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Why are we waiting? Patients' perspectives for accessing emergency department services with non-urgent complaints



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ABSTRACT

[Background]

Emergency departments world-wide report service demands which exceed resource availability. Themes such as crowding, non-urgent presentations, ambulance diversion and access block have been linked to complications in care, poorer patient outcomes, increased morbidity and staff burnout. People attending the emergency department with problems perceived as non-urgent are frequently attributed blame for increased service demand, yet little is known from the patients' perspective.

[Method]

This project utilised a descriptive cross-sectional waiting room survey of non-urgent patients to identify factors contributing to their decision making process to access ED services at a regional hospital in Tasmania, Australia. Data were analysed using a statistical software package and comparison made between the sample and population groups to determine broad representation.

[Results]

Patients' decision making processes were found to be influenced by convenience, perceived need and referral by a health care provider. Cost did not present as a significant factor. A high incidence of patients under 25 years of age were identified and musculoskeletal complaints were the most common complaint across all age groups.

[Conclusion]

Further consideration is required to determine how to best meet service demand to facilitate the provision of the right service at the right time to the right patient.

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1. Introduction

Crowding in emergency departments (EDs) has become an international dilemma and the subject of much research and discussion. Increasing numbers of presentations continue to be reported with a variety of contributing factors and adverse outcomes. A growing body of literature links issues such as access block, aging population, increased demand for complex chronic disease management and decreased service availability as contributing factors to the crowding dilemma [1–8]. Complications of crowding have been identified as: increases in morbidity and mortality rates; inappropriate time to investigations, treatments

and pain management; difficulties maintaining patient privacy; ambulance diversion and ramping; increased length of stay; decreased staff productivity with increased staff burn-out; increased violence; miscommunication and negative impact on teaching [1,2,8–17].

Complicating these factors further is the growing number of non-urgent patients attending EDs with health concerns which could be more suitably managed by primary health care providers. According to the Australian Institute of Health and Wellbeing (AIHW), Australia continues to observe increases in annual ED presentations with an annual national growth of 2.3% since 2009/10 [18] while population growth sits at 1.5% [19], therefore, ED attendance is increasing more quickly than population growth. Tasmania, Australia's smallest and only island state provides a similar pattern with a 1.0% increase in ED attendance for the same period [18] and a population growth of 0.3% [19]. In addition to this, Tasmania records the second highest percentage of all states and

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territories with the least urgent triage categories comprising 57.2% of total presentations, compared to the national average of 52.8% [20]. Unlike the larger mainland Australian states there is currently limited Tasmanian research considering the factors that may influence the increasing number of non-urgent ED presentations.

Non-urgent or inappropriate presentations are not clearly defined in the literature, owing, according to Lowthian et al. [7] to differences in the perceptions of clinicians and patients. For the purposes of this paper “non-urgent” presentations have been defined as those allocated a triage category 4 and 5 (according to the Australian Triage Score, Department of Health and Aging, [21]). The Australian Triage Score (ATS) is a five point scoring system of which category 4 and 5 patients are the least urgent. Similar classification of non-urgent presentations have been used in previous studies [22–24].

2. Aim

The aim of this research project was to identify profiles in non-urgent presentations and gain insight into: services accessed before presentation to ED; why ED was chosen by attendees with non-urgent complaints and the presenting health complaint of attendees. Through the patient survey the research team sought to build an understanding of the type of health service required by non-urgent patients in the region.

3. Background

This research was undertaken at a regional Tasmanian hospital with a bed capacity of 300 [25] providing acute health care for a catchment population of 135,000 [26]. Tasmania has a population of 514,800 [19] with the highest national mean age of 41.5 [27] and a rate of unemployment (6.5%) higher than the national average (5.6%) [28].

Services currently available in this region consist of general practitioners (GPs) who largely operate Monday to Friday, with some limited after-hours services. Two GP surgeries are located within walking distance of the hospital ED and provide some after-hours services, including access to onsite pathology until 2100 h. Community access to a privately run national home doctor service is available from 1800 weeknights, after 1200 on Saturdays, all day Sundays and public holidays. In addition, various phone services provide medical advice.

The Australian health system provides free ED care to residents, with on-site radiological investigations and pathology services. GPs have the option to bulk bill or charge above the Medicare rebate, resulting in a ‘gap’ paid by patients. The Australian Medicare system also provides low income earners and those on social welfare payments with access to free GP services along with other reduced cost benefits such as pharmaceutical scripts.

