doi: 10.1111/j.1742-6723.2008.01147.x *Emergency Medicine Australasia* (2009) **21**, 25–30

EMA

ORIGINAL RESEARCH

Emergency department patient preferences for waiting for a bed

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Abstract

Objective: Many EDs have difficulty transferring admitted patients to inpatient beds in a timely manner because of access block. We assessed ED patient preferences for waiting location.

Method: Admitted ED patients at Royal Perth Hospital, Perth, Western Australia, Australia were surveyed over a 4 week period. Patients were questioned about their preferences for waiting location (ED cubicle, ED corridor, ward corridor, no preference). Patients were also asked what they felt was the maximum acceptable time for waiting for a ward bed. We also assessed if patient expectations were met with regards to their waiting times.

Results: A total of 400 patients were surveyed. Of all, 121 patients (30.2%) had no preference for waiting location and 215 patients (53.8%) preferred ED cubicles. If the waiting location option was between EDs and ward corridors, 185 patients (46.2%) had no preference. Of the 215 patients who had a preference, 72.1% preferred to wait in a ward corridor (95% CI 65.5–77.8%) and 27.9% preferred the ED corridor (95% CI 22.1–34.5%). Fifty-seven per cent of patients expected to get to their ward bed within 6 h. Seventy-two point one per cent (95% CI 66.3%–77.2%) of patients did not have their expectations met for bed waiting times.

Conclusions: Patients would prefer to wait in ward corridors for their ward bed if there was no ED cubicle available. Waiting in the ED corridor is their least preferred option. Patients usually expect to get to their ward bed within 3 h. However, with high levels of access block, patient expectations for waiting times for a bed are usually not met. These findings could be used to drive system changes that are more patient-focussed.

Key words: *access block, patient preferences, emergency department, overcrowding, waiting, patient satisfaction.*

Introduction

Many EDs have difficulty transferring admitted patients to inpatient beds in a timely manner because of access block.[1] These patients are usually held in the ED, either in a cubicle or in a corridor. This overcrowding is a major challenge facing EDs.[2,3] The main cause of overcrowding is access block, which is defined as the

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inability to gain access to hospital beds for emergency admissions within 8 h.[2,4–6] Despite numerous publications reporting increased ED dysfunction,[7] poor quality of care,[8] increase in length of stay,[9] increased mortality[10,11] and staff stress,[2] access block and ED overcrowding continue.

A recent study by Garson *et al.* reported on American ED patient preferences, on whether they would prefer to wait for an inpatient bed in the ED corridor or ward corridor.[1] Of the 64% of patients who had a preference, 59% preferred to wait in ward corridors. They concluded that when hospitals are at full capacity, patients would rather wait in inpatient hallways than ED hallways.[1]

Our objective was to determine whether Australian ED patients waiting for inpatient beds have similar preferences.

Method

We undertook a prospective cross-sectional study of patients admitted to Royal Perth Hospital (RPH), Perth, Western Australia, Australia from the ED. Patients were asked to undertake a survey questioning their preferences for waiting location, namely ED cubicle, ED corridor, ward corridor or no preference. Patients were then asked if there was no ED cubicle available, what their preference was, that is, ED corridors or ward corridors. Patients were also asked the maximum acceptable time they would be willing to wait in the ED before being transferred to their ward bed.

Patients were included if they were for admission to RPH. Patients who were excluded were those who were unable or unwilling to give consent, had language or comprehension barriers, or were unsuitable because of their clinical condition (e.g. too unwell, intoxicated, psychiatric illness, dementia).

Data were collected between 08.00–22.00 hours, 7 days a week by trained research assistants who were not involved in the clinical care of the patient. Patients were informed that their responses were confidential and did not affect their care. The survey was administered verbally by the research assistant. Data collection occurred from 25 February to 23 March 2008. Additional data collected included age, sex, Australasian Triage Score (ATS), survey location, waiting time to see a doctor, time from bed request to ED discharge and inpatient specialty the patient was admitted under.

