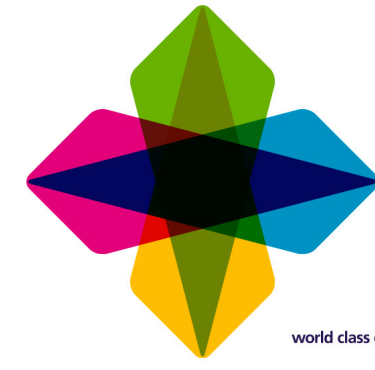


# Improving Safety of Handover on an Intensive Care Unit through the use of a Checklist

Harry A, White L, Patel M, Florman K, Pittaway H, Nandhabalan P  
ICU, The Royal Free Hospital



## SQA21

### Introduction

Medical handovers take place in a variety of healthcare settings and play an essential role in facilitating the delivery of high quality patient care and preventing harm to patients<sup>1,2</sup>. NICE have noted that structured patient handovers are critical to reducing mortality, preventing avoidable adverse events, reducing length of stay, and for improving both staff and patient satisfaction.<sup>3</sup>

In particular, an effective and standardised handover is of paramount importance in the critical care setting which features the highest complexity patients, frequent shift changes and in recent years an increase in number of junior doctors.<sup>4</sup>

The handover process at Royal Free Hospital Intensive Care Unit (ICU) was targeted for quality improvement and it was suggested that a structured "safety huddle" could improve transfer of care between staff.

### Aim

To improve patient safety in the ICU through adaptation of the doctor-doctor handover.

### Methodology

Three Plan-Do-Study-Act (PDSA) cycles were completed (see figures 1, 2 & 3).

Categorical outcomes were presented as proportions, and chi-squared test was used to assess significance of difference in pre- and post-intervention outcomes.

