Primary care patients' views on why they present to emergency departments: Inappropriate attendances or inappropriate policy?

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This study investigates why some patients with apparently less urgent conditions present to emergency departments (EDs). We report on a survey of "potential primary-care" ED patients, who were asked about their reasons for choosing the ED over GPs. The sample consisted of 397 patients (with a response rate of 99% = 397/400), recruited in the former Illawarra Health Area. The three main reasons selected were: self-assessed urgency, being able to see the doctor and having tests or X-rays done in the same place; and self-assessed seriousness or complexity. The results do not appear to be sensitive to two potential sources of bias (fixed question ordering and non-random sampling). The results suggest a number of potential policy levers for encouraging some people to present to GPs rather than EDs. However, the main conclusion is that the majority of "potential primary-care" patients appear to be presenting for appropriate reasons. Thus "inappropriate attendances" do not seem to be the cause of EDs being under stress. We also argue that the results are useful for drawing inferences more broadly than just in relation to the Illawarra.

Key words: Emergency service, Patient perceptions, Primary care, Inappropriate attendances, Questionnaire

In the Australian public health care system, general practice (GP) is a federal responsibility, while hospitals are administered by the states and territories. The boundary between the two spheres, which includes "primary care" presentations to emergency departments (EDs), is the subject of much debate and controversy among practitioners, administrators and politicians. The number of "potential primary care" ED presentations is small in comparison to GP presentations (a ratio of 1:33 in the former Illawarra Health Area1 presented in 2003-04). But they do account for 43% of ED presentations in Illawarra.2 Coupled with this is the growing problem of ED overcrowding, attributed by some to an alleged increase in the rate of primary care attendances. So it is worth investigating why patients attend EDs for apparently less urgent reasons. One approach to address this question is to seek the views of such patients themselves, as we have done in this study.

The results of a number of previous surveys of patients' reasons for presenting to EDs have been reported in the literature. These are the subject of a separate review article we are preparing for publication. Reasons that feature frequently include easy geographical access, convenience, GP unavailability, and perceived urgency. As far as we are aware, the results of the last such Australian survey were published in 2001 (Liaw, Hill, Bryce, & Adams, 2001). In that survey, the most frequently selected reason was: "You considered this health problem to be a 'hospital-type' problem" among ED patients; and "It's convenient to get here" among patients at a general practice clinic. However, corresponding results were not published for the subset of primary care patients at the ED, which is the population of interest in our study.

Our survey is a component of a broader study of the reasons primary care patients present to EDs. The project team has also conducted corresponding surveys of ED doctors and nurses—the results of which will be reported in future publications. Analyses of administrative data (emergency department and Health Insurance Commission data), featuring proxies of GP availability, socioeconomic status and geo-coded distances between patients' homes and EDs will also be published in future papers.

Methods

Sample

Our target population was the set of "potential primary care" patients presenting to EDs in the Illawarra between 14 January and 14 July 2004. The recruitment period was not designed to control for
seasonal variation, although it commenced in the middle of summer, and concluded in the middle of winter.

Based on a review of the literature, potential primary care patients were defined as:

- patients classified into category 4 or 5 of the Australasian Triage Scale by the triage nurse on duty
- who did not arrive by ambulance
- were self-referred
- were presenting for a new episode of care
- were not expected to be admitted (according to the assessment of staff in the ED).

We use the prefix “potential” to suggest that not all such patients could have been appropriately cared for within a GP setting. The criteria are based on the data available retrospectively. Other information, available only at the time of presentation, would indicate that some patients were not appropriate to manage via a GP. As a result, true primary care patients would be a subset of our group and the fraction thereof is not possible to determine. We return to this issue in the Discussion section, below.

A nurse researcher with specialist ED expertise visited each ED (Wollongong Hospital, Shoalhaven Hospital, Shellharbour Hospital, Bulli District Hospital and Milton Hospital) on numerous occasions and worked with triage staff in identifying patients who met our criteria. These occasions were sporadic, and they were not randomly selected; but they did span all times of the day (except between 2am and 4am) and all days of the week. The nurse researcher asked all patients meeting our definition to participate. Surveys were administered in the waiting room after patients had been triaged and were waiting to be seen.

Approximately half of the participants (those who where not accompanied by friends or family) were assisted in responding to the questionnaire by the nurse researcher. In the other cases, the questionnaire was completed unaided or with the assistance of a family member or friend who was present. It is possible that the presence of the nurse researcher may have had some influence on the responses given.

