Communication with general practitioners after accident and emergency attendance: computer generated letters are often deficient

J O Jansen, I C Grant

**Objectives:** Accident and emergency departments see large numbers of patients, and computerised administration systems are a useful tool for producing discharge communication. The purpose of this study was to determine the quality of such correspondence.

**Methods:** Retrospective review of 300 discharge letters and case notes.

**Results:** 29% of all computer generated discharge information was incomplete or misleading. Twenty five percent of all correspondence was lacking or unacceptable overall. The principal reasons for substandard correspondence were inaccurate coding of diagnoses and procedures, and failure to include specific information relevant to patients’ follow up.

**Conclusions:** Computer generated discharge communication is often deficient. Staff using such systems should be made aware of the importance of accurate coding, and use added explanatory text to clarify diagnoses, management, and follow up as required.

General practitioners require prompt and accurate information when their patients attend accident and emergency (A&E) departments, particularly where they are asked to continue care. Writing discharge letters is time consuming, and the concept of using computerised administration systems to generate discharge communication automatically is attractive. Although efficient, very little is known about the quality of letters produced in this manner. The aim of this study was to determine the accuracy and comprehensiveness of such correspondence.

**METHODS**

Derriford Hospital, Plymouth, is a large district general hospital and the main tertiary referral centre for the far south west of England. The A&E department is attended by about 78 000 patients per annum. All discharge communication in our department is produced using Hospital Administration Software Solutions’ “Emergency Department Information System” (EDIS, Version 10.02.000, HAS Solutions Ltd, 4–10 Bridge Street, Pymble, NSW 2073, Australia). This system generates letters from data entered by receptionists, nurses, and doctors, and relies on a combination of mandatory information (diagnosis, investigations ordered, procedures performed) as well as an optional amount of explanatory text. Explanatory text can be used to clarify problems that may arise with the coding of diagnoses or procedures, and to draw the general practitioner’s attention to specific issues requiring action.

Relevant previously published reports were identified through a Medline based literature search (textwords used: accident and emergency, discharge letter, correspondence, general practitioner, communication) and manual cross referencing. A total of 300 randomly selected discharge letters and case notes were then reviewed retrospectively. All patients had attended the A&E department during the month of September 2001. A “gold standard” letter was defined as containing the following information:

- Accurate primary diagnosis
- Relevant secondary diagnoses
- Concise summary of patient’s management (including details of minor operative procedures if relevant to follow up)
- Hospital follow up arrangements
- Any issues (including social) requiring follow up or action by the general practitioner

Discharge letters were then assessed against this standard. In all cases, the letter was examined before reviewing the patient’s clinical notes. The content of the computer generated part of the letter was then graded as sufficient, misleading, or incomplete. The information contained in any additional text, if entered, was graded helpful or unnecessary, and the overall quality of the letter was judged satisfactory, lacking, or unacceptable. (The definitions of these terms are summarised in table 1.) The overall standard of clinical record keeping was high: case notes were legible and provided sufficient information for comparison with discharge letters.

### Table 1

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Rating</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer generated information</td>
<td>Sufficient</td>
<td>All necessary information included</td>
</tr>
<tr>
<td></td>
<td>Incomplete</td>
<td>Failure to mention relevant secondary diagnosis</td>
</tr>
<tr>
<td></td>
<td>Misleading</td>
<td>Inaccurately coded diagnoses</td>
</tr>
<tr>
<td></td>
<td>Additional text</td>
<td>Wrongly coded diagnoses</td>
</tr>
<tr>
<td></td>
<td>Helpful</td>
<td>Usefull information clarifying diagnosis, management, or follow up</td>
</tr>
<tr>
<td></td>
<td>Unnecessary</td>
<td>No useful information in addition to computer generated part of letter</td>
</tr>
<tr>
<td>Overall quality of correspondence</td>
<td>Satisfactory</td>
<td>All necessary information relevant to patient’s further care included</td>
</tr>
<tr>
<td></td>
<td>Lacking</td>
<td>Inaccurate diagnosis</td>
</tr>
<tr>
<td></td>
<td>Unacceptable</td>
<td>Dangerously misleading detail regarding management or follow up</td>
</tr>
</tbody>
</table>

