

## ADVANCES

# Patient expectations of emergency department care: phase II – a cross-sectional survey

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**ABSTRACT**

**Objectives:** To explore emergency department (ED) patient expectations regarding staff communication with patients, wait times, the triage process and information management.

**Methods:** We conducted a cross-sectional English-language telephone survey among patients aged 18 years or older who visited the EDs in the Calgary Health Region in 2002. Survey items were based on a preceding qualitative study.

**Results:** Of the 941 surveys, 837 were analyzed. Patients placed the highest importance on the explanation of test results (96.5%), a description of circumstances that would require the patient to return to the ED (94.4%), the use of plain language (92.1%) and the reason for the tests (90.8%). Seventy-six percent of patients felt that ED staff should update patients every 30 minutes or less, 51.3% expected patients with non-life threatening problems should wait <1 hour, and 58.3% expected that the tests should be done within 1 hour. Almost two-thirds of the patients (64.4%) believed that the most serious patients should be seen first; 59.3% felt that the seriousness of medical concern should be determined by a triage nurse, and 63.9% thought that their personal health records should be immediately available to the emergency physician without their consent. The actual length of stay was significantly longer than expected length of stay for all patient groups, with *Canadian Emergency Department Triage and Acuity Scale* Levels IV and V patients expecting a shorter wait than patients in more urgent triage groups. Triage level effects on other expectations were not observed.

**Conclusions:** ED patient expectations appear to be similar across all triage levels. Patients value effective communication and short wait times over many other aspects of care. They have expectations for short wait times that are met infrequently and are currently unattainable in many Canadian EDs. Although it may be neither feasible nor desirable to meet all patient expectations, increased focus on wait times and staff communication may increase both ED efficiency and patient satisfaction.

**Key words:** patient expectations; satisfaction; survey; emergency department

**RÉSUMÉ**

**Objectifs :** Explorer les attentes des patients à l'urgence concernant la communication du personnel avec les patients, les délais d'attente, le processus de triage et la gestion de l'information.

**Méthodes :** Nous avons mené un sondage téléphonique transversal en anglais auprès de patients

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âgés de 18 ans et plus qui avaient visité les services des urgences de la Région sanitaire de Calgary en 2002. Les questions du sondage étaient basées sur une étude qualitative antérieure.

**Résultats :** Parmi les 941 sondages, 837 furent analysés. Les patients accordaient la plus grande importance à l'explication des résultats des tests (96,5 %), à la description des circonstances qui nécessiteraient le retour du patient à l'urgence (94,4 %), au recours à un langage simple (92,1 %) et aux raisons pour les tests (90,8 %). Soixante-seize pour cent des patients jugeaient que le personnel de l'urgence devrait faire un compte rendu aux patients toutes les 30 minutes ou moins, 51,3 % s'attendaient à ce que les patients attendent < 1 heure pour des problèmes non menaçants pour leur vie, et 58,3 % s'attendaient à ce que les tests soient faits en moins d'une heure. Presque les deux tiers des patients (64,4 %) croyaient que la plupart des patients dont l'état est grave devraient être vus en premier; 59,3 % estimaient qu'une infirmière de triage devrait déterminer la gravité d'un problème médical, et 63,9 % croyaient que leur dossier médical individuel devrait être disponible immédiatement pour le médecin d'urgence sans qu'ils aient à donner leur consentement. La durée réelle du séjour était sensiblement plus longue que la durée prévue du séjour pour tous les groupes de patients, les patients des Niveaux IV et V selon l'*Échelle canadienne de triage et de gravité pour les départements d'urgence* s'attendant à un délai d'attente plus court que les patients dans les groupes de triage plus urgents. Les effets du niveau de triage par rapport à d'autres attentes ne furent pas observés.

**Conclusions :** Les attentes des patients à l'urgence semblent similaires pour tous les niveaux de triage. Les patients accordent une plus grande importance à la communication et aux délais d'attente de courte durée qu'à tout autre aspect des soins. Ils ont des attentes quant aux délais d'attente de courte durée qui sont rarement satisfaits et présentement irréalisables dans de nombreuses urgences canadiennes. Bien qu'il ne soit ni possible ni désirable de répondre à toutes les attentes des patients, une concentration accrue sur les délais d'attente et la communication avec le personnel pourrait rehausser à la fois l'efficacité à l'urgence et le niveau de satisfaction des patients.

