

## Introduction

Nottingham University Hospitals NHS Trust (NUH) is the busiest Major Trauma Centre in the UK and covers a significant geographical area. Admissions are often polytrauma patients requiring higher level care. Handover has been identified as an area for improvement as part of NUH's 5-year plan for improving patient safety and thorough handovers between Major Trauma (MT) and Critical Care (CC) are vital to ensure excellent ongoing care in this patient cohort. Every handover should cover the patient's background, injuries, investigations, and outstanding jobs. NUH policy is for handover to be given by MT to CC using written documentation with gold standard including an additional verbal handover between the teams on the patient's arrival to critical care.

A previous audit demonstrated that written documentation was not taking place and led to the development of an electronic proforma which was introduced in November 2022. We have now re-audited this use of this electronic proforma to establish if written handover between the teams has improved.

### Handover Proforma Topics

Type of trauma call and mechanism of injury

Primary / Secondary performed?	<b>Is the patient going to critical care?</b>	Are they going via theatre?
Injuries identified and their management / Additional clinical notes		Are they intubated? Airway grade?
TXA / Pneumovax / Tetanus given? Pelvic binder removed?		Pre-intubation GCS?
Spinal precautions? Referrals made? Procedures performed?		Moving all 4 limbs?

Outcome of review, plan & contact details

Figure 1: Major Trauma to Critical Care Handover Proforma

## Methods

Over a 6-month period (07/01/23–05/07/23) we reviewed the use of the electronic proforma. All MT patients admitted to adult ICU at NUH were included and all electronic notes were reviewed. A formal written handover was counted if the specific electronic proforma "ED Visiting Clinician – Major Trauma" was used. An additional survey of MT & CC teams was performed to assess knowledge and perceived usefulness of the proforma. An example of some of the key elements of the handover can be seen in Figure 1 with the CC specific areas highlighted in green.

## References

Puzio TJ, Murphy PB, Virtanen P, Harvin JA, Hartwell JL. Handover Practices in Trauma and Acute Care Surgery: A Multicenter Survey Study. J Surg Res. 2020 Oct;254:191-196. doi: 10.1016/j.jss.2020.04.023. Epub 2020 May 23. PMID: 32450420.

### Are you aware of the electronic proforma?

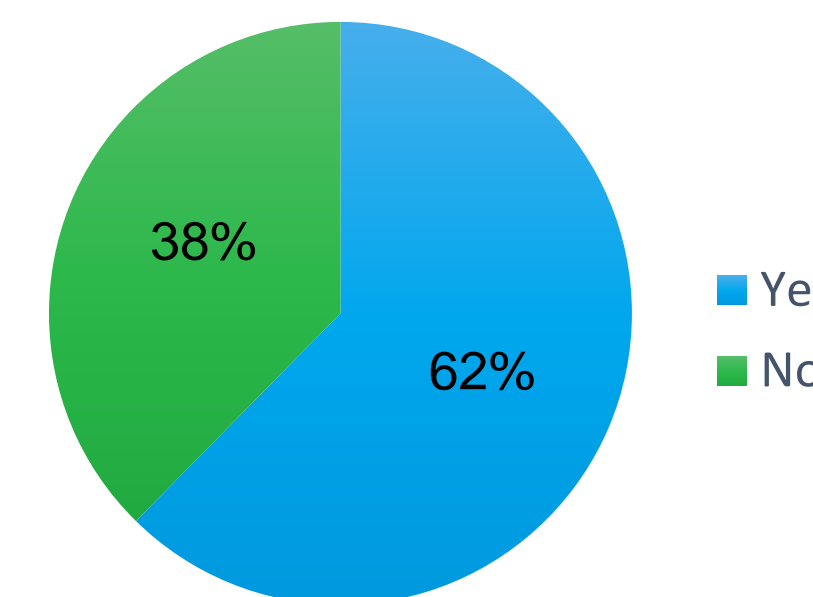


Figure 2: A pie chart showing the percentage of respondents aware of the proforma for MT patients arriving on CC.

