Improving the safety of patient transfer from AMU using a written checklist

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Key Points
1. Unsafe patient transfer is a significant reason for incident reporting in hospitals.
2. Effective verbal and written communication can be aided by the use of a transfer checklist.
3. Compliance with transfer documentation can be improved by a programme of education and regular re-inforcement.

Abstract
Unsafe patient transfers are one of the top reasons for incident reporting in hospitals. Criteria guiding safe transfer have been issued by the NHS Litigation Authority. To meet this standard, a "transfer check list" was redesigned for all patients leaving the Acute Medical Unit (AMU) in the Heartlands Hospital. Following the introduction of the checklist two full audit cycles were conducted. The first cycle highlighted an extremely poor uptake of the checklist. After interventions to educate nursing staff and raise awareness of the issues at the regular staff meetings, re-audit demonstrated significant improvement in completion rate. Subsequent monitoring indicates continued improvement, with compliance up to 95% for completion of the transfer checklist on AMU. Incident reporting relating to transfer has also decreased significantly.

Keywords
Acute medical unit, Patient Transfer, Transfer checklist/tool, Patient safety, Communication, Handover.

Introduction
Patient transfers represent a huge part of the workload on an Acute Medical Unit (AMU). Unsafe patient admission, discharge and transfers are one of the top twelve topic areas for incident reporting to the National Reporting and Learning System (NRLS) department of the National Patient Safety Association (NPSA). Issues regarding patient transfer have been recognised by the NHS Litigation Authority, which provides the NHS with specific criteria for patient transfer, which are then interpreted locally to provide for different groups of patients requiring both internal and external transfer.[1]

The Heartlands Hospital is one of three hospitals, which form part of the Heart of England NHS Foundation Trust. The AMU at the Heartlands hospital has used a checklist for documenting patient transfers since 2001. To this end, the concept of using a checklist for patient transfers from the AMU is not new. The need to assure patient safety during, and after transfer, has re-energised focus on the use of a transfer checklist. In order to achieve safe patient transfers in this context, both transfers in and out of an AMU must be considered.

Care pathways into AMU
The patient flow into the AMU at Heartlands comprises patient transfers from the Emergency Department (ED) and patients referred directly via their GP. Following GP referral, patients are either brought to the AMU by ambulance, in which case the crew always complete a transfer checklist, leaving a copy of the form for staff. If patients transport themselves to AMU following GP referral they will bring a GP letter.

Care pathways out of AMU
Following assessment and stabilisation, patients are either transferred from the AMU to other wards or are discharged and transferred directly from the AMU.

Redesign process for the transfer checklist
During 2010 the staff working on the AMU re-designed our original 2001 transfer checklist. The changes were led by the consultant nurse, in close collaboration with the corporate nursing team. Each AMU had previously designed transfer documentation, necessitating negotiation for each element of the form revised. Moreover, the ED did not previously use a transfer checklist, relying upon a verbal handover. A form used by AMU for documenting telephone referrals was therefore also redesigned during this process. This ensured that the details of all patients transferred were documented using the same format. The terms 'handover' and 'transfer' became synonymous.

It was decided to disseminate the checklist across each AMU,thereby standardising practice on the 3

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Level 1 – 1.4.5
As a minimum, the approved documentation (policy) must include a description of the:

a. Duties
b. Definition of all patient groups
c. Transfer requirements specific to each group
d. Documentation to accompany the patient when being transferred
e. Process for out of hours
f. Process for monitoring compliance with all of the above

Box 1. NHS Litigation Authority: Standard 4 – Criterion 5: Transfer of patients.[5]

a. **Assessment:** All patients must be assessed by a registered nurse prior to transfer, using ABCDE method of assessment and documentation
b. **Communication:** Discuss the transfer with the patient next of kin or carer & document on the transfer form
c. **Transport:** Identify & request appropriate mode of transfer
d. **Monitoring & Equipment:** Infusions, oxygen saturation monitor
e. **Escort:** Registered nurse escort if MEWS above 4
f. **Documentation:** SBAR transfer sheet
g. **Anything else:** Property

Box 2. Summary of Heart of England NHS Foundation Trust standard operating procedure for patient transfer.