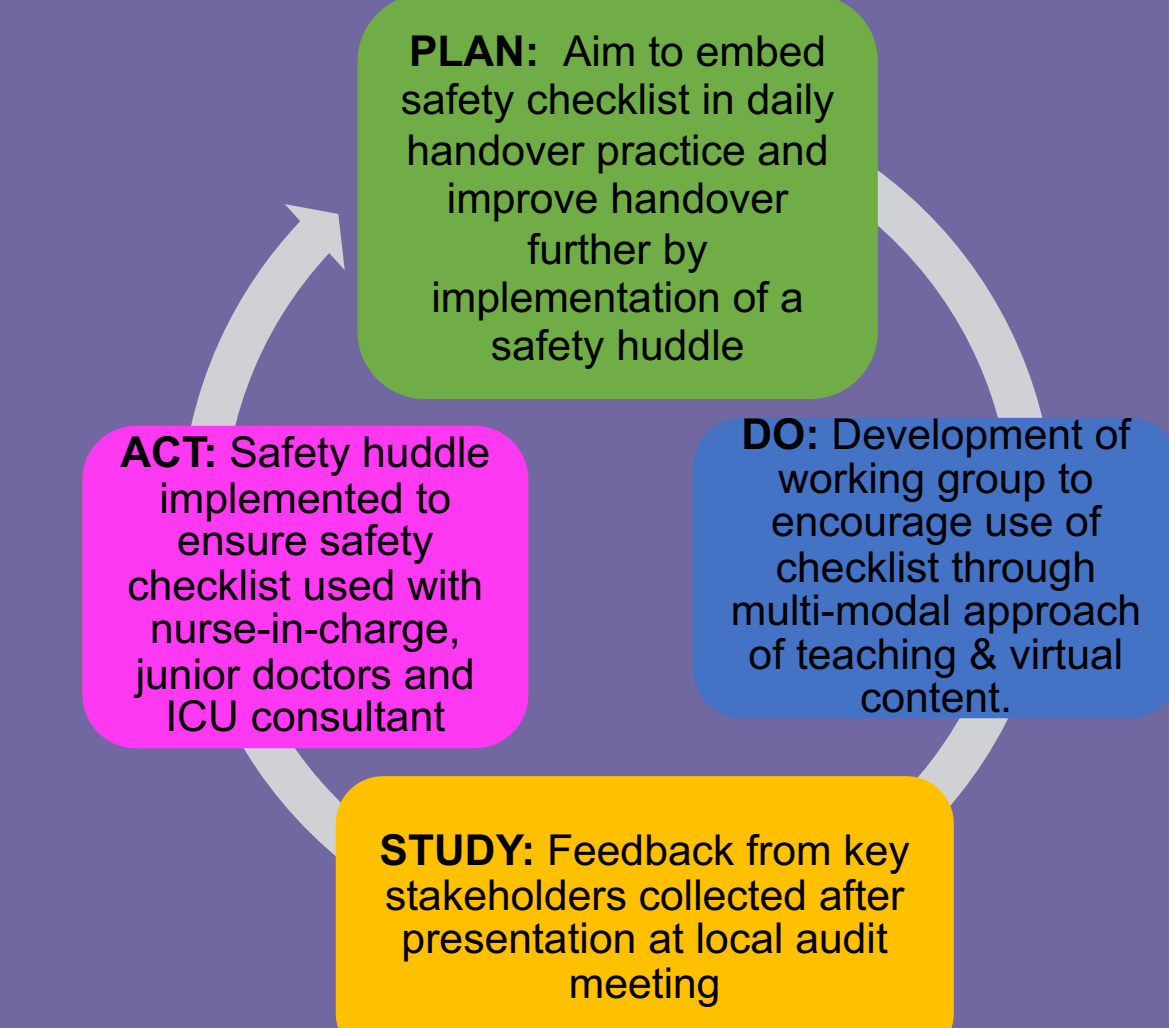
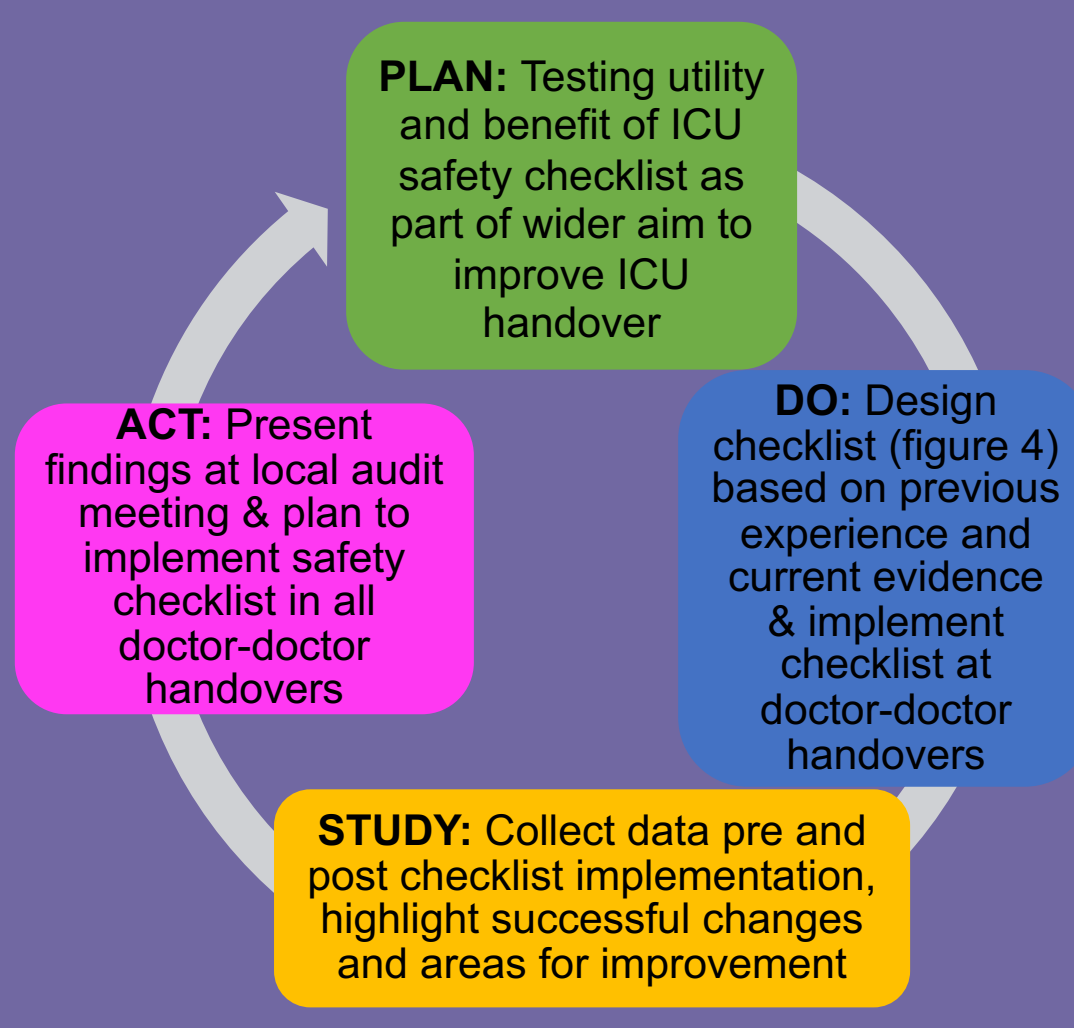
