ADVANCES

Emergency department use by CTAS Levels IV and V patients

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ABSTRACT

Introduction: Many emergency department (ED) visits are non-urgent. Postulated reasons for these visits include lack of access to family physicians, convenience and 24/7 access, perceived need for investigations or treatment not available elsewhere, and as a mechanism for expedited referral to other specialists. We conducted a patient survey to determine why non-urgent patients use our tertiary care ED. Our primary objective was to determine how often the lack of a family physician was associated with non-urgent ED use.

Methods: The survey was administered to *Canadian Emergency Department Triage and Acuity Scale* (CTAS) Level IV and V patients who attended the ED of the Queen Elizabeth II Health Sciences Centre in Halifax, NS, from March 7 to March 13, 2005.

Results: Of the 352 eligible patients, 235 completed the survey (response rate, 67%). Fifty-six percent (132/235) had an acute medical problem of less than 48 hours, including 48% (114/235) with a recent injury. Thirty-four percent (82/235) had been referred to the ED, 49% (114/235) believed they required a specific service that was unavailable elsewhere (e.g., radiology, suturing, casting) and 43% (100/235) presented because of self-perceived urgency of their condition. Eighty-four percent (198/235) had a family physician; 23% (55/235) used the ED because of limited access to theirfamily physician and 3% (6/235) used the ED because they did not have a family physician.

Conclusions: In this setting, most non-urgent ED visits involved patients who required a specific service offered by the ED, patients who believed their condition was urgent, or patients who were referred from the community to the ED. From a patient perspective, relatively few visits would be considered inappropriate. Lack of a family physician was not associated with non-urgent ED use; however, inability to obtain timely access to the FP was a factor in one-quarter of cases.

Key words: *Canadian Emergency Department Triage and Acuity Scale*; CTAS; non-urgent, acuity

RÉSUMÉ

Introduction : De nombreuses visites au service des urgences ne sont pas urgentes. Les raisons hypothétiques pour ces visites comprennent un accès limité aux médecins de famille, un accès commode 24 heures par jour, sept jours par semaines, la perception d'un besoin d'investigations ou de traitements non disponibles ailleurs et un mécanisme de consultation rapide auprès d'autres spécialistes. Nous avons mené un sondage auprès de patients afin de déterminer pourquoi les patients ayant des problèmes non urgents utilisent le service d'urgence à notre hôpital de soins tertiaires. Notre objectif principal était de déterminer à quelle fréquence le fait de ne pas avoir de

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Received: Jan. 2, 2006; revisions received: May 16, 2006; accepted: June 20, 2006

This article has been peer reviewed.

Can J Emerg Med 2006;8(5):317-22

médecin de famille était associé aux visites à l'urgence pour des problèmes non urgents.
Méthodes : Le sondage a été administré à des patients de Niveaux de triage IV et V selon *L'échelle canadienne de triage et de gravité pour les départements d'urgence* (ÉTG) qui se sont présentés à l'urgence du Queen Elizabeth II Health Sciences Centre à Halifax, Nouvelle-Écosse, du 7 au 13 mars 2005.
Résultats : Parmi les 352 patients admissibles, 235 ont rempli le questionnaire de sondage (taux de réponse, 67 %). Cinquante-six pour cent (132/235) d'entre eux avaient un problème médical aigu depuis moins de 48 heures, incluant 48 % (114/235) ayant subi une blessure récente. Trente-quatre pour cent d'entre eux (82/235) avaient été adressés à l'urgence, 49 % (114/235) croyaient avoir besoin d'un service particulier non disponible ailleurs (p. ex. radiologie, points de suture, plâtre) et 43 % (100/235) s'étaient présentés à l'urgence en raison d'une perception personnelle de la gravité de leur état. Quatre-vingt-quatre pour cent des patients (198/235) avaient un médecin de famille; 23 % (55/235) utilisaient l'urgence en raison de l'accès limité à leur médecin de famille et 3 % (6/235) utilisaient l'urgence parce qu'ils n'avaient pas de médecin de famille.
Conclusions : Dans ce milieu, la plupart des visites à l'urgence pour des problèmes non urgents étaient faites par des patients qui avaient besoin d'un service particulier offert par l'urgence, des patients qui croyaient que leur état était grave ou des patients qui avaient été adressés à l'urgence à partir de la communauté. Du point de vue du patient, très peu de visites seraient considérées comme inappropriées. Le fait de ne pas avoir de médecin de famille n'était pas associé à l'utilisation de l'urgence pour des problèmes non urgents; cependant, l'incapacité à obtenir un rendez-vous en temps opportun avec un MF constituait un facteur dans le quart des cas.