AMU Transfer Checklist

Situation

DATE: _____CONSULTANT:_____DNAR order Yes ☐ or No ☐

MRSA screen: No ☐ Yes ☐ → Rapid ☐ Culture ☐ Positive ☐ Negative ☐

Background

From A&E ☐ GP ☐ Self ref ☐ Ward 19 ☐ Internal transfer ☐_____

Diagnosis:.....PMH:.....

Diarrhoea within 48 hrs ☐ Vomiting within 48 hrs ☐ Docs the patient require isolation Yes/No

Assessment

MEWS Score:.....If MEWS > 4 please note parameters

Airway: No ☐ Yes ☐ → Sats_____%on_____L/%.....

Breathing: No ☐ Yes ☐ → RR____.....

Circulation: No ☐ Yes ☐ → HR_____BP_____/_____Urine O/P_____mls/hr

Disability: No ☐ Yes ☐ → A V P U (Circle)

Environment: No ☐ Yes ☐ → Temp_____

Action

Critical Care Outreach contacted.....YES/NO Time contacted.....

A. Oxygen in progress/Prescribed: YES/NO Time given.....

B. X Rays ☐ *Sats Probe** ☐

C. Cannula ☐ IV Fluids ☐ *Pump needed** ☐

Catheter ☐ ECG ☐ *Cardiac Monitor** ☐

D. Analgesia given ☐ Sliding Scale ☐

E. IV ABx ☐ Bloods taken ☐

Wrist Band	
Relative Aware	
Phone Numbers	
Valuables Yes/No	
SAD Score	
Waterlow Score	
Falls Assessment	
NBM	
Notes Scanned	

Recommendation

Tranfer to: Ward_____Placement: Bay____Bed____High Visibility ☐

Additional equipment required (not*): No ☐ Yes ☐ →_____

Any patient own drugs: No ☐ Yes ☐ →_____ Drugs trolley checked by .....

Transport: Bed ☐ Chair ☐ Tranfer by: Reg Nurse if MEWS > 4 ☐ Healthcare ☐ Porter

Signature of transferring nurse..... Time.....

Signature of accepting nurse..... Time.....

Figure 1. AMU transfer Checklist.

hospital sites, and to incorporate the Situation, Background, Assessment and Recommendation (SBAR)[2] telephone communication model, which was mandatory in the Trust for telephone handovers. This involved reconstructing the format of the information on the original transfer checklist into new sections related to SBAR and reconsidering the nature of the information required on the revised transfer checklist.[3]

The strategy focussed on the information that was pertinent to safety 'during transfer'. Poor transfers are frequently characterised by an incomplete transfer of information, resulting from long and incomplete transfer checklists.[4] A key element of our redesign process was to incorporate the NHS Litigation Authority (NHSLA) guidance on patient transfers, (Text box 1). Adherence to this standard enables the Trust to give quality assurance on the process of transfer and patient safety.[1]

Secondly, the hospital transfer policy has been updated during 2010/2011 and from this several standard operating procedures (SOPs) were devised for specialist groups of patients. The AMU devised a SOP applicable for each of the 3 acute medical units within the Trust (text box 2). Core information indicated from this was integrated into the revised transfer checklist.

The policy and the SOP were analysed together to enable development of the revised transfer checklist. This was incorporated into the AMU clerking document, which was automatically printed at the back of the document, negating the need to write a separate checklist (Figure 1).

Incident reporting

Prior to the audit we requested all Incident Report forms (IR-1) relating to transfer, generated by wards receiving patients from AMU. Detailed thematic analysis of the forms revealed 23 incidents reports directly related to transfer issues over a 2 month period. The following core themes were identified:

1. ***Inadequate clinical history prior to transfer,*** leading to patients being reported as being transferred to a ward where the staff felt the patient's needs were unable to be accommodated.
2. ***Inadequate verbal handover prior to transfer,*** leading to inadequate preparation for the patient's arrival, such as availability of pressure relieving care, acquisition of electronic pump devices and the need for one-to-one nursing care.
3. ***Inaccurate calculation of the modified early warning score*** leading to an apparent change in the condition of the patient by comparison to the verbal hand over.

Audit Methodology

Two complete retrospective audit cycles were completed in November 2010 and February 2011, with the purpose of analysing the compliance, completion and improvements needed in practice.

Each audit cycle included all patients transferred from AMU (Ward 20) to its sister unit AMU-2 (Ward 8).