We aimed for a sample size that was comparable to the Garson *et al.* study.[1] Data were entered into an Excel spreadsheet and analysed using SPSS (version 16; SPSS, Chicago, IL, USA) to calculate standard descriptive statistics and 95% CI. We used χ^2-tests to determine associations between patient preferences and the stated variables. Secondary analyses were done to determine whether patient demographics, previous admissions and survey time were associated with survey responses. In addition, further analyses were performed to determine whether patient's expectation of acceptable waiting times for a bed was met.

This project was registered as a quality improvement project with the RPH Quality and Safety Committee.

Results

During the study period, there were 4488 ED presentations and 1735 admissions. A total of 400 patients (23.1% of admissions) were surveyed (and another two patients declined to participate). The proportion of access-blocked patients in this period was 51.6%. Of all, 226 (56.5%) patients were male and the mean age was 56.5 ± 20.0 years (range 15–96). 266 (66.5%) patients had been previously admitted to RPH. The mean age for patients who had no previous admissions was 47.3 ± 19.9 years compared with a mean age of 59.2 ± 18.6 years for patients who had been previously admitted ($P < 0.0001$). There was no significant difference between these groups and their preferences (Pearson χ^2 0.9, d.f. 2, $P = 0.636$). Of the 400 patients, 12 (3.0%) were ATS 1, 166 (41.5%) were ATS 2, 159 (39.8%) were ATS 3, 62 (15.5%) were ATS 4 and 1 was ATS 5.

At the time of survey administration, 275 (68.8%, 95% CI 63.9–73.2%) were interviewed in an ED cubicle, 117 (29.2%, 95% CI 24.9–34.0%) were in an ED corridor and 8 (2%, 95% CI 0.9–4.1%) were in a ward corridor. The mean time a patient had to wait to see a doctor was 43 ± 59 min, the mean time from review to bed request was 3.5 ± 2.9 h, the mean time to survey administration was 4.1 ± 4.8 h (median 2.2 h) and the mean time for waiting for a ward bed after bed request was 9.1 ± 7.6 h.

Table 1 reports the patient preferences for the various locations for waiting for a bed. The majority (53.8%) preferred to wait in an ED cubicle.

Table 2 reports patient preferences for waiting location if they only had a choice between the ED corridor and the ward corridor. Of the 215 patients who had a preference, 72.1% preferred to wait in a ward corridor (95% CI 65.5–77.8%) and 27.8% preferred the ED

Table 1. Patient preferences between ED cubicles, ED corridors and ward corridors

	Number of patients (n = 400)	Percentage (%)	95% CI
ED cubicles	215	53.8	48.7–58.7
ED corridor	10	2.5	1.3–4.7
Ward corridor	54	13.5	10.4–17.3
No preference	121	30.2	25.8–35.0

Table 2. Patient preferences between ED corridors and ward corridors when there are no ED cubicles available

	Number of patients (n = 400)	Percentage (%)	95% CI
ED corridor	60	15	11.7–19.0
Ward corridor	155	38.8	34.0–43.7
No preference	185	46.2	41.3–51.3

Table 3. Patient preferences for acceptable waiting times for a ward bed

Time period (h)	Number of patients (n = 400)	Percentage (%)	Cumulative (%)	95% CI
Less than 1	42	10.5	10.5	7.7–14.0
1–3	128	32	42.5	27.5–36.8
3–6	58	14.5	57.0	11.3–18.4
6–9	11	2.7	59.8	1.4–5.0
9–12	11	2.7	62.6	1.4–5.0
Greater than 12	23	5.8	68.4	3.7–8.6
No preference	127	31.8	100	27.3–36.6

corridor (95% CI 22.1–34.5%). Using ordinal regression, we found no relationship between time to questionnaire administration and patient preferences (P = 0.64).

The specialties the patients were admitted under were recategorized into medical or surgical. Of all, 293 patients (73.2%, 95% CI 68.6–77.5%) were admitted to medical specialties and 107 patients (26.8%, 95% CI 22.5–31.4%) were admitted to surgical specialties. A χ^2-test to analyse the association with patient's preferred waiting location revealed no difference (Pearson χ^2 3.6, d.f. 2, P = 0.165).

