Audit of Handover Practice in Neurosurgery

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The Online Journal of Clinical Audits. 2012; Vol x(x).

Published x

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Abstract

Aim - To assess the effectiveness of handover practice among junior doctors in our neurosurgery unit with the aim to improve standards.

Method - Data was collected prospectively during junior doctor shift changeovers across a period of 2 weeks in July 2012. A questionnaire was also issued to all junior doctors in the department. After the first audit cycle, changes were implemented according to the results of the audit. This was followed by a second audit cycle using the same method undertaken in September 2012.

Results - The first audit cycle showed that handover only took place in 45% of the shift changeovers. The time and place for handover were inconsistent, and new admissions were not discussed in 47% of the handovers. Unwell or potentially ill patients were not discussed in 26% of the handovers and patients that required surgery were not mentioned in 37% of the handovers. From the questionnaire, 100% of junior doctors (n=8) felt that the handover practice in the department was inadequate, 60% experienced critical incidents, and 40% felt there was a lack of communication between senior and junior doctors.

In the re-audit after implementation of changes, the handover practice improved significantly. Handover took place in 94% of shift changeovers. A handover guide was in place with a designated place and time for handover. Unwell and potentially ill patients were discussed in 100% of the handovers. Patients requiring surgery were discussed in 98% of handovers. The junior doctors were more satisfied with the handover practice.

Conclusion - A substantial improvement in the handover practice among the junior doctors in the unit was demonstrated after the implementation of changes.

Full Audit Report:

Introduction

Handover is a process of conveying important and appropriate clinical information to health professionals to ensure safe transfer of responsibility for patients’ care. The aim of handover is to ensure health professionals involved in the care of patients have the same understanding and set of clinical priorities. Since the implementation of the European Working Time Directive (EWTD), shift patterns of work for junior doctors were introduced because of the reduction of working hours down to 48 hours per week on average. A shift rota meant that different teams of doctors would be looking after the same group of patients including cross-cover between specialties out-of-hours. One of the most vulnerable points in a patient’s journey is the transfer of care to the incoming team at handover. John Black, the president of the Royal College of Surgeons (RCS) in 2008 said, “Every handover is an accident waiting to happen.” Therefore, effective handover between shifts became an essential part of clinical practice to provide continuity of care, to ensure patient safety and to assist doctors in clinical governance. The Royal College of Surgeons issued a Safe Handover guide in March 2007 to provide guide to highlight the main principles of a successful handover. In May 2011, the Royal College of Physician (RCP) introduced a toolkit that provides a framework for the standardization of clinical handover practice, audit and monitoring process to avoid handover errors. These guides are meant to provide a framework and do not advocate a “one size fit all” approach.

Our Practice Before the Audit

In our unit, the handovers took place between fellow colleagues on the same rota. Therefore, there were three separate handovers for consultants, registrars and junior doctors respectively with different locations, time and format. There were three
handovers among the junior doctors everyday during shift changeovers in the morning, evening and night. The handovers for the junior doctors were largely informal with no defined time and location and occasionally handovers were done via telephone communication. There was an inpatient list with all inpatient details including clinical details on the computer-shared drive that was accessible to all the junior doctors working for their respective firms. We encouraged all doctors to update the inpatient list on a regular basis in terms of new admissions and clinical updates prior to each handover. By the end of a 24-hour period, a complete list of all inpatients including both emergency and elective cases, admitted under the respective consultants together with relevant clinical details should have been made available for the incoming doctors.

Aims

This audit aimed to assess the standard of handover practice among junior doctors of our unit compared against recommended national standards. We were also interested in how junior doctors felt about the handover practice in our unit. Our goals were to identify areas of suboptimal practice in junior doctor handover, take the necessary actions to improve it, and to perform a re-audit to assess if standards had improved.

Audit Standards

The Safe Handover Guide by the Royal College of Surgeons (RCS) and the Acute Handover Toolkit by the Royal College of Physicians (RCP) are used as our gold standards. [Refer Table 1] As these guides are meant to provide a framework and do not advocate a “one size fit all” approach, we therefore adapted parts of the guidelines to fit the needs of our unit.

<table>
<thead>
<tr>
<th><strong>Handover Standards (tailored to the needs of our unit)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Training in departmental handover should be included in induction</td>
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<tr>
<td>• Handover process should be tailored to the local departmental needs</td>
</tr>
<tr>
<td>• There should be designated time and location within job plan/ shift patterns for handover</td>
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<tr>
<td>• There should be a clear definition of who should be present during handover</td>
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<tr>
<td>• There should be a standardised form of communication – verbal and written (using our inpatient list)</td>
</tr>
<tr>
<td>• During handover, there is need to define who is responsible for ongoing care</td>
</tr>
<tr>
<td>• During handover, there is need to define patients’ conditions and the urgency for review</td>
</tr>
<tr>
<td>• There is need for audit</td>
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</table>

Table 1: Handover standards (tailored to the local departmental needs taken from the Safe Handover Guide by the RCS and the Acute Handover Toolkit by the RCP)
Methods

We collected data prospectively during all shift changeovers over a period of 14 consecutive days in July 2012 using proforma completed by a junior doctor who was not involved with the handover process to prevent biased results. Information collected from the proforma included time, date, place, duration, doctors present, information handed over and method of handover. A questionnaire was also issued to all the SHOs in the department at the end of the 14 days audit. Information gathered from the questionnaire included experience and satisfaction with the current handover practice, experiences of any critical incidents attributed to poor handover and suggestions for improvement.