Data	*Number (n)*
Patients	30
Completed Check list	1
Time documented in notes	6
MEWs documented in notes	0
Patients with one move	9
Patients with two moves	21

Table 1. Data on the 1st Audit Cycle.

Audit Standard

"Each patient must have a transfer checklist to accompany their transfer – with 100% completion of the SBAR elements".

Audit Cycle 1 Results

36 patient notes were identified during the audit period. 6 were excluded as the patients were not being transferred to AMU-2, leaving 30 records for analysis. The results of these can be seen in Table 1.

Out of the patient notes only one checklist had been completed. In an attempt to establish where patient transfers had been documented, the patient notes were also analysed. This was originally not part of the design – but in the absence of the checklist we searched for basic information regarding Modified Early Warning Score (MEWs) and time of transfer. Twenty one of the patients had originally been transferred into AMU from the ED. In this case, supplementary information in the form of ambulance transfer sheets and telephone handover forms to the AMU were present in the notes. However, the standardised, NHSLA compliant checklist was not present in 29 out of the 30 cases.

Interventions following audit cycle 1

A team meeting was organised to highlight the gravity of the situation to Band 7 Sisters. The Sisters engaged with their junior Sister colleagues in the reinforcement of the importance of the checklist. A concerted effort was made to raise the staff awareness on each shift over several weeks. This was monitored through the collation of data on the AMU, with feedback at each weekly team meeting. Finally a lunch time audit presentation using scenarios from the IR1 reporting database was given to a multi-professional staff audience who work on the AMU. The regular reporting continued until the start of the second audit cycle.

Audit cycle 2 Results

48 case notes were analysed; two were excluded because the time and date of transfer could not be identified. The degree of completion of the transfer checklists was analysed for the remaining 46.

23 of the transfer checklists were, at least partially, completed (50%). For those not completed, 21 were left blank and the other two patients had been clerked using a generic clerking document that was not generated in the AMU. Approximately twice as many transfers happened during the night than during the day, and 2.5 times as

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	Completion status:	
	Yes/ Partially	**Not attempted**
Total (n = 46)	23	23
Shift:		
Day shift (n = 17)	6	11
Night shift (n = 29)	17	12
Weekend/ Weekday:		
Weekday shift: (n = 33)	18	15
Weekend shift: (n = 13)	5	8

Table 2. Break down of transfer check list.

Assessment:	**Completion**		
	Yes	**No**	**N/A**
Fully Completed	4	19	
Assessed by Registered Nurse	14	9	0
Monitoring equipment	7	12	4 – Not needed
MEWS recorded	17	6	0
Escort needed	0	4	19 – Either MEWS < 4 or stated 'Not required'
Property	12	0	11 – Box not ticked

Table 3. Transfer checklist analysis of 23 partially / fully completed forms.

Total Parts completed	**n**
5	4
4	5
3	5
2	5
1	2
0	2
Total	**23**

Table 4. Number of parts analysed that were completed.

many transfers happened during the week than during the weekend.The differences in checklist completion rates for night vs day and weekend vs weekdays did not reach statistical significance by Chi-squared analysis.

Only 4 documents were deemed to have been fully completed (17%). Fourteen documents had a signature and a name identifying that a nurse had completed it. Monitored equipment documentation was the area least likely to be completed. The two forms which had no analysed parts were still clearly attempted by the nursing staff, although none of the components were fully completed.

Although a reduction in incidents reported was not one of the planned outcome measures, analysis of the IR1 database revealed only 4 incidents relating to patient transfer in the two month period following the second audit cycle.

Continual Monitoring

Since the original AMU audit, the corporate team has conducted intermittent audits of the transfer checklist across the Trust. At September 2011, the compliance