Introduction

Patients with non-urgent problems make up a significant proportion of emergency department (ED) visits.[1,2] Several studies have addressed the "appropriateness" of ED use and questioned why people use the ED for non-urgent problems.[3–10] Many health administrators believe that non-urgent visits reflect "inappropriate" ED use and that non-urgent patients should be treated in other ambulatory care settings,[11] such as family physician (FP) offices or walk-in clinics — settings that might provide higher levels of patient satisfaction.[12] Non-urgent ED use can be frustrating for patients if there are prolonged waits or negative interactions with staff, and demoralizing for some ED staff who believe they are providing non-urgent care that is available elsewhere, therefore reducing ED productivity.[13]

There are numerous reasons why patients use the ED for non-urgent problems. Many prefer the convenience offered by the ED,[14] with its 24-hour, 7-day availability and access to high-level diagnostics and unique services.[13,15] Patients often believe their problem is urgent, and many are referred to the ED by other health care professionals.[16] Some prior research suggests that a shortage of FPs,[13] inconsistent primary care[17] and patients' lack of awareness of other primary care treatment options[14] may contribute to this problem.

Our objective was to study the reasons for non-urgent ED use at our tertiary care ED in Halifax, NS, and to determine how often the lack of an FP was associated with non-urgent ED use. For the purpose of this study, we applied the *Canadian Emergency Department Triage and Acuity Scale* (CTAS)[18–20] and considered patients in CTAS Levels IV and V as "non-urgent." It is hoped that this information could aid in the planning and delivery of ED and other health care services, improve the care afforded to patients, and help to improve morale and job satisfaction for ED staff members.

Methods

Design and setting

This cross-sectional patient survey was conducted over a 1-week period from March 7–13, 2005, at the Halifax Infirmary ED at the Queen Elizabeth II Health Sciences Centre in Halifax, Nova Scotia. Ours is the only tertiary care centre in the province and offers the only 24-hour emergency care in the city of Halifax. The survey was approved by the Capital District Health Authority Research Ethics Board.

Subjects

As per department protocol, all arriving patients were seen by the triage paramedic and assigned to a CTAS acuity level (Table 1).[21] Those in acuity Levels IV (less urgent) and V (non-urgent) were considered eligible for study. The ED data processing clerks subsequently gave all eligible participants a cover letter that described the nature and goals of the study, and assured that the participation was voluntary and confidential. The data processing clerks then obtained verbal consent for study participation.

https://doi.org/10.1017/S1481803500013968 Published online by Cambridge University Press

Data collection and analysis

A 1-page, 9-item questionnaire (Appendix 1) was administered. Survey questions included demographic information, whether the patient had an FP, the patient's reason for not having an FP (if applicable), whether the problem being presented had previously been evaluated by a physician, how recent the problem was, whether the patient was referred to the ED and by whom, and why the patient chose to use the ED. The results of the questionnaire were confidential and anonymous; no identifying data were obtained. Surveys were collated and the data were entered into a Microsoft Access database. Descriptive data, including means and proportions, were calculated using standard methods.

Results

During the 1-week study period, 352 patients (281 Level IV and 71 Level V), were eligible for study. Of these, 235 completed the survey, for a 67% response rate. Ninety-two percent (n = 217) of the respondents were residents of the Halifax Regional Municipality, and 15% (n = 36) were from Halifax's university student population. Eighty-four percent (n = 198) had an FP. Over half of the patients without an FP (18/32, 56%) reported that they had not looked for one. Six of these 18 patients were not from the Halifax area, and the remaining 8 patients without an FP reported miscellaneous reasons, such as being in the military or never having needed an FP. No one reported that they were unable to find a physician who was accepting new patients. For 154 of the 235 patients (65%), the ED was the first care site attended. More than half of the study group (n = 132, 56%) had recent-onset medical conditions, defined as duration of less than 48 hours, including 48% (n = 114) with a recent injury.

Table 2 shows that one-third of these patients (n = 82) were referred to the ED — 23 (28%) by their FP, 10 (12%) by a walk-in clinic, 8 (10%) by another hospital or medical clinic, 8 (10%) by their employer, 7 (9%) by family or friends and 6 (7%) by a paramedic. Three of these 82 patients (4%) had been advised by a QE II emergency physician to return to the ED for a recheck. Other referral sources included the police, pharmacists, occupational therapists, nursing home staff and mental health day-treatment workers. In 30% of the 82 (n = 24) the referring person contacted the ED before the patient's arrival; in 55% (n = 45) no attempt was made to notify the ED and in 16% (n = 13) ED notification and referral arrangements were unclear.

