ABSTRACT

Objective To assess the quality of the content of reports of telephone consultations at out-of-hours centres and to investigate to what extent the reports reflect the actual telephone consultation.

Design and setting Cross-sectional qualitative study; 17 out-of-hours centres in The Netherlands.

Method To assess the quality of the content of reports, a focus group developed the Reason for calling, Information gathered, Care advice given, Evaluation of the care advice with the patient (RICE) report rating instrument. Telephone Incognito Standardised Patients presented different clinical problems three times to 17 out-of-hours centres. All calls were recorded and transcribed. The out-of-hours centres being called were asked for a copy of the report of the call. The authors assessed the quality of the content of the reports and compared this with the transcripts.

Results The out-of-hours centres returned a report for 78% of the 357 calls. For the remaining 22% of the calls, no report was written. Reports contained almost always information about the medical reason for calling but little information about details of the clinical history. Patients' expectation, personal situation or perception of the care advice was seldom documented. In all but one out-of-hours centre, answers to obligatory questions were reported by triagists, although they had not been asked, varying between 1% and 54% of all questions entered. Triagists entered a subjective evaluation of a patients' condition in 12% of the reports.

Conclusion Reports of telephone consultations of out-of-hours centres contained little information on patients' clinical and personal condition. This could potentially endanger patients' continuity of care and might pose legal consequences for the triagist.

INTRODUCTION

After a telephone consultation at an out-of-hours centre, the call handler writes a medical report to record what has been discussed with the caller. The call handler is the person who actually handles the request for medical advice and is called the triagist.

The report of a telephone consultation serves different purposes. First, it is important to secure continuity of care. The report is the only documented and therefore rapidly accessible source of information about the content of a call. Studies show that between 55 and 50% of all clinical problems presented by telephone are dealt with by

advising self care. These calls might be audio-recorded, but if the patient calls back, the report informs the triagist quickly about the latest telephone contact. Second, the report can be used for medicolegal purposes if a patient has made a complaint about the care provided. Third, reports can be used for epidemiological research, but the reliability of the symptom or diagnostic orientated codes is limited, as little information is available on the accuracy of the coding process.

In spite of the importance of medical records, no research on reports of telephone consultations with triagists at out-of-hours (OOH) centres could be identified. The first objective of our study was to investigate the quality of the content of information in these reports.

Research with simulated patients visiting a general practitioner (GP) revealed a low correlation between what had been recorded and what had been asked. Accordingly, the second objective of our study was to investigate to what extent the reports at out-of-hours centres reflected the content of the telephone consultations.

METHODS

Cases, protocols and rating instrument
A focus group was asked to develop an instrument to assess the quality of clinical reports of telephone consultations at an OOH centre. The group consisted of individuals representing the four stakeholders involved in telephone calls to an OOH centre: the patient, the call handler, the general practitioner and the management team. Each party was represented by two members with experience in working at or dealing with an OOH centre. They developed the Reason for calling, Information gathered, Care advice given, Evaluation of the care advice with the patient (RICE) report instrument. This instrument contains patient- and case-specific items to be reported (see appendix A describing the full content of the RICE-report instrument).

The research team developed protocols with obligatory questions to be asked for clinical symptoms that are known to be presented frequently on the telephone to OOH centres: a 5-year-old child with fever, an adult with nose bleeding, an adult with fever and a 5-year-old child with vomiting. A team of GPs validated the protocols and reached consensus on the obligatory questions to be asked for each of these symptoms. The case-specific part of the RICE-report instrument contains the suggested obligatory questions and the care advice required. The patient specific part contains the following items: clinical problem,
expectation (wants advice or to be seen by doctor), personal situation (being worried, anxious) and patients’ evaluation of the care advice (accepting or rejecting the advice).

**Calls and reports**
In October 2004, there were 105 OOH centres operative in The Netherlands. All OOH centres were asked for permission to be selected for the research study. Of the 98 centres that gave permission, 17 were selected to be called. We performed a balanced selection where, for each of the 12 provinces of The Netherlands, the size of the population in that province determined the number of OOH centres to be selected. The centres per province were then selected at random.