4. Method

A descriptive cross sectional survey was available to non-urgent (ATS 4 or 5) patients to complete in the ED waiting room. The survey was previously validated in the Netherlands by Moll van Charante et al. [29] and subsequently translated into English and used in a study in regional Victoria, Australia [30]. The survey consisted of a series of brief, standardised response questions using tick-boxes with some open ended questions where respondents could provide comment. The survey took five to ten minutes to complete and was distributed by a researcher or ED staff.

Prior to commencement of data collection permission was obtained from the Director of Clinical Services within the hospital

and from the Health Research Ethics Committee (Tasmania) Network (reference no. H0015049).

4.1. Sample and data collection

Data were collected from non-urgent patients in the ED of a regional Tasmanian hospital 24 h a day for six weeks to provide varied distribution across time of day and day of week. All non-urgent patients (including those who arrived by ambulance) who attended the ED during the six-week survey period (23rd July to 3rd September 2015) were deemed eligible; where the patient was unable to complete the survey a family member or carer was able to do so on their behalf. Participants were deemed ineligible if they arrived with police or displayed signs of mental illness such as paranoia. Collected data were limited to those able to complete the written survey as providing assistance to complete the survey was outside the resources of this project. An information sheet was attached to the survey providing participants with background information, aims of the project, and contact details of researchers. Completion of surveys was voluntary and anonymous with consent implied on completion. Patients were deemed eligible based on initial triage category, it was beyond the scope of this project to then exclude patients who may have deteriorated and been re-allocated a more urgent triage category.

4.2. Statistical analysis

Surveys were entered into the Statistical Package for the Social Sciences (SPSS) data analysis program [31]. As an exploratory study, descriptive data were interpreted to identify patterns in why non-urgent patients chose to attend the ED, what proportion would attend another service if available, what proportion considered cost in choosing to attend ED, and the profile of services required by participants during the study period. A statistician was consulted at this time. Where possible, comparison was made between the sample group (SPSS) and population data from Emergency Department Information System (EDIS) to assess the representative nature of the sample. The population data were not available within SPSS consequently limiting statistical comparison between the groups. This included gender, age, time of day and day of week. Chi square analysis was used to measure differences between younger (under 25 years) and older (over 25 years) participants for presenting complaint and reason for attendance.

5. Results

Over the period data was collected a total of 5283 patients presented to the ED; 2987 (56.5%) were triaged as category 4 and 5 patients, averaging 71 non-urgent presentations per day and are referred to as the population group in this paper. Collected data from 477 completed surveys (16% response rate) were entered into SPSS with EDIS data being converted to an Excel spreadsheet. Once completed, ten per cent of the entries were subject to a quality check by a second researcher and there was 100% agreement.

5.1. Demographic findings

A summary of age and gender for population and sample groups can be seen in Table 1. A total 1664 (42.1%) patients were aged 0–24 within the population group with the sample group yielding 268 (45.5%) survey responses, the incidence of non-urgent ED presentations in both the population and sample groups decreased with age. In 273 (57.2%, $n=477$) instances patients completed their own surveys; 191 (40.0%) were completed by family members or carer; and, 11 (2.3%) by friends.

Table 1
Non-urgent ED presentations.

	Sample (%) n = 477	Population (%) n = 2987
<i>Age and gender</i>		
<i>Gender</i>		
Male	224 (47.0)	1508 (50.5)
Female	253 (53.0)	1477 (49.5)
<i>Age</i>		
0–4 years	33 (6.9)	287 (9.6)
5–14 years	82 (17.2)	389 (13.0)
15–24 years	102 (21.4)	583 (19.5)
25–34 years	51 (10.7)	405 (13.6)
35–44 years	50 (10.5)	331 (11.1)
45–54 years	53 (11.1)	263 (8.8)
55–64 years	41 (8.6)	257 (8.6)
65–74 years	28 (5.9)	191 (6.4)
75–84 years	24 (5.0)	195 (6.5)
≥85 years	12 (2.5)	96 (3.2)
Under 25 years	217 (45.5)	1259 (42.1)
Over 25 years	260 (54.5)	1728 (57.9)
<i>In-hours and after-hours presentations comparison across sample and population groups</i>		
<i>Day of week</i>		
Monday	55 (11.5)	446 (14.9)
Tuesday	76 (15.9)	414 (13.9)
Wednesday	74 (15.5)	434 (14.3)
Thursday	76 (15.9)	452 (15.1)
Friday	56 (11.7)	401 (13.4)
Saturday	66 (13.8)	398 (13.3)
Sunday	74 (15.5)	442 (14.8)
<i>Time of day</i>		
0000–0400	11 (2.3)	183 (6.1)
0400–0800	21 (4.4)	197 (6.6)
0800–1200	141 (29.6)	684 (22.4)
1200–1600	141 (29.6)	759 (25.4)
1600–2000	112 (23.5)	711 (23.8)
2000–2400	49 (10.3)	453 (15.2)
Overall in hours presentations*	207 (43.4)	1027 (34.4)
Overall after hours presentations**	269 (56.4)	1960 (65.6)

* In hours presentations, Monday to Friday from 0800 to 1600.

