Should ambulant patients be directed to reception or triage first?

S Goodacre, F Morris, B Tesfayohannes, G Sutton

Abstract

Objectives—Developments in triage have led to patients being directed to triage rather than reception upon arrival in A&E. This study aimed to discover if attending triage or reception first, was preferable in terms of timeliness, clarity and safety.

Methods—The study compared two consecutive four week periods during which patients were directed to attend triage first and then reception first. Observers recorded their actions on arrival. Questionnaires recorded the patients’ perceptions of each strategy. High priority triage categories were audited during the reception first phase.

Results—1850 patients were observed in the triage first phase with a mean door to triage time of 10.6 minutes, triage to reception 5.3 minutes and door to reception 15.8 minutes. A total of 1522 patients were observed in the reception first phase with a mean door to reception time of 0.5 minutes, reception to triage 12.4 minutes and door to triage of 12.9 minutes. Patients were more likely to present to the appropriate place during the reception first phase (88% versus 34%) and reported better understanding of instructions. No case given triage category one or two suffered an adverse outcome resulting from delay associated with attending reception first.

Conclusion—Directing patients to attend reception first is timely and less confusing. It is safe provided booking in does not delay assessment by more than 15 minutes.

Methods

The NGH A&E department is the only department serving the city of Sheffield, although ambulant patients may attend a minor injuries unit at the Royal Hallamshire Hospital. A total of 75 000 patients attend the NHG A&E each year. Ambulant patients attend by a separate entrance from the ambulance borne. Both reception and the triage area are adjacent to the entrance. The triage room is separated from the waiting room by a door that directly faces the entrance. This door is kept open except when patients are being examined. Reception opens onto the waiting room via desks that face perpendicular to the entrance. Signs immediately in front of the entrance direct patients to the appropriate area. Patients are triaged into standard, nationally recognised categories, according to local guidelines.

The study took place over two consecutive four week periods in October and November 1999. During the first phase patients were, as normal, directed to attend triage first. During the second phase patients were directed to attend reception first. For matched periods during each phase observers recorded the movements of all patients attending A&E via the ambulant entrance. The following time periods were observed—10 00 am to 2 00 pm (Monday to Friday), 5 00 pm to 9 00 pm (Monday to Friday), 12 00 pm to 8 00 pm (Saturday and Sunday) and 10 00 pm to 2 00 am (Friday, Saturday and Sunday). The observers recorded the time each patient arrived at the entrance, their actions upon arrival, the time they were seen at reception and the time they were seen at triage.

During the same two phases a convenience sample of questionnaires were distributed to patients attending A&E via the ambulant entrance. The questions used are described in the results section.
Finally, during the reception first phase of the study, reception staff had to complete a mandatory computer coding upon booking in each patient. Upon entering patient details they were asked to code whether they felt the patient needed immediate attention by the triage nurse or not. Over the same period all ambulant patients given triage categories one or two patients who had not and SG) independently reviewed the notes of the study periods.

Table 1 Ambulant A&E attendances during the two study periods.

<table>
<thead>
<tr>
<th>Triage first</th>
<th>Reception first</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>4756</td>
</tr>
<tr>
<td>Admitted</td>
<td>431 (9%)</td>
</tr>
<tr>
<td>Cases in triage categories 1 or 2</td>
<td>29 (0.61%)</td>
</tr>
<tr>
<td>Mean age</td>
<td>38</td>
</tr>
<tr>
<td>Men</td>
<td>2713 (57.1%)</td>
</tr>
</tbody>
</table>

Table 2 Responses to “Was it clear to you where to go and what to do when you arrived at A&E?”

<table>
<thead>
<tr>
<th>Triage first</th>
<th>Reception first</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>190 (85.2%)</td>
</tr>
<tr>
<td>No</td>
<td>33 (14.8%)</td>
</tr>
</tbody>
</table>

Table 3 Responses to “After seeing the assessing nurse, did you feel that you had enough information about how long you could expect to wait?”

<table>
<thead>
<tr>
<th>Triage first</th>
<th>Reception first</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>482 (92%)</td>
</tr>
<tr>
<td>No</td>
<td>42 (8%)</td>
</tr>
</tbody>
</table>

Table 4 Responses to “After seeing the assessing nurse, did you feel that you had enough information about what priority your injury had been given?”

<table>
<thead>
<tr>
<th>Triage first</th>
<th>Reception first</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>291 (67.1%)</td>
</tr>
<tr>
<td>No</td>
<td>143 (32.9%)</td>
</tr>
</tbody>
</table>

Table 5 Responses to “Who would you like to see first?”

<table>
<thead>
<tr>
<th>Triage first</th>
<th>Reception first</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessing nurse</td>
<td>253 (50.2%)</td>
</tr>
<tr>
<td>Receiving</td>
<td>251 (49.8%)</td>
</tr>
</tbody>
</table>

The mean door to triage times were—10.6 minutes for the triage first group and 12.9 minutes for the reception first group (p<0.0001, Mann-Whitney U test). The mean door to reception times were—15.8 minutes for the triage first group and 0.5 minutes for the reception first group (p<0.0001, Mann-Whitney U test). The mean reception to triage time was 12.4 minutes (reception first group only) and the mean triage to reception time was 5.3 minutes (triage first group only).