The selected symptoms were presented in seven different scenarios by a team of specially trained Telephone Incognito Standardised Patients (TISPs). Each case was presented three times to each selected OOH centre; therefore, 21 calls were made to each OOH centre. All calls were recorded and transcribed for further assessment.

After the study, the 17 OOH centres being called were asked to send a copy of the reports of these telephone consultations.

**Variables and statistical analysis**
The quality of the reports was assessed with the RICE-report instrument by two GPs independently. They could enter the score: ‘Yes (reported)’ or ‘No (not reported).’

For each OOH centre, the following variables were calculated as indicators of quality:
- percentage of reports returned;
- percentage of reported patients’ clinical problem;
- percentage of reported patients’ expectation;
- percentage of reported patients’ personal situation;
- percentage of reported obligatory questions asked;
- percentage of reported care advice given;
- percentage of reported patients’ evaluation of the advice.

To investigate to what extent the report reflected the actual telephone consultation, a comparison was made between the clinical content of the reports and the transcripts. We calculated:
- percentage of all obligatory questions absent in the report but present in the transcript (not reported but asked);
- percentage of all obligatory questions present in the report but absent in the transcript (reported but unasked).

For each of these variables, the average percentage of the two raters was used for further analysis per report for all OOH centres.

Descriptive statistics and results of the analysis of variance were obtained by using the statistical software package SPSS version 15 (SPSS, Chicago, Illinois).

**RESULTS**
The TISPs made 357 calls, and 280 copies of the reports were returned. The percentage of returned reports of 21 calls made to each OOH centre varied from 23% to 100% per OOH centre (table 1). At 16 OOH centres, the triagists had not documented all calls.

The mean percentage score for the reported four different aspects of the RICE-report instrument are:
- Reason for calling:
  - clinical problem: 99%, varying from 83% to 100%;
  - patients’ expectation: 52%, range 17% to 80%;
  - patients’ personal situation: 15%, this varied from zero to 49%;
- Information gathered: obligatory clinical questions compared with the agreed standard was 20%, varying from 12% to 34%;
- Care advice given: 98%, range 83% to 100%;
- Evaluation of the advice by the patient: 11%, varying from zero to 63%.

Comparison of the report with the transcript revealed a mean percentage of 19% for obligatory questions asked but not reported, which varied from 8% to 29%. The mean percentage of

**Table 1**   Number of reports returned for 21 calls and mean percentage scores for the different variables of the RICE-report instrument per out-of-hours centre

<table>
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<tr>
<th>Out-of-hours centre</th>
<th>No of reports returned</th>
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<td>Total</td>
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RICE, Reason for calling (patient-specific), Information gathered (case-specific), Care advice (the outcome of the triage; case-specific), Evaluation (patients’ reaction to the advice).
did not document all telephone consultations. We also do not
know whether they realise that this omission might have
clinical consequences for the patient and legal consequences
for the triagist, and also for the organisation.

The number of obligatory questions reported compared
with the agreed standard was very low at all OOH centres,
indicating that there was minimal documented information
on the clinical condition of the patient. Comparison of the
transcripts with the reports revealed two explanations for this
low score. First, those questions had not been asked. Second,
when they had been asked and had been answered with a ‘No,’
they were often not documented. This means that mainly
positive findings were reported, but negative findings were not
reported as frequently. We do not know whether GPs on call
discussed calls with the triagists before they validated the
triagists’ decisions without entering this additional informa-
tion into the report.

The assessors of the reports noted that triagist often wrote:
‘No alarming signals’ or ‘No other complaints.’ They extended
their investigation and retrieved these remarks in 12% of all
reports. However, by comparing the transcripts with the reports,
they could not identify which questions were asked to support
those remarks. Therefore, we conclude that for these calls,
the triagist had reported a subjective evaluation of patients’
condition.

We were surprised with the finding that unasked obligatory
questions were sometimes entered into the reports. This might
endanger the health of the patient, as it might mislead the GP
evaluating the quality of care provided over the telephone, and
it might also have serious legal consequences. Discussion of these
findings with the managers of the four OOH centres where this
had happened frequently revealed that they used a computerised
system which generated the reports automatically. They all
decided to take immediate action to solve this problem.