** After hours presentations, all other times.

5.2. Time of day and day of week

Day and time of sample and population attendances are presented in Table 1. Collection across week days is evenly distributed with some variation observed in time of presentation. For the purposes of data analysis, in-hours was defined as Monday to Friday, 0800–1600, all other times are referred to as after-hours. Within the population group almost two thirds of non-urgent presentations attended after-hours.

5.3. GP versus ED

Of the 419 surveyed participants who stated they had their own regular GP, 150 stated they would prefer to see their GP yet presented to ED; 46% (n = 150) of this group presenting in-hours. Almost 40% of participants reported contacting a health care provider before attending the ED and almost 30% were referred to ED by a health care provider (Table 2). Of the 138 non-urgent referrals, 71 (51%) presented to the ED in-hours.

5.4. Participants reasons for accessing ED

5.4.1. Presenting complaints among non-urgent attendees

Participants were asked the nature of their health concern, this was an open ended question and responses were categorised by researchers to enable comparison and reviewed across age groups

Table 2
Summary of patients' responses.

	Number	% (n = 477)
<i>In an ideal world where would the best place to have your/the patient's health concern managed today?</i>		
Emergency department	180	37.7
GP/Doctor	150	31.4
Community health service	8	1.7
No difference	54	11.3
Don't know	55	11.5
Missing	15	3.1
<i>Does the patient have their own regular GP?</i>		
Yes	419	87.8
No	47	9.9
Missing	11	2.3

(refer to Tables 3 and 4). Musculoskeletal issues such as pain or injury to limbs, joints and back, were the most frequent complaint. The second largest cohort were those with non-specific complaints such as fever, headache, non-specified pain and chest pain these symptoms were reported in 14% of cases. Other complaints were listed less frequently (refer to Table 3 for full list). Chi square analysis was then undertaken to determine whether significance could be demonstrated between participants under and over 25 years of age and their presenting complaints. A statistical difference was identified in two sets of presenting complaints indicating that participants under 25 years of age are more likely to attend with respiratory symptoms (chi-square = 9.364, p = 0.002) and ear, nose and throat (ENT) symptoms (chi-square = 6.298, p = 0.012).

Table 3
Presenting complaints and contributing factors: total sample group.

	No.	% (n = 477)
<i>Presenting complaint</i>		
Musculoskeletal	148	31.0
Other	67	14.0
Gastrointestinal	52	10.9
Skin (Lacerations, wounds, rashes)	47	9.9
Respiratory	27	5.7
ENT	19	4.0
Eye	12	2.5
Renal/Urinary	11	2.3
Script/Medical Certificate	10	2.1
Head Injury	8	1.7
Women's Health	7	1.5
Allergic Reaction	6	1.3
Mental Health	6	1.3
Missing	57	12.0
Contact with health care provider prior to ED attendance	187	39.2
<i>Patients' reasons for attending*</i>		
It was clearly an emergency to me	177	37.1
Patient may need to have tests (such as x-rays and/or blood tests)	192	40.3
Emergency department more available than GP or other health care service	137	28.7
GP not available	171	35.8
Patient was told to go to the emergency department by a doctor of nurse	138	28.9
A health help line indicated the patient should attend	24	5.0
It was related to a recent hospital contact of procedure	27	5.7
Other services are too expensive	33	6.9
The patient uses the emergency department for all their health concerns	10	2.1
Did not know where else to go	44	9.2
Other	33	6.9

* Patients were able to select all responses that applied to them leading to total responses of greater than 100%.

Table 4
Age variance – presenting complaints and contributing factors: under 25 years of age versus over 25 years of age.