## Background

Quality is a major focus in emergency medicine, and patient-centred care is a priority.<sup>1</sup> A detailed understanding of patient expectations is essential to enable the provision of patient-centred care, to meet the needs of patients and to manage inappropriate expectations if necessary. There has been considerable debate over the relationship between patient expectations, satisfaction and patient experience of care. Patients may report a high level of satisfaction despite unmet expectations,<sup>2</sup> and the importance of the postulated link between expectations and patient satisfaction has been questioned;<sup>3,4</sup> however, there is evidence that patient expectations exist and that they influence how patients perceive their care.<sup>5-9</sup>

The definition of patient expectations in earlier work varies. O'Connor and colleagues<sup>10</sup> define 2 types of expectations: one that describes consumer expectations of what is likely to occur and another that describes what "consumers" believe should occur. We chose the latter perspective in evaluating what patients feel should happen in the course of their emergency experience. Although there has been considerable research regarding patients' satisfaction with their emergency department (ED) experience,<sup>11-23</sup> we found no published research examining what undifferenti-

ated patients expect or feel they need from an ED visit. In contrast, detailed patient expectation sets have been proposed and explored for general practice.<sup>24,25</sup> Previous work suggests that medical providers often misunderstand patient expectations — overestimating them for technical or "tangible" attributes of care and underestimating them for more abstract qualities of care such as service reliability, assurance, responsiveness and empathy.<sup>10</sup> Our objectives were to explore ED patient expectations regarding staff communication with patients, wait times, the triage process and information management, and to examine the effects of patient demographics and triage level on those expectations. The findings of this study are being used to develop quality improvement and education initiatives in the Calgary Health Region.

## Methods

### Study population

We conducted a cross-sectional telephone survey among patients aged 18 years or older who visited 1 of 3 tertiary care EDs in the Calgary Health Region. ED visits are routinely recorded in the Regional Emergency Department Information System, and this database served as our sampling frame. We used the *Canadian Emergency*

*Department Triage and Acuity Scale (CTAS)* to stratify the full set of patient encounters into 3 groups.<sup>26</sup> Group 1 included patients in CTAS Levels I and II; group 2 included those in CTAS Level III; and group 3 included patients in Levels IV and V. Between September and December of 2002, a weekly random sample of approximately 35 patients was drawn from each of these groups. We excluded patients under 18 years, non-residents, patients who left without being seen, those still in hospital, those who did not speak English, and those whose reason for visit was pregnancy loss. Selection of patients with multiple visits was permitted, but only on the basis of the first encounter.

### **Questionnaire development**

Prior to developing this survey, in Phase I<sup>27</sup> we used qualitative focus group methodology to determine the beliefs and expectations of patients, public and staff regarding an ED visit. In that study, 12 focus groups were conducted with patients and regional ED staff, and 6 thematic areas of expectation emerged, including staff communication with patients, appropriate wait times, the triage process, information management, quality of care, and improvements to existing services.

Using the identified expectations from Phase I, question wording and approaches to scaling were developed with several phases of input and review by an expert panel that included ED physicians and nurses, the qualitative researcher from Phase 1, and survey experts with extensive experience or a Masters or PhD degree in a relevant field. Several scaling approaches were generated for each question. Using a test survey, respondents were asked alternative forms of each question in random order. Difficulty to respond was probed, and respondents were asked which format of question they preferred and why. The possible scaling approaches were evaluated for response distribution, missing data and information quality. The final response formats included a 4-point importance scale, and Yes/No responses to mutually exclusive statements regarding care alternatives. (Survey items and scaling samples are available on request.) Further revision and feedback cycles were adjusted for scaling changes and question order, and the resulting questionnaire was field tested on 40 patient respondents. Questions were revised as necessary, and a total of 12 revision cycles were used to arrive at the final questionnaire. Survey items were designed to measure the relative importance of discrete expectations or to determine the relative proportion of mutually exclusive expectations.

### **Data collection**

Under supervision, experienced health care research inter-

viewers used a computer-assisted telephone interviewing (CATI) system and followed established protocols to conduct the English-language surveys. Interviewers called each identified patient up to 9 times (3 evening, 3 weekend and 3 weekday calls if necessary) to determine their eligibility and willingness to participate. Data entry was controlled by CATI with limited potential for keystroke error, and programmed double checks for quality.

### **Data analyses**

In a priori fashion, 2 emergency physicians (W.W., D.W.) independently selected the most relevant questions from each of the 6 thematic areas, based on observed clinical and policy implications. An investigator (H.Q.) compared their choices and resolved inconsistent selections with the 2 physicians to achieve consensus on the key items for analysis. The Regional ED Information System was used to calculate ED length of stay (LOS) for discharged patients (i.e., triage to discharge) and for admitted patients (i.e., triage to admission). Chi-squared analysis was employed to compare differences across CTAS triage levels for sociodemographic characteristics and expectation variables. Age, gender, education and marital status adjusted *p* values were obtained through logistic regression. In the risk adjustment analysis, several of the dependent variables with more than 2 categories (i.e., expectation variables) were grouped into binary variables.