**Definitions**

- **Sufficient**: All necessary information included.
- **Incomplete**: Failure to mention relevant secondary diagnosis.
- **Misleading**: Inaccurately coded diagnoses.
- **Helpful**: Usefull information clarifying diagnosis, management, or follow up.
- **Unnecessary**: No useful information in addition to computer generated part of letter.
- **Satisfactory**: All necessary information relevant to patient’s further care included.
- **Lacking**: Inaccurate diagnosis.
- **Unacceptable**: Dangerously misleading detail regarding management or follow up.
presenting to A

Effective communication between A & DISCUSSION (table 2). Additional text had been added to only 8% of letters, and failure to include important secondary diagnoses (7%) (22%), failure to mention date for removal of sutures (21%), and failure to include important secondary diagnoses (7%) (table 2). Additional text had been added to only 8% of letters, but was considered helpful in 96% of these.

RESULTS
Twenty nine per cent of all computer generated discharge information was found to be either incomplete or misleading (fig 1). Twenty five per cent of all correspondence was lacking or unacceptable overall (fig 2), the main reasons being: inaccurately or wrongly coded diagnoses (46%), failure to mention specific issues relevant to GP's follow up of patient (22%), failure to mention date for removal of sutures (21%), and failure to include important secondary diagnoses (7%) (table 2). Additional text had been added to only 8% of letters, but was considered helpful in 96% of these.

DISCUSSION
Effective communication between A&E departments and general practitioners improves continuity of care and outcome, and poor communication is the most common source of dissatisfaction among GPs. Increasing numbers of patients presenting to A&E departments, combined with a requirement to participate in regular audit, the desire to minimise time spent on administrative tasks, and the falling cost and increased availability of computers, is likely to result in much greater use of computerised administration systems than before. Heavy reliance is placed on these systems to produce informative, complete, and accurate correspondence that meets our gold standard from coded information alone, and adding free explanatory text is therefore essential. Furthermore, it seems unlikely that any system will ever be able to independently generate accurate correspondence. The manufacturers of our system were equally surprised and are investigating software fixes that may help to reduce some of the inaccuracy.

At present, our administration system is not capable of consistently producing discharge letters that meet our golden standard from coded information alone, and adding free explanatory text is therefore essential. Furthermore, it seems unlikely that any system will ever be able to independently generate accurate correspondence that meets all the varied requirements of A&E departments unless a huge amount of data are captured (for example, regarding patients' social circumstances), which will be redundant in most cases.

Accurate coding of diagnoses and procedures is important for audit, research, and management, but free text is crucial for providing individualized care to individual patients. Staff using computerized administration systems should be made aware of the importance of accurate coding, check the content of computer generated correspondence, and add explanatory text where necessary.

Contributors
Jon Jansen initiated the study, formulated the hypothesis, designed the protocol, collected, analysed, and interpreted the data, and wrote the paper. Iain Grant participated in the formulation of the hypothesis, the interpretation of the findings and edited the paper. Guarantors: Jon Jansen and Iain Grant

Authors' affiliations
J O Jansen, I Grant, Accident and Emergency Department, Derriford Hospital, Plymouth, UK

Correspondence to: Mr I C Grant, Accident and Emergency Department, Derriford Hospital, Plymouth PL6 8DH, UK; iain.grant@phnt.swest.nhs.uk

Accepted for publication 1 November 2002

REFERENCES

www.emjonline.com
Communication with general practitioners after accident and emergency attendance: computer generated letters are often deficient
J O Jansen and I C Grant

doi: 10.1136/emj.20.3.256

Updated information and services can be found at:
http://emj.bmj.com/content/20/3/256

These include:

**References**
This article cites 5 articles, 2 of which you can access for free at:
http://emj.bmj.com/content/20/3/256#ref-list-1

**Email alerting service**
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

**Notes**

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/