Survey instrument

Based on a review of the literature, a draft questionnaire was developed that included the most common reasons cited for primary care patients (however defined) attending EDs (Andersen & Gaudry, 1984; Singh, 1988; Walsh, 1995; Thomson, Kohli & Brookes, 1995; Gill & Riley 1996; Rieffe, Oosterveld, Wijke, & Wiefferink, 1999; Boushy & Dubrinsky, 1999; Rajpar, Smith, & Cooke, 2000; Sempere-Selva, Peiró, Sendra-Pina, Martínez-Espin, & López-Aguilera, 2001). A pilot test was conducted with a small sample of patients and changes were then made to the questionnaire to improve its clarity. Respondents were asked to indicate whether each of 18 reasons for presenting to the ED was a “very important reason”, a “moderately important reason”, or “not a reason”. Patients presenting after hours were asked for corresponding responses to two subsequent reasons. We calculated the proportion of respondents who indicated that each given reason was very important and/or moderately important. We also considered variations in responses by sub-populations defined by region, time of presentation, illness/injury and other characteristics.

The questionnaire (included in the Appendix) was characterised by fixed-ordering of the reasons that respondents could choose as being important. Preliminary data analysis indicated this may have biased the responses to certain questions. To test this, 48 surveys in which the questions were ordered randomly were prepared. Patients completed these extra surveys between 23 September and 11 November 2004. For ease of collection, this subsequent sample was restricted to patients at Wollongong ED “in hours”. The responses to these surveys were compared to the 108 surveys conducted in hours at Wollongong hospital in the original set.

Results

After visiting five EDs on numerous occasions over six months, we identified 400 patients who met our criteria as potential primary care patients, 397 of whom agreed to participate.

The average number of reasons for presenting to the ED selected as very important was 2.4 per respondent, with most (77%) respondents selecting one, two, or three reasons. The reasons
given by patients are listed in order of frequency in Figure 1. The after hours-specific reasons (questions 19 and 20) are treated separately in the following section.

Three reasons for attending an ED stand out as being important for the most number of patients. The most prevalent reason was: "my health problem needed immediate attention and was too urgent to wait to see a GP or medical centre". This was chosen as a very important reason by 67% of respondents, while 13% chose it as a moderately important reason. Second was: "I am able to see the doctor and have any tests or X-rays all done in the same place at the ED". More than half (51%) of respondents chose this as a very important reason and 23% chose it as being moderately important. The third most prevalent reason was: "my health problem was too serious or complex to see a GP or medical centre, including after hours". More than half (53%) of respondents chose this as a reason, including 38% who chose it as a very important reason.

GP unavailability (Qs 8 and 9) was selected much less frequently (very important for 8% and 13%, respectively) than the main reasons. Affordability (Qs 12 and 13) was selected by very few respondents (very important for 3% each).

**After-hours patients**

Reasons given by after-hours patients were generally similar to those given by other patients. Those presenting after hours were statistically significantly more likely (p=.01) to select urgency (Q1) as a very important reason (79% compared to 63%), though no difference was found when very important and moderately important reasons were considered simultaneously. Conversely, after-hours patients were less likely (p=.01) to select unhappiness with waiting time for appointments with GP (Q9; 3% compared to 17%). This is also
the case when very important and moderately important reasons were considered simultaneously (13% compared to 29%; p=.01).

Two questions (Q19 and Q20) were asked only of after-hours patients. Of those who responded, 36% indicated that not knowing how to contact an after-hours GP service or medical centre (Q19) was a reason for presenting to ED (very important reason for 19%, and moderately important for 18%). More than one-quarter (27%) of after-hours patients suggested that their family has traditionally used the ED for all after-hours health care (a very important reason for 17%, and moderately important for 11%).

**Illness versus injury**

Almost half (48%) of surveyed patients presented with injury, while 37% presented with illness (14% for "other reasons", 2% missing). There were few statistically significant differences in the responses given by these groups. Those presenting with illness were more likely than those presenting with injury (p=.03) to choose Q4 (wanted a second opinion) as a very important reason (9% compared to 3%). They were also more likely (p=.03) to choose Q2 (complexity) as either a very important or a moderately important reason (61% compared to 49%). They were less likely (p=.02) to choose Q12 (no charge to see a doctor at ED) as either a very important or moderately important reason (4% compared to 12%). There was no statistically significant difference in the prevalence of Q2 and Q12 as very important reasons.