Reporting of telephone consultations is apparently far from
optimal, and improvement is needed. Perhaps electronic
communication offers future solutions, such as on-line
communication with the patient. However, it is also a time-
consuming activity, and not every patient is always able to go on
line. Another alternative might be the use of a computerised
supporting system during the telephone triage, whereby the
triagist can click on predetermined questions asked including the
answer given. This method also has the advantage of meeting
standards for the format of documentation as required for
electronic health recording systems.

CONCLUSION
The assessments of the quality of the content of the reports
revealed that the reports contained almost always information
on the clinical problem and the care advice given. A report of
telephone consultations was not always made at all OOH
centres. The reports contained little patient and case-specific
information. Accordingly, these reports cannot contribute much
to secure continuity of the care provided.

Comparison of the reports with the transcripts revealed that
some triagists had entered obligatory questions which had not
been asked, or they had made a subjective evaluation of the
patients’ condition. This might endanger the health of the
patient and pose a medicolegal risk to the triagist.

FURTHER RESEARCH
All reports were hand-typed by the triagists, which will have
been a time-consuming activity. Research is needed to

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Table 2 Number of reports returned for 21 calls and percentage
obligatory questions asked compared with questions reported per
out-of-hours centre

<table>
<thead>
<tr>
<th>Out-of-hours centre</th>
<th>No of reports returned</th>
<th>Obligatory questions not reported/indeed asked</th>
<th>Obligatory questions reported/but not asked</th>
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<tr>
<td>Total</td>
<td>280</td>
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obligatory questions reported but not asked was 10%, ranging
from 0 to 54% (table 2).

DISCUSSION
Summary of findings
Triagists made a report for 78% of all calls. For the remaining
22% of the calls, no report was written. Reports contained
information on the medical reason for calling in most cases but
little information on previous medical history. Patients’ expec-
tation or personal situation were seldom documented. Patients’
evaluation of the care advice was mentioned regularly at two
out-of-hours centres; at the others not at all. In all but two out-
of-hours centres, triagists had entered more obligatory questions
than they asked.

Strengths and limitations of this study
We took a sample of 17 out of the 98 OOH centres which had
given permission to be called. Even though there are minor
organisational differences between Dutch OOH centres, basi-
cally they work in the same way. The relatively small variation
over the OOH centres of the report quality is also supportive for
the nationwide representativeness of the current findings.

We used TISPs, and a transcript was made of all calls which
are costly and time-consuming activities. The content of a report
can also be assessed with the RICE-report instrument and
compared with the content of the call by listening to (recorded)
calls with genuine patients.

In The Netherlands, one of the GPs on call at the OOH centre
is responsible for all decisions made by the triagists. In cases
where the triagist has decided to give self care advice, the
approval of this decision by the GP in charge will be based
mainly on the report. If needed, the GP can ask the triagist for
information. Accordingly, these reports cannot contribute much
to secure continuity of the care provided.

As compared with the content of the call by listening to (recor-
ded) calls with genuine patients.
investigate instruments to support triagists in generating reports automatically and meeting medical and legal standards.

Acknowledgements We thank the managers of the 17 out-of-hours centres involved in this study for their cooperation by sending the reports.

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Competing interests None.

Provenance and peer review Not commissioned; externally peer reviewed.

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APPENDIX A

RICE-report instrument

To assess the quality of a report of a telephone consultation with an out of hours centre. The characters of RICE stand for: Reason for calling (patient specific), Information gathered (case specific), Care advice (the outcome of the triage; case specific), Evaluation (patients’ reaction to the advice).

<table>
<thead>
<tr>
<th>Clinical problem:</th>
<th>Report</th>
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<td>Score; Yes = 1: present; No = 0: not present</td>
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</table>

Reason for calling (patient specific)
1. Clinical problem
2. Patients’ expectation
3. Patients’ personal situation (anxious, worried)

Obligatory questions asked (case specific)
4. 

Care advice (Outcome) (case specific)
5. Self care
6. Consultation at the out of hours centre
7. To visit general practitioner in office hours
8. Call back
9. Other

Evaluation: (patient specific)
10. Patients’ reaction and evaluation