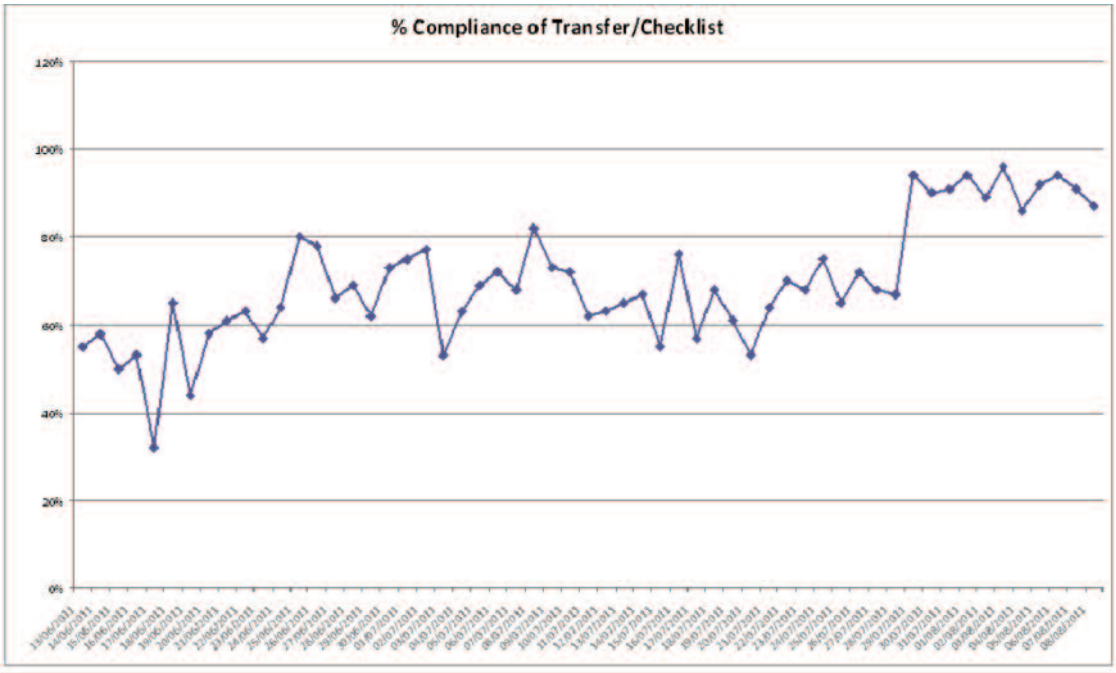

Figure 2. Continual monitoring of the transfer checklist.

within the AMU was an average of 85% increasing to 95% at peak times, as illustrated in Figure 2.

Discussion

The importance of checklists in the handover process has been previously documented.[4,6,7,8] However our literature search failed to identify any previous studies specifically looking at this area in relation to transfers in and out of the Acute Medical Unit. This is surprising given that patient transfer represents a significant proportion of the AMU workload; this study therefore reflects an important addition to the literature in this area. With any transfer of patient care there is a significant risk for this to be sub-optimal, mainly due to ineffective communication between health care professionals.[3] This is reflected in the high level of incident reporting concerning patient transfers prior to the introduction of our checklist.

Checklists have been shown to reduce "errors of ineptitude", where staff fail to make use of knowledge that they possess.[9] An important feature of a checklist which improves the likelihood of accurate completion is 'user-friendliness'; checklists should ideally comprise between 8 to 10 points.[10] Maintaining this simplicity and user friendliness was a key aspect of our redesign process, and created some tension within the design group. The need to align to a hospital wide process required the involvement of many different staff groups, many of whom requested inclusion of information which they felt, subjectively was 'required' in their area .

Checklists are of no use if not completed. Our initial audit demonstrated very poor compliance with this documentation. However, we were able to achieve a significant improvement in use of our transfer checklist following the interventions involving education and raising awareness amongst the nursing staff. This improvement still fell short of our 100% target and further intervention is required. However continued monitoring has shown ongoing improvements in completion rates.

Ongoing education is important in improving compliance with the checklist. New members of staff and constantly changing shift patterns means that some nursing staff may have been unaware of the transfer checklist's existence. The documentation is now introduced with the clerking document during nurse induction to the unit.

The current checklist may also be too detailed for all patients, discouraging completion. Some aspects of the checklist are not relevant to all patients. The advent of electronic patient records in the future may allow for bespoke completion of specific aspects; certain items i.e. cardiac monitoring, oxygen, intra-venous fluids could be automatically removed from the document when not relevant.[4]

Conclusion

Our audit has demonstrated that improved compliance with the use of checklists relating to patient transfer in and out of AMU can be achieved by an educational programme and ongoing work to increase staff awareness of its importance. This is reflected in improved checklist completion rates and a reduction in the numbers of incident reports relating to patient transfer. Although there remains room for improvement we would encourage other units to adopt a similar process to optimise patient safety during transfer.

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