	Under 25 years n = 217 No. (%)	Over 25 years n = 259 No. (%)	p-value*
<i>Presenting complaint</i>			
Musculoskeletal	77 (35.5)	71 (27.3)	0.058
Other	25 (11.5)	42 (16.2)	0.142
Gastrointestinal	28 (12.9)	24 (9.2)	0.205
Skin (Lacerations, wounds, rashes)	17 (7.8)	30 (11.5)	0.172
Respiratory	20 (9.2)	7 (2.7)	0.002
ENT	14 (6.5)	5 (1.9)	0.012
Eye	5 (2.3)	7 (2.7)	
Renal/Urinary	1 (0.5)	10 (3.8)	
Script/Medical Certificate	3 (1.4)	7 (2.7)	
Head Injury	7 (3.2)	1 (0.4)	
Women's Health	3 (1.4)	4 (1.5)	
Allergic Reaction	1 (0.5)	5 (1.9)	
Mental Health	1 (0.5)	5 (1.9)	
Contact with health care provider prior to ED attendance	82 (37.3)	105 (40.5)	0.540
<i>Patients' reasons for attending**</i>			
It was clearly an emergency to me	73 (33.6)	104 (40.2)	0.143
Patient may need to have tests (such as x-rays and/or blood tests)	84 (38.7)	108 (41.7)	0.508
Emergency department more available than GP or other health care service	58 (26.7)	79 (30.5)	0.365
GP not available	82 (37.8)	89(34.4)	0.438
Patient was told to go to the emergency department by a doctor of nurse	51 (23.5)	87 (33.6)	0.016
A health help line indicated the patient should attend	9 (4.1)	15 (5.8)	0.414
It was related to a recent hospital contact of procedure	8 (3.7)	19 (7.3)	0.086
Other services are too expensive	14 (6.5)	19 (7.3)	0.705
The patient uses the emergency department for all their health concerns	4 (1.8)	6 (2.3)	0.720
Did not know where else to go	22 (10.1)	22 (8.5)	0.537

* Where p-value is not recorded, numbers were deemed too small to accurately report statistical significance.

** Patients were able to select all responses that applied to them leading to total responses of greater than 100%.

5.4.2. Rationale for presenting to ED with non-urgent complaints

Participants were provided with a list of eleven possible factors contributing to their decision to attend ED and were able to select as many as applied. A full list of contributing factors and responses are detailed in Table 3 and cover issues such as; perceived need; convenience; service accessed prior to ED presentation; referral to ED; economic factors and service availability. The most commonly selected rationale for attending ED with non-urgent complaints was the belief further investigations (such as pathology or radiology) may be required followed by participants who believed it was clearly an emergency. Thirdly, were participants who indicated their GP was not available; followed by those who were advised to attend by a doctor or nurse or believed the ED was more available than their GP (or other health care service). Responses then decreased in frequency, less than 10% claimed they did not know where else to go and less than seven per cent cited cost as a factor. Survey participants were also asked if they had contacted a health care provider before attending ED; almost 40% stated they had.

Responses were then reviewed to determine whether trends varied between non-urgent participants under and over 25 years of age (Table 4). Chi-square analysis revealed one statistical difference: with participants under 25 years of age are less likely to be referred by health care services prior to ED (chi square = 5.837, $p = 0.016$). No statistical differences were found between the younger and older age groups and their incidence of contact with a health care provider prior to their ED attendance (chi square = 0.375, p -value = 0.540).

6. Discussion

This study demonstrated that the most common reason for non-urgent presenters to attend ED was convenience followed closely by the perceived need of attendees. A high incidence of non-

urgent presentations was made by those under 25 years of age and many participants had attempted to access alternative health services prior to ED presentation with over one quarter being referred by a health care professional.

The two data sets obtained from EDIS and SPSS demonstrate broadly similar demographic characteristics, enabling conclusions drawn from the survey data to be applied to the greater cohort of non-urgent presentations. This has provided the researchers with an opportunity to gain greater insight and to identify trends in patients' choice to access emergency services with non-urgent complaints.

6.1. Why are non-urgent patients attending ED?

6.1.1. Convenience of ED services for non-urgent attendees

EDs worldwide are designed to be convenient and to provide emergency care for those most in need, they are always open providing access to radiology, pathology and specialist surgical/medical advice to those in need. This has long been a fundamental function of EDs, however, such access may also work against smooth patient flow and satisfactory patient outcomes as more patients are attracted to the ED because the convenience of these services resulting in bottlenecks. Convenience, as a reason for attendance is consistent with other studies [7,23,24,32] with Lowthian et al. [7] explaining that EDs are seen as a central place for accessing diagnostic services.

6.1.2. Perceived need of non-urgent ED attendees

Participants who indicated their presenting complaint was clearly an emergency or had chosen to attend ED when their GP was unavailable demonstrate that perceived need was a significant factor in the decision making process (Table 3). This has also been reported by other researchers with Land [16] stating there is a "... deep rooted conviction that the hospital is the best place to be seen

for the treatment of their accident or perceived emergency". Alyasin and Douglas [23], Cooper et al. [22], Lowthian et al. [7], Masso et al. [24], Moll van Charante et al. [29] and Ryan et al. [33] also cite perceived need as a common theme. It could be concluded that public understanding and expectation of EDs and the services EDs are designed to provide are not the same. Public health campaigns may assist in increasing public awareness regarding ED attendance and consequently lead to decreased non-urgent ED presentations.