### **Results**

Overall, 2219 patients were identified from the relevant sample population and 726 (32%) records were excluded because of missing or indeterminate data, or inability to contact at home despite completion of protocol. Of the remaining 1493 patients, 382 (17%) refused to participate, 169 (8%) presented a communication barrier and 941 (63%) agreed to complete the survey. In 104 cases, 1 or more data elements were missing, leaving 837 subjects in the analysis. Among these were 279 CTAS Level I–II patients, 292 Level III patients and 266 Level IV–V patients. Overall, 172 (20.5%) of 837 were admitted to hospital, and the study sample accurately reflected the proportion of potentially eligible patients at each hospital.

Table 1 shows patient characteristics by triage group. There were no statistically significant differences in gender ( $p = 0.28$ ) or household income across triage groups ( $p = 0.59$ ). The acuity level was significantly higher for older age ( $p < 0.001$ ) and married groups ( $p = 0.01$ ). Table 2 shows that patients placed the highest importance on the explanation of test results (96.5%; 95% confidence interval [CI],

95.9%–98.4%), a description of circumstances that would require the patient to return to the ED (94.4%; 95% CI, 93.6%–96.8%), the use of plain language (92.1%; 95% CI, 91.2%–94.9%), and the reasons for tests (90.8%; 95% CI, 89.8%–93.8%). They placed the lowest importance on the availability of wall posters (30.8%; 95% CI, 29.3% to 35.5%) and videos (13.6%; 95% CI, 12.5%–17.1%). These ranks did not change significantly across triage groups when adjusted for age, gender, education level and marital status.

Table 3 summarizes wait time and triage expectations by triage group. Of the 837 patients surveyed, 76% (95% CI, 74.6%–80.4%) expected updates from ED staff every 30 minutes or less, 51.3% (95% CI, 49.6%–56.4%) believed that patients with non-life threatening problems should wait <1 hour, 58.3% (95% CI, 56.7%–63.3%) felt that tests should be done within 1 hour, and 44.6% (95% CI, 43%–49.7%) expected to spend no more than 2 hours in the ED.

With respect to the triage process, 69.1% of patients (95% CI, 67.6%–73.8%) understood that the most serious patients should be seen first and 64.4% (95% CI, 62.8%–69.3%) believed that those who arrived by ambulance would see a

doctor sooner; however, only 17.7% (95% CI, 16.4%–21.6%) believed that patients arriving by ambulance *should* be seen first. Many patients (59.3%; 95% CI, 57.7%–64.3%) felt that the seriousness of the medical concern should be determined by a triage nurse using triage standards, and only 34.9% (95% CI, 33.3%–39.8%) felt that a physician should make this determination.

After adjustment for age, gender, education level and marital status, expectation of the total wait time from arrival until discharge ( $p = 0.03$ ), and the wait time for test results ( $p = 0.04$ ) were significantly associated with the triage level (i.e., patients expected shorter wait times for lower acuity patients [CTAS Levels IV and V]).

Figure 1 and Figure 2 compare LOS expectations to actual LOS for discharged and admitted patients, respectively. Mean LOS for discharged patients was 4.0 hours, whereas mean LOS for admitted patients was 8.4 hours. Of the 665 discharged patients, 43.9% (95% CI, 42.3%–49%) had expected a LOS of <2 hours; however, this was achieved for only 28.0% (95% CI, 26.5%–32.6%). In contrast, 12.5% (95% CI, 11.4%–15.9%) of discharged patients had expected their LOS to be >4 hours, and of this

**Table 1. Characteristics of 837 emergency department patients who responded to a cross-sectional English-language telephone survey, by CTAS level**