The most common reasons provided for attending the ED were to access a specific service (n = 114), and to obtain rapid treatment for a perceived urgent problem (n = 100). Table 3 summarizes patients' reasons for attending the ED, and Table 4 summarizes the specific services patients felt they required. Of these reasons, most involved x-rays (n = 63), sutures (n = 21) or cast-related procedures (n = 11), but other services related to IV medications and analgesics (n = 8), physician consultation (n = 7), psychiatric evaluation (n = 3), blood testing (n = 2) and fish bone removal (n = 1).

Twenty-three percent (n = 55) of the 235 patients reported that they came to the ED because of limited access to their FP: 15% could not wait for an appointment (n =

Table 1. *Canadian Emergency Department Triage and Acuity Scale* (CTAS) level descriptions[20]

CTAS level	Description
I – Resuscitation	Conditions that threaten life or limb (or imminent risk of deterioration) requiring immediate aggressive intervention
II – Emergent	Conditions that are a potential threat to life, limb or function, requiring rapid medical intervention or delegated acts
III – Urgent	Conditions that could potentially progress to a serious problem requiring emergency intervention
IV – Less urgent / semi-urgent	Conditions that would benefit from intervention or reassurance within 1–2 hours due to the patient's age, distress or potential for deterioration or complications
V – Non-urgent	Conditions that may be acute but non-urgent or part of a chronic problem with or without evidence of deterioration (some could be referred elsewhere)

Table 2. Reasons for referral to the emergency department (ED) by the 82 non-urgent patients who stated that they had been referred to the ED

Referred by	No. (and %) of patients
Family physician	23 (28)
Walk-in clinic	10 (12)
Other hospital or medical clinic	8 (10)
Employer	8 (10)
Family or friend	7 (9)
Paramedic	6 (7)
Specialist	4 (5)
Nurse	3 (4)
Emergency physician at previous ED visit	3 (4)
Other	10 (12)

https://doi.org/10.1017/S1481803500013968 Published online by Cambridge University Press

36), 4% (n = 10) reported that their FP's office was closed and another 4% (n = 9) chose more than 1 reason related to access of their FP (e.g., their doctor's office was closed and they could not wait for an appointment). Only 3% of patients (n = 7) reported not having an FP as their reason for attending the ED.

Discussion

Our findings are in keeping with those of other authors,[10] suggesting that there are many reasons why patients seek non-urgent care in EDs. Our data suggest that most "non-urgent" patients required specific services available in the ED, had a problem they believed was urgent, were referred to the ED from the community, or did not have timely access to their FP. From a patient perspective, relatively few visits could be defined as "inappropriate."

The ED is unique in the services it offers, and this appears to be a factor in many patients' decisions to use the department.[15] Almost half of our study patients selected the ED because of specific services available there. In the province of Nova Scotia, all radiology is performed in the hospital setting; therefore, it is reasonable for patients to present to the ED for x-rays. Patients also present to the ED when wait times for diagnostics tests, procedures or specialist referrals become unacceptable.[13] Enhanced access to services, such as diagnostic imaging, outside the hospital setting could potentially reduce the number of non-urgent ED visits.

Table 3. Responses to Question 9 of the survey by the 235 non-urgent emergency department (ED) patients who participated in the survey

Question #9: Reason for ED use	No. (and %) of patients*
Needed a specific service	114 (49)
Needed urgent treatment	100 (43)
Limited access to family physician	55 (23)
Referred to the ED (see Table 2)	47 (20)
Did not have a family physician	7 (3)

*Sum of patients exceeds the study denominator because many patients cited more than one reason.

Table 4. Specific services required (as perceived by the patient) by the 114 non-urgent respondents who cited that reason for presenting to the emergency department

Service required	No. (and %)* of patients
X-ray	63 (55)
Suturing	21 (18)
Casting, splinting, cast repairs	11 (10)
Medications / narcotics / analgesics	8 (7)
Other†	13 (11)
Service not specified	4 (3)

*Sum of patients exceeds the study denominator because some patients required more than one service.
†Specialist or emergency physician evaluation (7), psychiatry evaluation (3), blood testing (2), fish bone removal (1).