### Do you find the proforma useful?

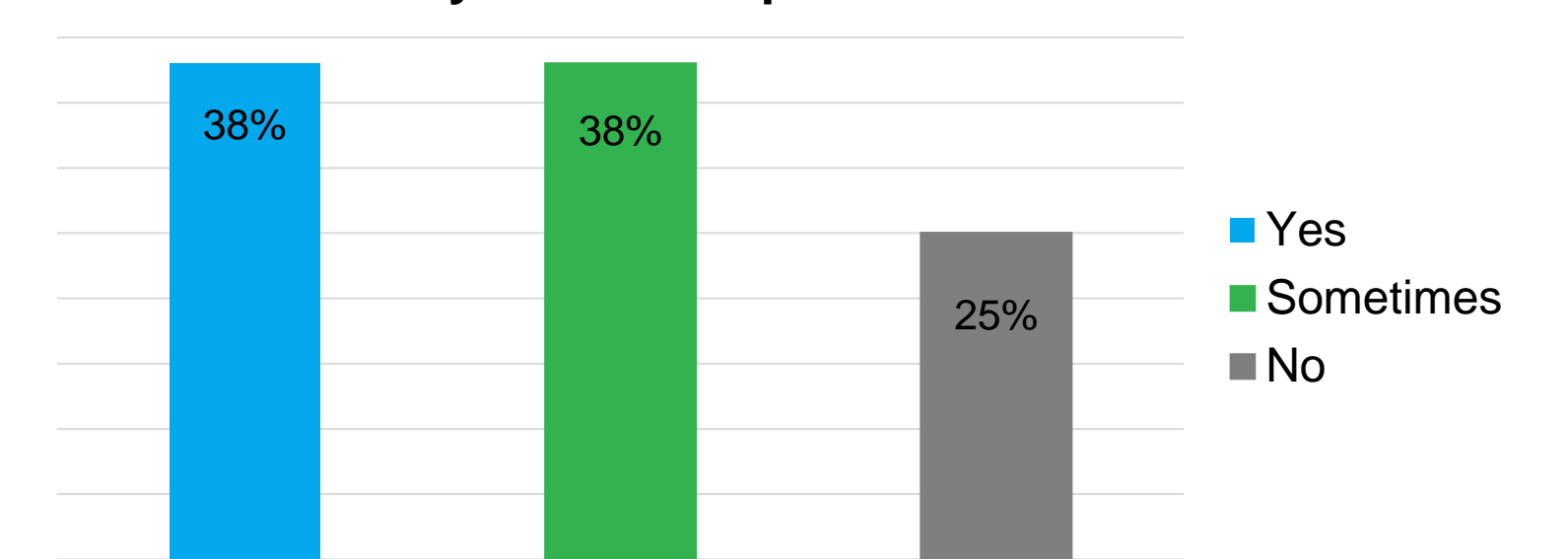


Figure 3: A bar chart showing the percentage of respondents who felt the proforma was useful when correctly completed.

## Results

During the period reviewed, 63 patients were admitted from ED to AICU under MT. Of these patients, 26% (n=16) had a proforma completed by a total of 8 doctors (including 1 Consultant). When surveyed (n=16), only 63% of respondents were aware of the proforma, but 88% agreed that direct handover between the teams was important or very important. Free text comments noted that the injury list and referrals made sections were helpful, as well as knowing the events in ED. When asked for suggestions to improve handover further, respondents felt that a verbal handover between teams at bedside or on the phone was still the most effective, but that raising awareness of the proforma would also be beneficial. Additionally free text comments also highlighted the importance of improving working relationships between the teams and sharing learning through joint meetings (including mortality & morbidity).

## Discussion

This audit has shown an overall improvement with written handover documentation using the electronic proforma in this patient cohort. However, there is still a large room for improvement as only ¼ of patients received this form of handover. Results suggest that the largest barrier is lack of awareness of the proforma, but it has also been raised that the teams still prefer verbal handovers when possible. Finally, a secondary learning point from this work has been the suggestion of improving working relationships between the teams, such as joint meetings to share learning.

## Next steps

1. Improve education regarding electronic proforma and continue to promote its use.
2. Encourage verbal handover, when possible, between the teams at bedside or on the phone.
3. Consider a monthly meeting between MT & CC to improve relationships and share learning.
4. Update proforma as part of the review of MT written documentation.