**Regional differences**

It is commonly assumed that metropolitan and rural EDs operate under very different circumstances. Rural communities are often characterised by limited access to primary care services of all descriptions. As such, their EDs function as a safety net, utilised to "fill the gap". This may result in a different casemix to that of metropolitan EDs, where access to primary care services is much greater.

We found important regional differences when comparing patients at Wollongong Hospital (a major metropolitan hospital) with those at Shoalhaven Hospital (a regional hospital). The largest differences are that Wollongong patients were less likely (p=.01) to select Q9 (unhappy with waiting time for GP; 3% compared to 18%), and more likely (p=.05) to choose Q2 (complexity; 46% compared to 33%) as very important reasons. We plan to discuss such differences in detail in a future paper, drawing also on other data sources.

**Respondents who did not select urgency or complexity**

In this section, we consider those patients (28% of the sample) who chose neither urgency nor complexity as very important reasons. Being able to see the doctor and having tests or X-rays done in the same place (Q7) stands out as the most prevalent reason for these respondents (54% selected it as very important, and 19% as moderately important).

The proportion of these respondents selecting GP unavailability (Q8 and Q9) as being very important is higher than for the overall sample (14% compared to 8% and 22% compared to 13%, respectively). Affordability was reportedly very important for only a small minority (6% for Q12 and 4% for Q13), similar to that of the overall sample.

**Bias due to fixed-question ordering**

A subsequent sample of 48 surveys with randomly-ordered questions was conducted to test for bias due to fixed-question ordering in the main sample. The ranking of the three most prevalent "very important reasons" (Q1, Q7 and Q2 as originally ordered) was the same in this sample as in the main sample. These three reasons also stood out from the other reasons in both samples, as more than twice as many respondents selected Q2 than the fourth most prevalent reason. Due to hypothesised primacy effects (the disproportionate selection of items appearing early in the list of response options), we tested whether the proportions of people selecting Q1, Q2 and Q7 as "very important" were lower in this subsequent sample than in the fixed-ordered sample (Q7 was the first question on the second page of the instrument). The proportions were indeed lower in the randomly-ordered surveys, though the difference was statistically significant only for Q1. However, these differences were slightly smaller in proportion than the corresponding difference in the overall mean number of reasons given (38% lower in the randomly ordered surveys). Similar results were found when very important
and moderately important reasons were considered simultaneously. It is possible this may result from the timing difference between the two samples, which we were not able to avoid; but we believe it is more likely associated with question order, through one or more of a number of possible mechanisms. As expressed by Dillman, Smyth, Christian, and Stern (2003, p. 6): “respondents may check a different number of response options if they are presented with different initial options”. We plan to discuss this issue in more detail in a separate paper.

We concluded that fixed-question ordering did not lead to bias in the relative frequencies of the main reasons. Rather, it resulted in a generally higher prevalence of positive responses across all questions, as compared to that of the randomly ordered alternative. Thus care should be taken in interpreting the magnitudes.

**Bias due to non-random sampling**

After-hours presentations were under-represented in our sample (30% of respondents, compared to 61% of all 2003-04 potential primary care presentations in the Illawarra), as were weekend presentations (20% of our sample, compared to 35%). Presentations at Wollongong were over-represented (50% of our sample, compared to 26%). These discrepancies will have biased some of the results, as there is some variation by time and location of presentation. However, the main findings presented in this paper are not sensitive to these factors. Regardless of time of presentation, or whether the presentation was at Wollongong or elsewhere, Q1, Q7 and Q2 (in that order) were the most prevalent reasons given.

**Discussion**

Our survey suggests that three reasons stand out as being important for the highest proportions of potential primary care ED patients. These are: urgency; being able to see the doctor and having tests or X-rays done in the same place; and the seriousness or complexity of the health problem. A clear majority (85%) of patients believed their conditions were too urgent or complex for treatment elsewhere. These results highlight an important distinction between clinically-assessed triage category and self-assessed urgency and complexity. Patients can only be expected to act on their own judgments, which differ from clinical assessments. Furthermore, the Australasian Triage Scale is designed to categorise patients on an ordinal scale of clinical urgency. It does not directly take complexity into account, nor is it a scale of appropriateness of presentations. The second most prevalent reason given (being able to see the doctor and having tests or X-rays done in the same place) can also be seen as a proxy for perceived complexity. GP unavailability and affordability are important for a smaller proportion of respondents. However, respondents might be reluctant to report affordability concerns in such a survey.