Establishing alternative sources for non-urgent care (e.g., urgicentres, multidisciplinary clinics) is another proposed solution, but one that involves substantial investment and ongoing cost — perhaps a difficult sell without convincing evidence that such centres reduce non-urgent ED visits.[15,22] In addition, there are data showing that the incremental cost of a non-urgent ED visit is relatively low,[23] therefore EDs may be cost-effective providers of less-urgent care, particularly if they establish efficient "fast track" systems that shift less urgent patients out of the primary emergent and urgent care areas.

Previous investigators have examined whether non-urgent ED patients can be safely triaged to other health care settings,[1,11,12,24] and the results of these studies are mixed. A recent Canadian study by Vertesi[1] demonstrated that CTAS is not a safe method for triage away from the ED, as a number of "non-urgent" patients subsequently require hospitalization. Without full examinations and diagnostic tests, it is difficult to be completely accurate in patient assessment and it would be unsafe to categorically send non-urgent patients to other sources of care. The concept of diverting patients from the ED to community care sites is attractive to many, but our data suggest it is common for community care providers to refer "non-urgent" patients to the ED.

Patient perceived urgency has been found to provoke non-urgent ED visits,[16,25,26] and our study indicates that many non-urgent patients used the ED because they believed their condition required rapid treatment. This is an understandable and appropriate use of the ED; however, patients' evaluation of their level of urgency may differ significantly from a physician's assessment.[27]

FP shortages may also increase ED utilization, and dissatisfaction with or lack of access to one's usual source of primary care may contribute to non-urgent ED use.[21] Contrary to our expectations, the overwhelming majority of our patients claimed to have an FP and only 3% (n = 7) used the ED because of this deficiency. Access to their FP (i.e., the ability to see one's physician in a timely fashion) was a larger factor, and limited access to FPs was identified in one-quarter of the non-urgent visits studied.

Study limitations

The most important limitation of this study relates to the

https://doi.org/10.1017/S1481803500013968 Published online by Cambridge University Press

potential for selection bias. Although our response rate was approximately 70%, we do not know whether non-responders were systematically different. In addition, non-urgent patients who arrived by ambulance were not approached for study participation, but this number is small. The survey was self-administered and required patients to read and understand the survey; therefore, patients not fluent in English, those with literacy challenges, and cognitively or visually impaired patients may have been unable to participate. The survey is based on patient responses and was not verified. In addition, patient perceptions are not always correct: patients who believed they needed an x-ray may not have in fact needed one, and actual acuity may have been less or more severe than the patient believed it was.

Conclusions

In this setting, most non-urgent ED visits involved patients who required a specific service offered by the ED: those who believed their condition was urgent, or those who were referred from the community. From a patient perspective, relatively few visits would be considered inappropriate. Lack of an FP was not associated with non-urgent ED use; however, inability to obtain timely access to the FP was a factor in one-quarter of cases.

Acknowledgements: We thank Eugene MacDonald, Dave Urquhart, Stacy Ackroyd, and the Data Processing Clerks at the QE II Health Sciences Centre Emergency Department.

Competing interests: None declared.

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Appendix 1. Survey instrument

1. Are you a resident of the Halifax Regional Municipality? Yes / No
2. Are you a university student studying in Halifax? Yes / No
3. Do you have a family doctor? Yes / No
   If NO, why? (please mark)
   - ____ Cannot find one accepting new patients
   - ____ Not from the area
   - ____ Have not looked for one
   - ____ Other (please specify): _____
4. Have you seen a doctor about this problem before? Yes / No
5. Have you had this problem for more than 48 hours? Yes / No
6. Did someone send you to the emergency department? Yes / No
   If YES, who? (please mark)
   - ____ Your own family doctor
   - ____ Another family doctor
   - ____ Walk-in clinic
   - ____ Specialist
   - ____ Dentist
   - ____ Nurse
   - ____ Paramedic
   - ____ Asked to return by a QE II emergency physician
   - ____ Other (please specify): _____

   If YES, did that person make arrangements for you to come to the emergency department? (i.e., called ahead) Yes / No
7. Is your problem related to a recent injury (within 48 hours)? Yes / No
8. Did you come here because of a dental problem? Yes / No
9. Why did you come to the emergency department? (please mark)
   - ____ Sent here
   - ____ Do not have a family doctor
   - ____ Needed treatment as soon as possible
   - ____ Family doctor's office was closed
   - ____ Could not wait for appointment with family doctor
   - ____ Walk-in clinic was closed
   - ____ The emergency department offers a specific service you require (please mark)
     - ____ X-ray
     - ____ IV medication
     - ____ Sutures (stitches)
     - ____ Casting
     - ____ Other (please specify): _____

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