Characteristics	CTAS level, no. (and %) of patients				Chi-square <i>p</i> value
	All levels	I and II	III	IV and V	
<b>Gender</b>					0.28
Male	421 (50.3)	145 (52.0)	136 (46.6)	140 (52.6)	
Female	416 (49.7)	134 (48.0)	156 (53.4)	126 (47.4)	
<b>Age</b>					0.00
19–34	290 (34.6)	76 (27.2)	103 (35.3)	111 (41.7)	
35–64	433 (51.7)	149 (53.4)	150 (51.4)	134 (50.4)	
≥65	114 (13.6)	54 (19.4)	39 (13.4)	21 (7.9)	
<b>Education</b>					0.98
High school or less	367 (34.7)	104 (37.3)	108 (37.0)	104 (39.1)	
College or university, incomplete	151 (14.3)	46 (16.5)	42 (14.4)	41 (15.4)	
College complete	289 (27.3)	73 (26.2)	77 (26.4)	68 (25.6)	
University complete	252 (23.8)	56 (20.1)	65 (22.3)	53 (19.9)	
<b>Marital status</b>					0.01
Married or common law	533 (63.7)	179 (64.2)	197 (67.5)	157 (59.0)	
Widowed	41 (4.9)	19 (6.8)	12 (4.1)	10 (3.8)	
Divorced or separated	77 (9.2)	27 (9.7)	30 (10.3)	20 (7.5)	
Never married / Single	186 (22.2)	54 (19.4)	53 (18.2)	79 (29.7)	
<b>Household income</b>					0.59
<\$20 000	87 (12.5)	33 (13.9)	33 (13.8)	21 (9.7)	
\$20 000–\$60 000	345 (49.7)	115 (48.3)	115 (47.9)	115 (53.2)	
>\$60 000	262 (37.8)	90 (37.8)	92 (38.3)	80 (37.0)	

CTAS = Canadian Emergency Department Triage and Acuity Scale<sup>26</sup>

group, 35.6% (95% CI, 34.0%–40.5%) had actually stayed in the ED >4 hours and 17.7% (95% CI, 16.4%–21.6%) had stayed >6 hours.

Of the 171 patients admitted, 84.8% (95% CI, 83.6%–88.5%) expected to be admitted within 4 hours. In fact, of these 171 patients 82.9% (95% CI, 81.7%–86.8%) waited >4 hours and 64.7% (95% CI, 63.1%–69.6%) waited >6 hours. Nearly half (47.4%; 95% CI, 45.7%–52.5%) of respondents expected to be admitted in <2 hours, but this only occurred for 5% of patients (95% CI, 4.3%–7.2%).

Table 4 shows that 36.4% of patients (95% CI, 34.8%–41.3%) felt it was very or extremely important that their emergency physician order tests requested by them, and 39.1% (95% CI, 37.5%–44.1%) felt it was very or extremely important that they be seen by a specialist if they requested it. When asked, 12% of patients confirmed attending the ED to receive tests and 12% confirmed attending the ED to see a specialist. Combined, 17% of patients (95% CI, 15.8%–20.8%) reported attending the ED *either*

to receive tests or to see a specialist, although other reasons were mentioned concurrently.

Most patients (90.1%; 95% CI, 89.1%–93.2%) felt that it was very or extremely important that they should be able to find out if they need to come to the ED when phoning a telephone advice service, and 66.0% of patients (95% CI, 64.4%–70.8%) felt it was very or extremely important they be told how long they would likely wait to see a doctor (Table 4). In mutually exclusive response choices, only 20.8% of patients (95% CI, 19.5%–25%) expected always to be examined and treated by a physician, whereas 79.2% of patients (95% CI, 77.9%–83.4%) expected to be examined and treated by a nurse or therapist if that person was qualified to deal with their health problem.

A majority (63.9%) of patients felt that their personal health records should be immediately available to the emergency physician without their consent (95% CI, 62.3%–68.8%), whereas only 35.2% (95% CI, 33.6%–40.1%) felt that their records should be available

**Table 2. Proportion of the 837 survey respondents who chose “very” or “extremely” important for query on communication expectations**

Summarized question	CTAS level, no. (and %) of respondents				Chi squared <i>p</i> value	Adjusted <i>p</i> value
	All levels <i>N</i> = 837	I and II <i>n</i> = 279	III <i>n</i> = 292	IV and V <i>n</i> = 266		
Staff explain the test results in a way you can understand	808 (96.5)	270 (96.8)	284 (97.3)	254 (95.5)	0.50	0.38
Staff explain to you the circumstances under which you should return to the ED	790 (94.4)	258 (92.5)	277 (94.9)	255 (95.9)	0.21	0.89
Doctor uses plain language and checks that you understand what she/he is saying	771 (92.1)	252 (90.3)	278 (95.2)	241 (90.6)	0.05	0.91
Staff explain why tests are being done	769 (91.9)	254 (91.0)	262 (89.7)	253 (95.1)	0.05	0.05
When examining you, doctors or nurses explain what they are doing each step	760 (90.8)	255 (91.4)	264 (90.4)	241 (90.6)	0.91	0.27
Staff greet you when they meet you for the first time	747 (89.2)	250 (89.6)	268 (91.8)	229 (86.1)	0.09	0.78
Information given on what to expect in the course of illness	706 (84.3)	243 (87.1)	242 (82.9)	221 (83.1)	0.30	0.06
A nurse updates you on how long you still have to wait	509 (60.8)	168 (60.2)	186 (63.7)	155 (58.3)	0.41	0.51
Staff explains and updates what is happening at each step	483 (57.7)	164 (58.8)	172 (58.9)	147 (55.3)	0.62	0.81
Staff tell you when to resume normal daily activities	453 (54.1)	149 (53.4)	160 (54.8)	144 (54.1)	0.95	0.32
Pamphlets are available to inform you about the ED process	364 (43.5)	113 (40.5)	136 (46.6)	115 (43.2)	0.34	0.44
Wall posters are available to inform you about the ED process	258 (30.8)	79 (28.3)	87 (29.8)	92 (34.6)	0.25	0.24
Videos are available to inform you about the ED process	114 (13.6)	35 (12.5)	35 (12.0)	44 (16.5)	0.24	0.17