A substantial proportion of after-hours patients indicated that not knowing how to contact an after-hours GP service or medical centre (Q19), or that their family has traditionally used the ED for all after-hours health care (Q20) were contributing reasons for attending the ED. However, it is worth noting that after-hours GP services do not span the entire Illawarra region. Thus some respondents’ “lack of knowledge” may simply reflect an absence of services. Similarly, “traditional use” may result from the ED being the only option available. The sample size was not large enough to investigate this further by analysing regional differences among after-hours patients.

The patients in our study clearly felt that the multi-faceted service provided at ED is a far more important reason than GP unavailability (Q8 and Q9), suggesting several levers if the goal is to divert primary care attendances from EDs to the community sector. In particular, these could focus on the enhancement and promotion of practices with convenient multi-faceted services, for patients to view as a “one stop shop” which rivals the ED. It may also be effective to enhance and promote after-hours GP availability. Such policies may be desirable if a set of patients can be treated more cost efficiently in those settings than in EDs. However, this assumes that accessibility to EDs would not be compromised through resource reallocation, and that a pool of currently unutilised GP resource is available to be deployed at these alternative times.

However, our results have more fundamental policy implications. These patients identified very appropriate and sensible reasons for coming to the ED—urgency, complexity and being able to have the diagnostic tests they had anticipated would be required. Given this, it is important to question the
assumption implicit in many political statements and much policy effort that hospital EDs in Australia are under unreasonable stress because of inappropriate use by primary care patients. Perhaps the reasons that EDs are under stress lie elsewhere. To reiterate an earlier point, the ratio of potential primary care ED presentations to GP presentations is low (1:33). Given the results of this survey, it is also clear that the majority of such potential primary care patients do not see themselves as such, and hence would not attend the GP as a substitute for the care they believe they need.

Are the findings applicable more broadly?
Many readers will be interested in whether the findings reported here are more broadly applicable.

Of the 17 area health services in New South Wales at the time this study was conducted, Illawarra ranks near the middle in remoteness (eleventh by ARIA) and in socioeconomic status (seventh by EDOCC [NSW Department of Health, 2004, Appendix H]). EDs in the Illawarra span all types, representing a major referral hospital, two district hospitals and two small community hospitals. The rate of ED utilisation is the same for Illawarra as for New South Wales (14% of people presented to an ED over 12 months in 2003 [NSW Department of Health, 2003b, Table 30]). For each triage category, Illawarra waiting times are almost identical to NSW overall. A slightly higher proportion of Illawarra’s patients (36%) were affected by access block than for NSW overall (28% [NSW Department of Health, 2003a, Appendix 5]). The characteristics of Illawarra GP attendances are also similar to that of NSW overall. Illawarra residents utilised GP services an average of 5.1 times during 2003-04, compared to a NSW average of 4.9 attendances (Health Insurance Commission [HIC], 2004a). Bulk-billing rates in the Illawarra are estimated to be 79% (HIC, 2004b), compared to 77% in New South Wales (Australian Government Department of Health and Ageing, 2005, Table C3).

Local circumstances undoubtedly influence the decisions people make with regard to presentations to EDs. However, our results for Illawarra may be regarded as a useful indicator for broader inference because of geographic and other characteristics.

End Notes
1 Corresponds to the combined Local Government Areas of Wollongong, Shellharbour, Kiama and Shoalhaven. Ceased to exist as a Health Area for administrative purposes on January 1, 2005. Hereafter referred to as “Illawarra”.

2 This ratio for Illawarra was calculated from EDIS and HIC data, using the same definition of potential primary care as discussed in the Methods section below, with the exception that “not admitted” was used as a criterion in place of “not expected to be admitted”.

3 Before 8am or after 6pm on weekdays, before 8am or after 12pm on Saturdays, or on a Sunday.

4 The top section of the survey was unchanged (i.e., details about age, sex, frequency of presentation to ED). The first 18 questions on reasons for presentation were randomly ordered. The last two questions on reasons were only relevant to after-hours patients and so these were not included.