6.1.3. Referral to ED of non-urgent attendees

Referrals of non-urgent complaints to the ED were identified in over one quarter of presentations in this study. Non-urgent referrals to ED are not commonly discussed within the literature and further investigation is required to gain greater understanding of this referral process in order to establish why this is occurring and how the needs of this patient group could be more suitably addressed. It would be helpful to determine the factors contributing to non-urgent patients being referred to the ED and plan more appropriate services for this group. There is substantial potential to reduce ED attendances from this group of presenters.

6.1.4. Cost and non-urgent ED presentations

Cost, considered by many health care providers as the most likely reason for non-urgent ED presentations was selected by less than seven per cent of participants as a reason for attending ED. Masso et al. [24] found similar results in their Australian study which identified differences between the perceptions of ED staff and patients. The authors concluded that cost was considered a contributing factor of non-urgent ED presentations by staff but not by patients. This indicates that patients may be willing to pay for services if they are able to access the right service at the right time. Further to this are two separate studies, one conducted in Saudi Arabia and the other in Sweden. In the Swedish study [32] it was identified that patients pay more for ED visits than for primary care, while in Saudi Arabia both services are provided free of charge [23] indicating that cost is a minor factor in ED. Both studies identified non-urgent ED presentations as a concern and set out to investigate the causes of non-urgent ED presentations in their own context. These studies support the Australian finding that the issue of non-urgent ED presentations goes beyond cost and that if the issue of non-urgent presentations is to be improved, health care providers and policy makers need to move beyond attributing blame to cost.

6.2. Young people and ED

Young people attended the ED in disproportionate numbers with 42.1% of non-urgent presentations being under 25 years of age; while the population estimate for Tasmanian residents under 25 years of age is 31.4% [27]. Three statistical differences occurred between those under and over 25 years of age, these being: fewer young patients were referred to ED by a health care professional; higher incidence of respiratory complaints; and, a higher incidence of ENT complaints in the younger group (p-values listed in Table 4). The latter two are most likely a result of common paediatric complaints such as respiratory tract infections, tonsillitis and ear infections. However, these complaints were reported by less than 10% of the sample group so do not explain the overall higher attendance of young people with non-urgent complaints.

The reasons for the higher incidence of young, non-urgent attendees who were less often referred by a health care professional was not identified in this study and could be an area for further investigation. It was difficult to identify similar patterns within the literature as the majority of studies are conducted in major centres which separate adult and paediatric patients, this

has resulted in data being reported as adult or paediatric with no "overall" view and limited insight into regional areas where the ED is required to see patients of all ages [7,23,32,34].

6.3. Non-urgent attendees – profile of ideal service

In response to where participants would prefer to be seen in an "ideal world" almost one third claimed they would prefer to be seen by their regular GP. If this had been possible and this cohort were able to be managed by a primary care service, then an average 22 fewer patients each day (or 8030 per year) would have attended the ED. This strongly suggests that if local primary care services were more accessible, with access to appropriate medical imaging and pathology, many more patients would choose not to attend ED. This is of particular interest in light of the high percentage of musculoskeletal presentations.

7. Limitations

This project was conducted during winter months and may portray slightly higher numbers than other seasons, however it is not envisaged this had a significant impact on the overall themes identified in this project with the main findings of convenience, perceived need and cost being consistent with other studies. Survey completion may have excluded some patient groups due to mental health concerns or English literacy skills. It is acknowledged that findings within these demographics may provide further insight into the issues of non-urgent ED presentations, however providing assistance to complete surveys in these groups was beyond the scope of this project.

8. Conclusion

Non-urgent presentations contributed to over half of all ED presentations, with those aged 15–24 the most frequent presenters. One third of our sample of non-urgent presentations attend ED with musculoskeletal complaints. Trends have been identified in patients' decision making for ED attendance, these being: convenience of service; perceived need, and referral from other health care providers. The belief that cost is a significant factor for patients choosing to attend ED was not supported by this study. The results from this study can provide a foundation for planning to ensure the right services are available to the right patient at the right time. If appropriate, accessible and patient-centred services were available in this regional area it is predicted that up to 22 less non-urgent presentations would attend ED daily.

Conflicts of interest

The authors declare there is no conflict of interest.

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