CTAS = Canadian Emergency Department Triage and Acuity Scale;<sup>26</sup> ED = emergency department

**Table 3. Wait time, length of stay and triage expectations of 837 ED patients who participated in the survey, by CTAS level**

Question	CTAS level, no. (and %) of patients				Chi-squared <i>p</i> value	Ad-justed <i>p</i> value
	All <i>N</i> = 837	I and II <i>n</i> = 279	III <i>n</i> = 292	IV and V <i>n</i> = 266		
How often should staff update you in waiting room?					0.41	0.94
Every 15 min	175 (20.9)	62 (22.2)	57 (19.5)	56 (21.1)		
Every 30 min	461 (55.1)	153 (54.8)	161 (55.1)	147 (55.3)		
Every 60 min	176 (21.0)	61 (21.9)	63 (21.6)	52 (19.5)		
Every 90 min	25 (3.0)	3 (1.1)	11 (3.8)	11 (4.1)		
Reasonable time to wait with non-life-threatening problem before being taken to treatment room					0.16	0.34
<30 min	75 (9.0)	29 (10.4)	24 (8.2)	22 (8.3)		
30–60 min	354 (42.3)	117 (41.9)	116 (39.7)	121 (45.5)		
1–2 h	291 (34.8)	96 (34.4)	104 (35.6)	91 (34.2)		
2–4 h	96 (11.5)	25 (9.0)	42 (14.4)	29 (10.9)		
>4 h	21 (2.5)	12 (4.3)	6 (2.1)	3 (1.1)		
Reasonable time to wait with possibly life-threatening problem before being taken to treatment room					0.09	0.24
<5 min	511 (61.1)	183 (65.6)	157 (53.8)	171 (64.3)		
5–15 min	253 (30.2)	78 (28.0)	103 (35.3)	72 (27.1)		
15–30 min	64 (7.6)	16 (5.7)	28 (9.6)	20 (7.5)		
30–60 min	9 (1.1)	2 (0.7)	4 (1.4)	3 (1.1)		
>1 h	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)		
Reasonable total length of time to wait for any tests and to get the results					0.14	0.03
<30 min	89 (10.6)	30 (10.8)	28 (9.6)	31 (11.7)		
30–60 min	399 (47.7)	133 (47.7)	128 (43.8)	138 (51.9)		
1–2 h	264 (31.5)	92 (33.0)	98 (33.6)	74 (27.8)		
2–4 h	65 (7.8)	19 (6.8)	32 (11.0)	14 (5.3)		
>4 h	20 (2.4)	5 (1.8)	6 (2.1)	9 (3.4)		
Total amount of time you would reasonably expect to spend in the ED if discharged					0.01	0.04
<1 h	75 (9.0)	22 (7.9)	27 (9.2)	26 (9.8)		
1–2 h	298 (35.6)	100 (35.8)	87 (29.8)	111 (41.7)		
2–4 h	354 (42.3)	114 (40.9)	128 (43.8)	112 (42.1)		
4–6 h	91 (10.9)	35 (12.5)	43 (14.7)	13 (4.9)		
>6 h	19 (2.3)	8 (2.9)	7 (2.4)	4 (1.5)		
Reasonable amount of time for you to wait for a hospital bed if admitted					0.04	0.10
< 1 h	168 (20.1)	54 (19.4)	50 (17.1)	64 (24.1)		
1–2 h	294 (35.1)	87 (31.2)	105 (36.0)	102 (38.3)		
2–4 h	245 (29.3)	80 (28.7)	95 (32.5)	70 (26.3)		
4–6 h	100 (11.9)	45 (16.1)	31 (10.6)	24 (9.0)		
>6 h	30 (3.6)	13 (4.7)	11 (3.8)	6 (2.3)		
Which patients should be seen first?					0.51	
Most serious	578 (69.1)	184 (65.9)	209 (71.6)	185 (69.5)		
Most pain	104 (12.4)	44 (15.8)	32 (11.0)	28 (10.5)		
By ambulance	148 (17.7)	49 (17.6)	48 (16.4)	51 (19.2)		
Waited longest	7 (0.8)	2 (0.7)	3 (1.0)	2 (0.8)		
If you arrived by ambulance rather than by some other way, would you expect to be seen by a doctor faster?					0.09	0.10
Yes	539 (64.4)	194 (69.5)	179 (61.3)	166 (62.4)		
No	298 (35.6)	85 (30.5)	113 (38.7)	100 (37.6)		
After arriving, should the seriousness of your health problem be determined by .....					0.69	
Your own judgment	49 (5.9)	20 (7.2)	16 (5.5)	13 (4.9)		
A triage nurse / standards	496 (59.3)	160 (57.3)	171 (58.6)	165 (62.0)		
A doctor	292 (34.9)	99 (35.5)	105 (36.0)	88 (33.1)		