5 All p-values based on two-sided hypothesis tests.

6 Due to rounding, the sum of given components may legitimately be unequal to the totals presented.

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References
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Appendix: Survey instrument

Illawarra Health Emergency Department (ED) Research Project
Survey of Emergency Department (ED) Patients
A. Please complete these details and tick the boxes about the patient:

Male □ Female □ Are you Aboriginal or Torres Strait Islander? □ Yes □ No
Age of patient _______ Postcode of patient _______

What language do you speak at home? □ English □ Other (please specify):

Do you usually come to the Emergency Department (ED) or to a General Practitioner (GP) or Medical Centre for your health care?
□ ED □ GP/ Medical Centre

Do you usually come to the Emergency Department (ED) or to a General Practitioner (GP) or Medical Centre for your After Hours health care? (For this survey, after hours means the hours between 6:00pm to 8:00am Monday to Friday, after 12.00 noon Saturday and all day Sunday).
□ ED □ GP/ Medical Centre

Thinking back over the last 12 months, how many times have you visited an Emergency Department (ED) before today (not just this ED, but also any other ED you may have been to)?
Never □ Once □ 2-5 times □ 6 times or more □

Thinking back over the last 12 months, how many times have you visited a General Practitioner (GP)?
Never □ Once □ 2-5 times □ 6 times or more □

Do you have private health insurance?
□ Yes □ No

Person completing this survey (tick one):
The □ Parent □ Other family member □ Friend □ Other □

B. Please tick the box that best describes the problem that led you (or the patient you are caring for) to come to the ED today:
□ An injury □ An illness □ Other

C. Why did you come to the Emergency Department (ED) today rather than a General Practitioner (GP) or medical centre?
Please tick the box that best describes the importance of each of the following possible reasons that you came to the Emergency Department today. There may be more than one reason that you came to the ED today:

<table>
<thead>
<tr>
<th>Reason</th>
<th>A very important reason</th>
<th>A moderately important reason</th>
<th>Not a reason</th>
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<tbody>
<tr>
<td>1. My health problem needed immediate attention</td>
<td>□</td>
<td>□</td>
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<td>and was too urgent to wait to see a GP or Medical Centre</td>
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<td>2. My health problem was too serious or complex</td>
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<td>□</td>
<td>□</td>
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<td>to see a GP or Medical Centre, including after hours</td>
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<td>3. I feel the medical treatment is better at the ED</td>
<td>□</td>
<td>□</td>
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<td>4. I wanted a second opinion</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<td>5. I did not want my GP to know about this</td>
<td>□</td>
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<td>particular health problem so I came to the ED</td>
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<tr>
<td>6. I usually prefer to talk to a doctor I don't know about my health problems</td>
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Primary care patients' views on why they present to emergency departments: Inappropriate attendances or inappropriate policy?

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<td>7. I am able to see the Doctor and have any tests or X-rays all done in the same place at the ED</td>
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<td>8. I am not able to get in as a patient at a GP surgery as the books are closed</td>
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<tr>
<td>9. I am not happy with the time I have to wait to get an appointment with a GP</td>
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<tr>
<td>10. I do not like making appointments and prefer the ED as I can attend when I want</td>
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<td>11. It is easier for me to get to the ED than a GP surgery or Medical Centre</td>
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<td>12. There is no charge to see a doctor at the ED</td>
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<td>13. There is no charge for tests, x-rays or medicine at the ED</td>
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<td>14. I wanted to see a female doctor and thought I could at the ED</td>
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<td>15. I wanted to see a doctor or interpreter who speaks my language</td>
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<td>16. I wanted to be able to see Aboriginal health staff if I needed to</td>
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<td>17. I prefer to be in the ED environment than at a GP surgery or Medical Centre</td>
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<td>18. My family has traditionally used the ED (Casualty) for our health care</td>
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If you are attending After Hours (that is, between 6pm and 8am Monday to Friday, or after 12noon Saturday and all day Sunday) please complete the following questions. Please tick the box that best describes the importance of each of the following possible reasons that you came to the Emergency Department today. There may be more than one reason that you came to the ED today.

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<tr>
<td>19. I do not know how to contact an After Hours GP service or Medical Centre</td>
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<tr>
<td>A very important</td>
<td>A moderately important</td>
<td>Not a reason</td>
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<tr>
<td>20. My family has traditionally used the ED for all our After Hours health care</td>
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<tr>
<td>A very important</td>
<td>A moderately important</td>
<td>Not a reason</td>
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D. Would you like to make any additional comments on why you chose the ED to provide your health care today or at other times?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Thank you for participating in this survey