After collecting and analysing all the results, we presented them at our departmental meeting. We implemented several changes to the handover practice.

We performed the second audit cycle using the same methodology across a period of 14 consecutive days in September 2012. It was performed prior to the changeover of junior doctors.

Handover Audit – Proforma

Date:

Time:

Place:

Doctors present:

New admissions discussed? [ ] Yes [ ] No [ ]

Unwell or potentially unwell patients discussed? [ ] Yes [ ] No [ ]

Patients that require surgery discussed? [ ] Yes [ ] No [ ]

Method of handover: [ ] Verbal [ ] Written [ ] Both [ ]

Duration of handover:

Comment:

*Figure 1: The Handover Audit Proforma*
Handover in Neurosurgery Junior Doctor Questionnaire

Do you feel that the handover in the department is adequate?
Yes [ ] No [ ]
Comment:

Have you experienced any critical incidents attributed wholly or partially to poor handover?
Yes [ ] No [ ]
Comment:

Was the process of handover included in the induction programme?
Yes [ ] No [ ]
Comment:

Do you believe that effective handover is important to patient care?
Yes [ ] No [ ]
Comment:

Do you feel the communication between registrars and junior doctors are satisfactory?
Yes [ ] No [ ]
Comment:

How do you feel we can improve handover?
Suggestions:

Figure 2: Handover in Neurosurgery Questionnaire

Results

First cycle

The audit showed that handover only took place in 45% of shift changeovers. Over the period of 14 days, there were only 2 morning handovers, 6 evening handovers and 11 night handovers. The time and place for handover were inconsistent. The locations where handovers took place varied on a daily basis. Documented locations included ward nursing stations, doctors’ room, hospital corridor, Accident and Emergency resuscitation room, radiology meeting room hospital staircase. The time at which handovers occurred was also inconsistent, deviating more than 30 minutes from the expected time.

New admissions were not discussed in 47% of the handovers. Unwell or potentially ill patients were not discussed in 26% of the handovers and patients that required surgery were not mentioned in 37% of the handovers. The inpatient list was not updated in 33% of the handovers.

From the questionnaire, 100% of the junior doctors (n=8) felt that handover practice in the department was inadequate and needed to be improved. 60% of the doctors had experienced critical incidents from poor handover. Details of two incidents were documented in the questionnaire survey. The first case was of a patient who had not
been seen for 2 days since admission due to poor handover and communication. The
other case was of a clinically deteriorating patient who had not been handed over to the
incoming team and was only noted during ward round. 40% of the junior doctors felt
that there was lack of communication between senior and junior doctors. 100% had no
induction on handover practice in the department.

Implementation of strategies

This handover audit highlighted that it is crucial to define a time and place for handover,
to have a standardised form of communication, to keep the inpatient list updated daily
prior to handover, to improve communications between junior and senior doctors and to
include a handover talk in the departmental induction.

The results of the audit was presented at our departmental meeting in August 2012.
During the presentation, junior doctors were urged to ensure that the inpatient list is
updated regularly prior to handover and reminded of the importance of handing over
relevant clinical details about new admissions, ill patients and patients whom required
surgery to the incoming doctors.

A new handover instruction sheet incorporating standards from the national guidelines
issued by the RCP and the RCS was created and was emailed to all doctors in the
department. The handover instruction sheet included details such as the time and
location of each handover, a reminder to update and print the updated inpatient list for
use as part of a formal written and verbal handover. The handover instructions were
also incorporated into the departmental junior doctors’ handbook and made into posters
that were put up in doctors’ room and departmental meeting room. An evening board
round led by senior doctors was introduced so as to improve communication between
the junior and the senior doctors. This would serve as an opportunity for junior doctors
to highlight any issues regarding patients, and to handover formally to the doctor on-
call. Handover talk was included into the induction programme after the completion of
the audit cycle.

Second cycle

The second cycle of the audit was also done over a period of 14 consecutive days, and
took place at the end of September 2012. Handover took place at 94% of the shift
changeovers compared to 45% in the first cycle. 100% of the handovers took place at
the allocated junior doctors’ office. 73% of the handovers took place at the time
defined. The time at which remaining handovers took place varied by no more than 15
minutes from the recommended time indicated on the handover instruction sheet. In
such cases doctors were often caught up in managing unwell patients in the wards or in
resuscitation room in A&E.