CTAS = Canadian Emergency Department Triage and Acuity Scale;<sup>26</sup> ED = emergency department

only with their consent. Upon discharge from the ED, 74.1% of patients (95% CI, 72.6%–78.6%) felt that the results of their emergency visit should automatically be shared with their family physician, and 11.1% (95% CI, 10.1%–14.3%) felt that results should only be shared at the patient's request.

## Discussion

In this study we surveyed ED patient expectations within 6 thematic areas described in a previously published focus group study.<sup>27</sup> Of these, patients attribute the greatest importance to communication, wait times and system improvements. Surprisingly, clinical issues such as patient safety, diagnostic accuracy and treatment efficacy, which are of paramount importance to care providers, were noticeably absent as expectations identified in the 8 focus groups (and hence this survey).<sup>27</sup> Although it is tempting to conclude that

patients are confident in the quality of clinical care in the ED, further study is required to determine the relative importance of clinical, diagnostic and treatment quality to patients.

This survey also clarifies patient expectations regarding what is communicated and how it is communicated. Patients expect staff to communicate what they are doing, why they are doing it, what the problem is, and what they can expect during the course of their illness. Patients also expect that this communication be done personally and in plain language. Meeting these expectations would likely improve patient satisfaction because it has been shown that staff interpersonal and communication skills along with the provision of information are predictive of patient satisfaction.<sup>11–13</sup> Similarly, customer service training for ED staff<sup>14</sup> and face-to-face explanation of process and medical information by a non-clinician<sup>15</sup> have been shown to improve patient satisfaction and staff ratings. Although patients expect clear communication about the progress of their visit and wait times, relatively few

**Table 4. Care preference and patient-defined quality issues of 837 survey respondents, by CTAS level**

Question	CTAS level, no. (and %) of patients				Chi-squared <i>p</i> value	Ad-justed <i>p</i> value
	All <i>N</i> = 837	I and II <i>n</i> = 279	III <i>n</i> = 292	IV and V <i>n</i> = 266		
<b>Care preference</b>						
How important is it that the doctor orders diagnostic tests if you ask for them?					0.80	0.86
Very or Extremely important	305 (36.4)	106 (38.0)	104 (35.6)	95 (35.7)		
How important is it that you are seen by a specialist at your request?					0.68	0.66
Very or Extremely important	327 (39.1)	106 (38.0)	120 (41.1)	101 (38.0)		
When you call the advice line, how important is it that you find out whether you need to come to the ED?					0.06	0.52
Very or Extremely important	754 (90.1)	255 (91.4)	269 (92.1)	230 (86.5)		
When you call the advice line, how important is it to find out how long you will wait to see a doctor at the ED?					0.64	0.79
Very or Extremely important	559 (66.8)	192 (68.8)	194 (66.4)	173 (65.0)		
In the ED you expect to be examined and treated.....					0.66	0.43
Always by a doctor	174 (20.8)	62 (22.2)	56 (19.2)	56 (21.1)		
By a nurse or therapist if qualified to deal with your health problem	663 (79.2)	217 (77.8)	236 (80.8)	210 (78.9)		
<b>Sharing of medical record</b>						
When you visit the ED, the health records from your family doctor or specialists should.....					0.02	n/a
NOT be immediately available to the emergency doctor	7 (0.8)	0 (0.0)	4 (1.4)	3 (1.1)		
Be immediately available to the emergency doctor with your consent	295 (35.2)	88 (31.5)	96 (32.9)	111 (41.7)		
Be immediately available to the emergency doctor without requiring your consent	535 (63.9)	191 (68.5)	192 (65.8)	152 (57.1)		
After leaving the ED, do you expect the health results of your visit to be shared.....					0.04	n/a
With your family doctor only with your consent	122 (14.6)	36 (12.9)	35 (12.0)	51 (19.2)		
With your family doctor at his/her request	95 (11.4)	31 (11.1)	28 (9.6)	36 (13.5)		
Automatically with your family doctor	620 (74.1)	212 (76.0)	229 (78.4)	179 (67.3)		