During the triage first phase, 58.2% of patients initially presented to reception, while 34.0% of the patients presented, as instructed, to triage. During the reception first phase 88.3% presented, as instructed, to reception (p<0.00001). A total of 536 questionnaires were returned—313 from those attending reception first, 223 from those attending triage first. Responses are outlined in tables 2 to 5.

During the reception first phase of the study reception staff coded 113 patients (2%) as requiring immediate attention. During the same period 27 ambulant patients were given emergency triage categories (that is, categories 1 or 2). One patient had suffered a cardiac arrest in the department and another was brought in with a respiratory arrest. Both bypassed triage and reception and were therefore excluded. Of the remaining 25 patients, six (24%) were identified by reception staff as requiring immediate attention.

Review of those not identified by reception staff found no case in which the delay caused by attending reception could have significantly affected outcome. This was principally because delays associated with reception were minimal (less than five minutes) in all time critical cases...
and eventual outcomes were good. However, six cases were identified in which outcome could have been adversely affected if booking in at reception had delayed presentation to triage by more than 15 minutes. These were three cases of myocardial infarction (two requiring thrombolysis), two cases of significant vaginal bleeding and one allergic reaction.

Discussion
The direction of ambulant patients attending A&E may seem to be a trivial issue for clinicians. For patients, however, it represents their first contact with the department and occurs at a time when they may be anxious or distressed. Unexplained waits and a confusing environment will exacerbate such feelings and may impair subsequent relationships with clinical staff. Early impressions therefore have a powerful effect upon patients’ perceptions of the quality of care they receive, while patient satisfaction is inversely associated with waiting time.1

By attending reception first, patients had contact with a member of staff sooner (0.5 < 10.6 minutes) and completed booking in and assessment quicker (12.9 < 15.8 minutes). This strategy only delayed presentation at triage by approximately two minutes (10.6 < 12.9). These results probably reflect the fact that reception staff are permanently available to attend to patients while the triage nurse may be delayed by prolonged assessments or occupied by other duties.

The majority of patients initially went to reception regardless of the strategy in place. Questionnaire responses indicated that directions were more clear during the reception first phase of the trial. Most patients (92%) were satisfied with the information they received about waiting times, although significantly more (96.5% < 85.5%) were satisfied during the reception first phase. Approximately two thirds of patients were satisfied with the information they received regarding the priority of their injury had been given. Again, satisfaction was higher during the reception first phase of the trial (79.6% < 48.3%). Overall patients were equally divided in their preference to see either the triage nurse or the receptionist first. During each phase of the trial the majority favoured the protocol they were allocated to.

These findings may either reflect improved giving of information during the reception first phase or improved recollection of information. Triage nurses reported feeling under less time pressure when they were no longer the first point of contact in the department and may therefore have been better able to give clear information. Alternatively, patients may fail to recollect information given to them at triage after they have completed booking in at reception.

Reception staff were unable to accurately identify patients requiring immediate assessment. However, the time delay caused by attending reception first was so short compared with time delays for triage, that we could not identify any negative impact upon patient care. This would not hold true if delays incurred by booking in at reception exceeded 15 minutes. It should be noted that reception staff had received no training in recognition of immediately time critical illness. It is possible that a brief intervention or guideline might improve their performance.

This study has potential limitations that should be appreciated. Firstly, the questionnaire was administered in an opportunistic manner and it is not known how many were given out and the proportion returned. It is conceivable therefore that those returned may be a biased sample. However, as patients were not aware of the study hypothesis, it is not clear whether such bias would favour those with positive or negative views. There is no strong reason to suspect that bias is responsible for our results favouring a reception first strategy.

It is possible that absence among observers during the second phase could have lead to bias in the time periods studied. However, the times of absences were distributed throughout the week and it is unlikely that this potential bias could have been responsible for the magnitude of change detected in our results.

Both triage and reception staff were aware of the study and could have changed their normal behaviour in response to being observed (the Hawthorne effect). This might have improved the efficiency with which both groups of staff worked, but it is not clear how it would effect the overall results.

The time period and number of cases used to assess the safety of the reception first approach is somewhat small and it is possible that a longer period of assessment would have revealed cases of adverse outcome related to delay at reception. As a result of this study we will be changing to the reception first strategy. The method used to evaluate safety described in this study will be continued, with regular re-evaluations, to ensure that this approach is safe over a longer time period.

Finally, it may be argued that our findings are attributable to limited availability of the triage nurse and could be reversed by providing more triage support. However, the level of training and experience required by a triage nurse dictates that these personnel are likely to be in more frequent demand than reception staff. It would be useful to repeat this study elsewhere to determine whether these problems are unique to the NGH, or are an inevitable consequence of the triage role.

In conclusion, this study shows that at the NGH a policy of prompting patients to attend reception first is timely and less confusing, both objectively to an external observer and subjectively to the patient. The safety of this strategy depends upon delays at reception being no more than 15 minutes.

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