New admissions and patients whom required surgery were discussed in 98% of the
handovers. Unwell patients were discussed in 100% of the handovers. The inpatient list
was updated in 100% of the handovers.

From the questionnaire survey, there was a subjective sense of improvement as 62.5%
of the junior doctors felt that the handover practice in the unit was adequate, compared
to 0% in the first cycle. However, 37.5% felt that further improvement was still
necessary. 12.5% of the junior doctors experienced a critical incident, which was found
to have occurred due to clinical misdiagnosis rather than a suboptimal handover process. 12.5% still felt that the communication between junior and seniors could be further improved.

<table>
<thead>
<tr>
<th></th>
<th>First cycle – July 2012</th>
<th>Second cycle – September 2012</th>
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<tbody>
<tr>
<td>Handover occurred</td>
<td>45%</td>
<td>94%</td>
</tr>
<tr>
<td>Handover happened in designated place</td>
<td>52%</td>
<td>95%</td>
</tr>
<tr>
<td>Handover happened at defined time (Allowing up to 10 minutes discrepancy)</td>
<td>48%</td>
<td>73%</td>
</tr>
<tr>
<td>Handover of new admissions</td>
<td>53%</td>
<td>98%</td>
</tr>
<tr>
<td>Handover of patients requiring surgery</td>
<td>37%</td>
<td>98%</td>
</tr>
<tr>
<td>Handover of unwell patients</td>
<td>74%</td>
<td>100%</td>
</tr>
<tr>
<td>Inpatient list updated</td>
<td>67%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2: Summarised results of the first and second cycle of the audit

<table>
<thead>
<tr>
<th></th>
<th>Pre-audit questionnaire survey</th>
<th>Post-audit questionnaire survey</th>
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<tbody>
<tr>
<td>Satisfied with the current handover practice</td>
<td>0%</td>
<td>62.5%</td>
</tr>
<tr>
<td>Experience of critical incident due to poor handover</td>
<td>60%</td>
<td>12.5%</td>
</tr>
<tr>
<td>Felt there is lack of communication between senior and junior doctors</td>
<td>40%</td>
<td>12.5%</td>
</tr>
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</table>

Table 3: Summarised results of the junior doctors’ questionnaire survey pre and post implementation of strategies to improve handover practice in the department
Discussion

The initial audit revealed that there were significant deficiencies in our handover practice. It highlighted several issues:

- Handover did not take place more than half the time resulting in lack of continuity of patient care
- No defined place and time for handover
- No standardised form of communication during handover
- No checklist in place for handover resulting in crucial clinical information being missed out
- Impatient list was often not updated for handover
- Handover talk had not been included into the department’s induction
- The junior doctors’ handover process had not been audited before

Possible reasons for the initial audit findings may have been because there had been no system in place to ensure the efficacy of the handover process, a lack of awareness over the importance of handover, and of available national guidelines on effective handover, and finally a lack of leadership among junior doctors to take action.

After the implementation of strategies to improve the process of handover, the re-audit revealed several significant improvements such as:

- Most handovers took place at the defined time and place,
- The use of a standardised updated inpatient list as a form of written handover on top of the verbal handover.
- An improvement in updating of the inpatient list by junior doctors prior to handover for the benefit of the incoming team
- The introduction of evening board rounds led by a senior doctor to serve also as the evening handover. This not only improved communication between the junior and the senior doctors, it also served as an opportunity for the junior doctors to highlight any clinical concerns to the senior doctors.

The junior doctor questionnaire survey might have been more effective if Likert scale was incorporated. Overall, completion of the audit cycle revealed that significant improvements had been made to the handover practice in our department, yet revealed that there was room for further improvement. A regular audit process is important to ensure the long-term efficacy of handover in the department.

Conclusion

Effective handover is crucial to ensure safe transfer of patient care between doctors during shift changeovers. Any inadequacy in the handover process can lead to compromise in patient safety. Through our audit exercise, we identified the deficiencies in our handover process and sought to improve our practice by adhering to national standards, the impact of which on improving patient care was demonstrated in the subsequent re-audit.
Recommendations

It is our responsibility as healthcare professionals to step up into the roles of leadership and take appropriate action when suboptimal standards of clinical practice are identified\(^3\). Learning from the Francis report, we should engage in managerial and leadership responsibilities and should not tolerate substandard clinical practice thus ensuring the delivery of better patient care\(^4\). This particular audit emphasised the importance of auditing handover practice, as it is a crucial part of the transfer of patient care between teams of healthcare professionals. Therefore, we would highly recommend every unit to audit their handover practice in an effort to improve patient safety and care NHS wide.

References:

1. The Telegraph (2009). Hospital patients are dying because of restriction on doctors hours, says surgeon. Available at: http://www.telegraph.co.uk/health/healthnews/6292697/Hospital-patients-are-dying-because-of-restrictions-on-doctors-hours-say-surgeons.html