CTAS = Canadian Emergency Department Triage and Acuity Scale;<sup>26</sup> ED = emergency department; n/a = not applicable.

believe it is important to have posters, videos or pamphlets available to explain how the ED works. This finding supports previous findings that indirect communication does not improve patient satisfaction.<sup>16</sup>

The survey sought to clarify patients' expectations about ED wait times based on their perception of acuity. About half of our respondents expected to be seen by a physician for a non-life-threatening problem in <1 hour. In contrast, the CTAS national response time guidelines suggest that Less Urgent and Non Urgent (i.e., Levels IV and V) patients can wait 1–2 hours; consequently, many ED patients have wait-time expectations that are shorter than national guidelines and shorter than most urban Canadian EDs are achieving.<sup>28</sup> For "possibly life threatening" conditions, 91% of our patients expected to be seen in <15 minutes and 61% in <5 minutes. For the majority, this is less than half of the wait time target in the CTAS guidelines for Level III patients.

Patient wait-time expectations exceed our ability to deliver, and the discrepancy between expectations and reality is most evident for test results, consultations and ED LOS. For example, among patients discharged, almost twice as many expect an LOS of 1–2 hours than experience it. Similarly, half of patients admitted to hospital expect to be admitted within 2 hours but only 5% achieve this. Patient wait-time expectations are dependent on acuity, and our subjects expected the shortest wait times for low acuity patients, followed by the most acute patients, leaving intermediate CTAS Level III patients with the longest expected waits. This surprising finding reflects a paradox in emergency medicine: We attempt to deliver immediate care to our sickest patients while devising "fast-track" systems to rapidly see the least sick. Prior studies have found that lower triage acuity is predictive of higher left-without-be-

ing-seen (LWBS) rates.<sup>29</sup> In response, many EDs have fast-track systems to decrease the wait times for this population and improve LWBS rates. Patients are likely aware of these systems, thus expect minor complaints to be seen and treated quickly.

Several studies have shown that wait time or, more accurately, *perceived* wait time, correlates with poor patient satisfaction.<sup>13,17–20</sup> Despite many local and national initiatives aimed at reducing ED overcrowding and wait times, wait-time expectations found in this study are not realistic. Although it may be possible to improve ED efficiency (for example, in one study, rapid process redesign reduced ED LOS from 260 min to 175 min),<sup>21</sup> creative solutions to manage the discrepancy between patient expectations and system capabilities might be a means of minimizing negative patient perceptions and improving patient satisfaction. Public education about the reasons for prolonged ED wait times may be one solution to this problem.

We found that nearly 40% of study subjects expect ED physicians to order tests or initiate specialist consultation at the patient's request. This may reflect access to care limitations patients face in the community and the perception that these services can be accessed faster through the ED. If so, this represents an inappropriate expectation and inappropriate use of emergency resources.

Patient care preferences, understanding of triage, use of advice lines and expectations around the sharing of medical records validate many of the initiatives currently underway in our health region. Health Link, a 24-hour nurse advice service was just starting in Calgary at the time of this survey, and our finding of strong support for sharing of health records supports current electronic health record initiatives. Most patients (98%) expect their medical record to be immediately available to the emergency physician, and

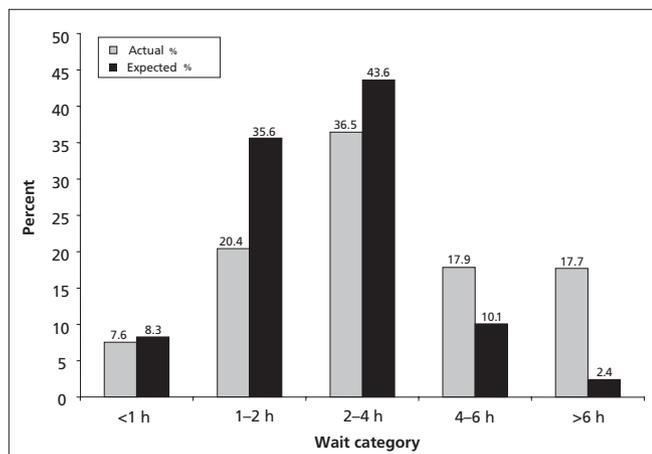


Fig. 1. Actual versus expected length of stay for discharged patients ( $n = 665$ )

