicians, there is a possibility of cost savings to the health care system.

A study from the Netherlands examining the introduction of after-hours family medicine clinics as part of their primary care reform found that the introduction of such clinics

Figure 1. Patients' perceived urgency of medical complaint

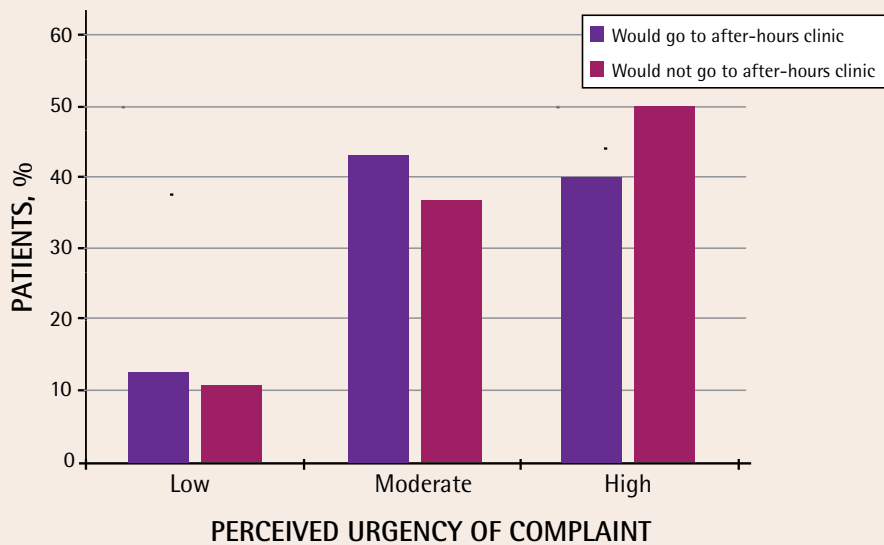
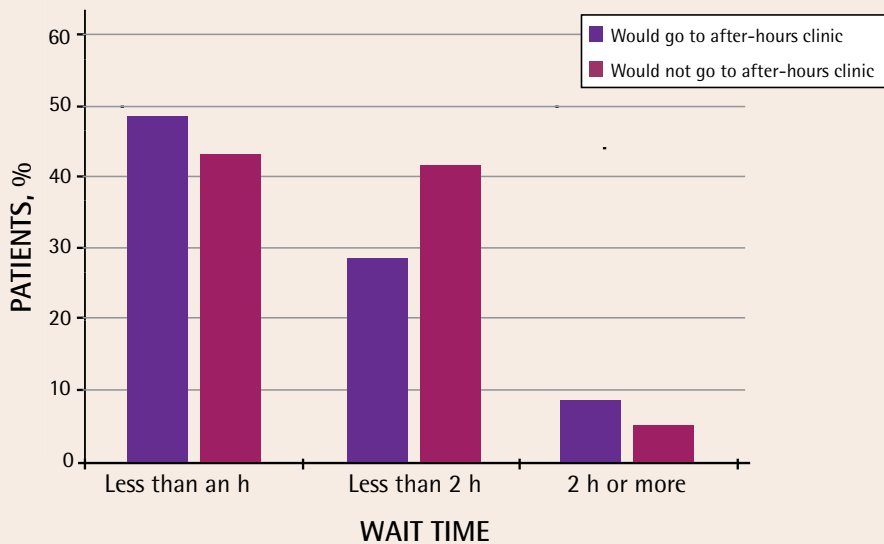


Figure 2. Amount of time patients were willing to wait before being assessed



decreased ED visits by 9%, with a 10% increase in primary care visits.¹⁹ A similar study of general practice cooperatives in the United Kingdom found no change in ED use or patient satisfaction; however, the physicians participating in the cooperatives had increased satisfaction compared with their counterparts not participating in the cooperatives.²⁰