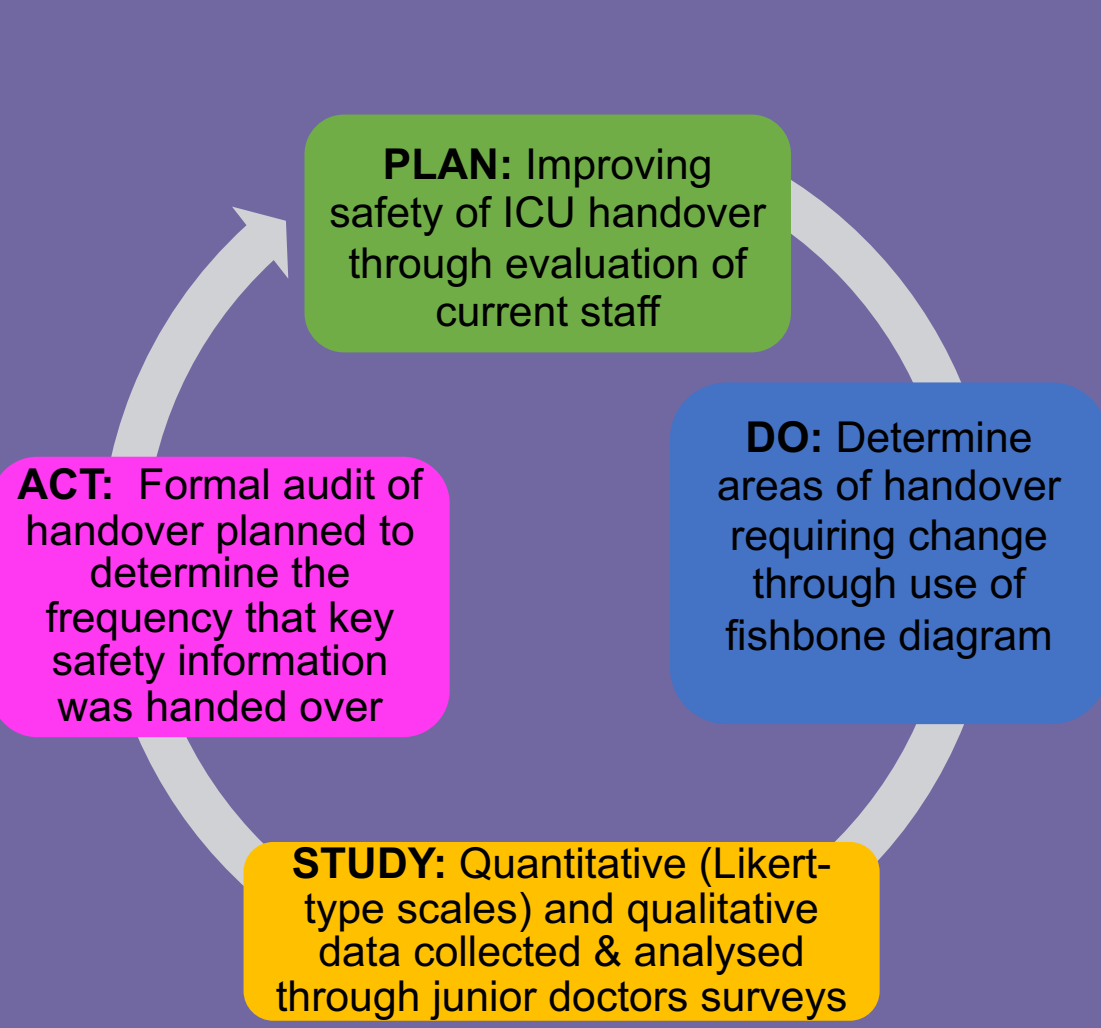