We analysed the 'no preference' data to determine if there were any factors that were predictive of preferences. Using logistic regression, we included the following variables in the model: age, sex, ATS, survey location, previous admission, time to questionnaire and medical versus surgical admission. After adjusting for the variables in the model, we found only one of these made a statistically significant contribution: women were twice as likely as men to have a preference (OR 1.98, 95% CI 1.32–2.97, P = 0.001). Similarly, of those who have a preference, we found that women had a greater preference for the ward corridor (P = 0.009).

Table 3 reports patient preferences for acceptable waiting times. The majority of patients (170/273, 62.3%, 95% CI 56.2–68.0%) who did have a preference felt that up to 3 h was an acceptable waiting time. Of the 273 patients who nominated a preference, 228 (83.5%, 95% CI 78.5–87.6%) chose time intervals less than 6 h. There was no association between an acceptable waiting time of less than 6 h versus greater than 6 h on patient preferences for waiting location (Pearson χ^2 1.29, d.f. = 2, P = 0.525).

We assessed how often bed waiting time expectations were met. Using the maximum time in each category (e.g. if they nominated 1–3 h as acceptable, we used 3 h as their target) and using the difference between ED discharge time and bed request time as the bed waiting time, we found that 196 patients (72.1%, 95% CI 66.3–77.2%) did not have their expectations met for bed waiting times.

Discussion

The present study demonstrates that the majority of ED patients would prefer to wait in an ED cubicle for their

ward bed. However, with EDs overcrowding and access block, this is usually not possible and not appropriate for patient flow. If ED cubicles were not available, patients preferred ward corridors over ED corridors. Of course, the practice of boarding patients in corridors is unacceptable, but reflects the harsh reality of the current capacity crisis.

Patients perceived ward corridors as being quieter, less chaotic, a 'step closer' to getting to a ward bed and closer to the medical teams and nursing staff who will be looking after them. They also preferred ward corridors as they would be allowed visitors, which are not allowed in ED corridors at RPH because of overcrowding. Patients who preferred to stay in ED corridors felt that medical attention would be available more quickly than on the ward. They also felt that there would be more privacy in an ED corridor, as this would avoid being seen in the ward corridor by the public visiting ward patients. A few patients commented that the ED was 'interesting and entertaining'.

Of those patients who had a preference regarding bed waiting times, 228 patients (83.5%) had expectations of waiting less than 6 h. However, the majority of these patients (170 patients, 62.3%) felt that less than 3 h was the maximum acceptable waiting time. This mirrors the result reported by Garson *et al.*[1] Overall, 72.1% of patients did not have their expectation of an acceptable bed waiting time met. This was the best possible outcome that could have been achieved as delays in submitting bed requests would have made waiting times for beds less than what they actually were.

These results are similar to that reported by Garson *et al.*[1] The number of patients surveyed in the two studies was comparable with 400 Australian patients versus 431 American patients. However, more American patients declined to participate (13% *vs* 0.5%). Of the 64% of the patients who had a preference in the Garson *et al.* study between ED corridors and ward corridors, 59% preferred a ward corridor and 41% preferred the ED corridor.[1] The majority of patients (60%) also felt that an acceptable waiting time for a bed was less than 3 h.

The differences between our study and the Garson *et al.* study were that we included patients who had not been admitted to RPH before, and that we included a small number of patients who were already waiting in a ward corridor. In our study, more patients were interviewed in an ED corridor compared with the American study (29% *vs* 10%). This might explain the greater proportion of Australian ED patients having a preference for the ward corridor (72.1% *vs* 59%). Overall, in comparison with the American ED patients surveyed, Australian ED patients were more likely to have no preferences with regards to ED corridors and ward corridors (46.2% *vs* 36%) and acceptable waiting times (31.8% *vs* 21%).