Perception of urgency and type of symptoms influence ED use. Urgency is most commonly measured from the provider's perspective, as is the case with the CTAS rating. It is patients' perceptions of urgency, however, that factor into their decisions about where to seek care. In our study, patients presenting to the ED perceived their medical complaints to be of similar urgency whether they would have preferred to be seen at a clinic

or not. Previous research suggests that patients opting to present to the ED generally perceive a higher level of urgency than those who present to their family physicians for care do.^{4,12}

Limitations

Our study has several limiting factors. First, we conducted the study in an academic hospital. The ED wait times for less urgent cases and the services available differ from non-tertiary care EDs. The average wait times at the Ottawa Hospital for those with CTAS IV and V acuity ratings are between 2 and 3 hours (N. Dunlop, Corporate Clerical Coordinator, The Ottawa Hospital, written communication, July 2009). Patients attending

teaching hospital EDs have longer lengths of stay, regardless of the severity of their complaints.⁶ Therefore, our patients might have been more likely to prefer to see family physicians than those in communities served by non-teaching hospitals would have been.

Second, owing to the nature of urgent primary care complaints in midsummer, it might be inappropriate to generalize our findings to patient presentations across the entire year. For example, studies have shown a greater incidence of injuries, such as those associated with sports and recreation, during the summer months. These patients might be more likely to present to the ED.^{21,22}

Third, surveying patients in the ED who have already been waiting could affect their answers. We accounted for this by consistently approaching them before they had spent any time in the waiting room. Had the patients in the ED been approached after a period of waiting, they might have been even more likely to have been willing to go to their family physicians.

Fourth, it is unclear whether differences in results could be attributed to the nature of the individual medical complaints. We did not have a follow-up process in this study to see what care was delivered or which patients were admitted or referred. This would have allowed us to determine whether the cases could have been handled at after-hours clinics and to compare patients' perceptions with outcomes. Visit information for patients who declined to participate in the study (31% of all patients approached) was not collected, which made ruling out potential bias impossible.

Conclusion

Our study provides timely information during a period of change in the way that family medicine is practised and delivered in Ontario. To our knowledge, it is the first study in Ontario to directly examine the patient factors involved in decision making when patients are presented with a choice of health care settings, and it reinforces related studies supporting the positive role of after-hours family medicine clinics. Our findings suggest that increased after-hours availability of family physicians is desired by patients. While this study did not assess whether these patients could have been appropriately managed in family medicine clinics, it is possible that the ED workload could be reduced if these patients had the option to visit after-hours clinics instead of EDs. Given the findings of our study, it can be estimated that either the civic or general campus of the Ottawa Hospital could see 16 fewer patients per weekday between 5 PM and 9 PM, or approximately 4000 fewer patients per year. Emergency department patients surveyed had similar levels of perceived urgency whether they had a preference for the family medicine clinic or not, and they believed that their complaints could wait just as long for physician assessment. Future studies should examine ED records to determine which patients could safely be

seen at after-hours clinics or could consider other strategies for after-hours care. Combined with studies demonstrating increased patient satisfaction and improved cost effectiveness, increasing after-hours availability of family physicians might be a worthwhile endeavour. 🌟

Dr Wong recently completed his residency in family and emergency medicine at Queen's University in Kingston, Ont. **Mr Edgar** is a medical student at the University of Ottawa in Ontario. **Dr Liddy** is a Clinical Investigator and an Assistant Professor in the Department of Family Medicine at the University of Ottawa and a family physician for the Riverside Family Health Team in Ottawa. **Dr Vaillancourt** is an Assistant Professor in the Department of Emergency Medicine at the University of Ottawa, a scientist at the Ottawa Health Research Institute, and an active attending physician in the emergency department at the Ottawa Hospital.

Contributors

Drs Wong and Liddy contributed to the concept and design of the study. **Mr Edgar** collected the data. **Dr Wong** acquired, analyzed, and interpreted the data and drafted the article. **Drs Liddy and Vaillancourt** and **Mr Edgar** critically revised the content. All authors contributed to writing the manuscript and approved the final version for submission.

Competing interests

None declared

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