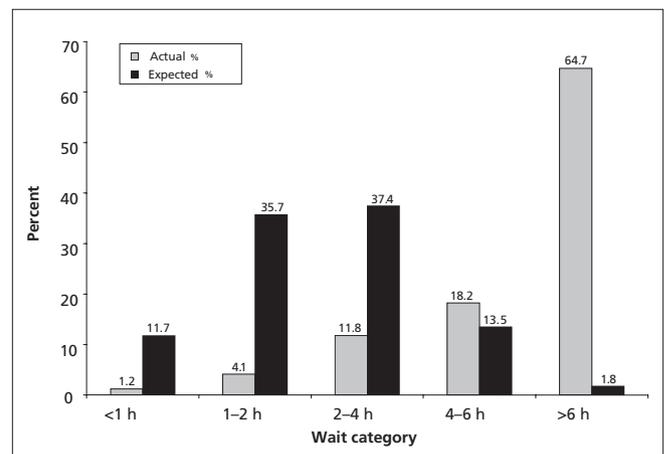


Fig. 2. Actual versus expected length of stay for admitted patients ( $n = 171$ )

two-thirds expect this to happen without their consent. Most (75%) expect the record of their ED visit should automatically go to their family physician, and only 15% want their prior consent. These results are dependent on acuity, and less urgent patients are more inclined to require consent. This suggests that sicker patients value continuity of care and information transfer between their primary care physician and the ED, and patients with less severe illness are more concerned about health information privacy, perhaps feeling that the need to share their health information is unnecessary.

Our findings challenge traditional ED staffing models. Perhaps more surprising, 80% of respondents stated they would expect to be “examined and treated by a nurse or therapist if qualified to deal with [their] health problem” as opposed to 20% who expected to always to be examined and treated by a physician. This is noticeably higher than reported in a prior study, where only 48% (101/207) of studied ED patients were willing to be treated and discharged by a nurse practitioner without direct contact with a physician.<sup>30</sup> (We note that although our items are asked as a mutually exclusive [either/or] response set, we did not state explicitly that the nurse option excluded a physician; see Appendix 1 for exact question text.) This finding may reflect an expectation that using a qualified non-physician practitioner would reduce wait time, would be more efficient, and would provide an equal level of care. In reality these conditions may not be easily attained. Conditions under which patients would find nurse practitioners’ or other therapists’ care acceptable relative to ED physician care requires further structured investigation.

### *Limitations and future research*

Patients who left without being seen were excluded from the study, and such patients may have significantly different expectations that should be explored further. In addition, 37% of contacted patients did not complete the survey, and the potential differences between respondent and non-respondent expectations were not explored. Only one urban, tertiary Canadian health region was studied, and it is uncertain whether our findings can be generalized to other regions or to smaller facilities. The study was conducted in 2002, so its current applicability may be affected by changes in system capabilities. Important issues like patient safety, diagnostic accuracy and treatment efficacy did not emerge as key patient expectations. This should not suggest that such issues are unimportant to patients, but possibly that they are taken for granted or that they were not issues of concern to many patients at the time of the survey. Future study is required to explore patients under-

standing of and expectations of diagnostic and treatment quality, and to determine whether attempts to meet patient expectations improve care quality measures such as patient satisfaction.

## Conclusions

ED patient expectations appear to be similar across all triage levels. Patients value effective communication and short wait times over many other aspects of care. They have strong expectations with regard to immediate accessibility and sharing of their medical records between emergency and primary care physicians, and they have expectations for short wait times that are met infrequently and are currently unattainable in many Canadian EDs. Although it may be neither feasible nor desirable to meet all patient expectations, increased focus on wait times and staff communication may increase both ED efficiency and patient satisfaction.

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#### Appendix 1. Sample questions from the study's cross-sectional telephone survey

Sample question	Response options
<b>Importance scale item</b>	
When the doctor is explaining things to you, how important is it that the doctor uses plain language and checks that you understand what he or she is saying?	
Not important	1
Somewhat important	2
Very important	3
Extremely important	4
<b>Mutually exclusive choice item*</b>	
The following statements are related to QUALITY OF CARE in the emergency department. Please tell me which response after each statement best applies to you.	
In the emergency department you expect to be examined and treated.....	
Always by a doctor	1
OR	
By a nurse or therapist if qualified to deal with your health problem	2

\*Although our items were asked as a mutually exclusive [either/or] response set, the interviewer did not state explicitly that the nurse option excluded a physician.