The limitations to our study were similar to the Garson *et al.* study.[1] Also, there was a risk of selection bias because of excluded patients, and sampling bias because of absence of overnight sampling. However, as a result of the high rate of access block, many overnight patients were surveyed in the morning. Although 66.5% of patients had previously been admitted to RPH, it was difficult to be certain whether the patient could understand the difference between ED corridors and ward corridors. Conversely, Viccellio has reported that in patients with first-hand experience with being boarded in both areas, patients had an overwhelming preference for boarding in the ward corridor.[12] This was associated with higher patient satisfaction scores.[12]

Although patients were informed that their responses were confidential, it is possible that patients might have been reluctant to give negative comments while they were still in the ED. Also, patients might have expressed a different opinion for waiting location if it overtly affected their care.[1]

The other noteworthy finding in both studies was the relatively high proportion of responses that indicated no preference. This might reflect a lack of understanding of the survey questions and process, fear of giving the 'wrong' answer and/or patients being acutely unwell. It might also reflect the structure of the survey question. 'No preference' was the final option. If it had been the first option, there might have been a lower proportion. In addition to this, some patients who had previously experienced a lengthy delay for a ward bed indicated that their response of an acceptable time (>12 h) was because this is what they expected, rather than what they would choose.

Conclusions

At times of ED overcrowding, if patients do not have access to an ED cubicle, waiting for a ward bed on a ward corridor is their preferred option. Waiting in the ED corridor is their least preferred option. The majority state that they should be transferred to the ward within 3 h and, with current practices, this expectation is not met for most admitted patients. These findings could be used to drive system changes that are more patient-focussed.

Competing interests

None declared.

Accepted 30 September 2008

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Appendix I

STUDY IDENTIFIER_____
INTERVIEWER'S NAME: _____
LOCATION OF WAITING (LOW) STUDY

UMRN: _____
Survey administration date/time (24 h clock) __/__/__ __:__
Patient location at the time of survey administration
ED cubicle ED corridor Other _____
Patient triage date/time (24 h clock) __/__/__ __:__
ATS _____
First seen by doctor date/time (24 h clock) __/__/__ __:__
Patient bed request (24 h clock) __/__/__ __:__
ED discharge date/time (24 h clock) __/__/__ __:__
Inpatient specialty this patient was admitted to: _____

Patient Demographics

Patient age ___ years
Patient sex Male Female
Patient's race Aboriginal or TSI Caucasian Asian Other_____

Patient Survey

We are asking you to participate in a survey that will help Royal Perth Hospital to better understand the preferences of ED patients regarding **ADMISSION LOCATIONS** when the **HOSPITAL IS FULL**. It will involve **FIVE** simple questions. If you have any questions please do not hesitate to ask the ED staff administering this survey. It will take less than 5 min to complete. Your responses will be kept anonymous and will not affect your care in any way.

1. Do you consent to filling out this survey?
   Yes ☐ No ☐ (if no, do not continue with the survey)
2. Have you ever been admitted to this hospital before? Yes ☐ No ☐
3. **IF YOU ARE ADMITTED TODAY** and the **HOSPITAL IS FULL** (i.e. no hospital beds upstairs are available for you now), would you rather: (choose ONE)

☐ Stay in an ED cubicle until the ward bed is ready upstairs
☐ Stay in the ED in a corridor until the hospital bed is ready upstairs
☐ Be transferred upstairs to a ward corridor until the hospital bed is ready
☐ I have no preference

4. **IF THERE ARE NO ED CUBICLES,** and **YOU ARE ADMITTED TODAY** and the **HOSPITAL IS FULL** (i.e. no hospital beds upstairs are available for you now), would you rather: (choose ONE)

☐ Stay in the ED in the corridor until the ward bed is ready upstairs
☐ Be transferred upstairs to a ward corridor bed until the hospital bed is ready
☐ I have no preference

5. **IF YOU ARE ADMITTED TODAY**, what is the MAXIMUM ACCEPTABLE TIME you are WILLING TO WAIT before being transferred to your ward bed? (Choose one)

☐ Less than 1 h (<1)
☐ From 1 to 3 h (1–3)
☐ From 3 to 6 h (3–6)
☐ From 6 to 9 h (6–9)
☐ From more than 9 to 12 h (9–12)
☐ Greater than 12 h (>12)
☐ I have no preference