Figure 1. PDSA Cycle 1

Figure 2. PDSA Cycle 2

Figure 3. PDSA Cycle 3

ITU SAFETY HUDDLE CHECKLIST	
<b>STAFF AND INTRODUCTIONS</b>	
Formal introductions	
All members of the day ICU team present? CONS/NIC/SPR/SHO	
Who is NIC for the unit and what is their bleep? East: Bleep 2410, South: Bleep 2649, West: Bleep 2722, SHDU: Bleep 2120	
Medical staffing issues e.g. sickness, numbers, skill mix	
Nursing staffing issues e.g. sickness, numbers, skill mix	
<b>KEY POINTS FROM HANDOVER BY NIGHT TEAM</b>	
Expected admissions?	
Expected discharges?	
Procedures (including proning) or intra-hospital transfers planned?	
Are there any unstable patients?	
Which patients have ceilings of treatment?	
Any clinical incidents in the last shift & have they been reported?	
<b>SAFETY ISSUES</b>	
Extubations or decannulations planned for today?	
Who & where are the closest airway trained doctors?	
Any patients with potential airway problems? Where is difficult airway equipment located?	
Any patients with life-threatening allergies?	
Which patients have infection control alerts/issues?	
Do any of the team have any further concerns?	
Learning point of the day identified	

Figure 4

In general people's handovers are unstructured and inefficient, a checklist sounds like an excellent idea.

Figure 5

Safety briefing for each unit directly after handover: a quick 2 minutes with Drs, Cons and NIC identifying difficult airways, deteriorating pts, airway doctors, scans/procedures

Figure 6

### Results

The initial questionnaire returned 30 responses, which revealed that **45% thought all safety information was not clearly handed over** and a number of staff commented that they thought a **safety checklist would be effective** in improving this (figures 5 & 6). 56 handovers pre-implementation of safety checklist were audited, and 62 handovers (across cycles 2) were audited post implementation of both safety checklist and then safety huddle. **Statistically significant improvements were noted in all aspects of the handover** (figure 7).

**Key successes relating to patient factors included** an increase in:

1. Unstable patients formally flagged from 23% to 90% ( $p < 0.001$ )
2. All patients with treatment limits from 14% to 85% ( $p < 0.001$ )
3. Known or potentially difficult airways from 4% to 64% ( $p < 0.001$ )
4. Life threatening allergies from 0% to 50% ( $p < 0.001$ )
5. All expected discharges from 19% to 96% ( $p < 0.001$ ).

**Greater situational and environmental awareness** was also a key benefit, including an increased in:

1. Awareness of medical staffing issues from 18% to 71% ( $p < 0.001$ ),
2. Noting location of difficult airway trolleys from 2% to 24% ( $p < 0.001$ )
3. Identifying the nearest airway trained doctor 18% to 89% ( $p < 0.001$ )
4. Specific mention of infection control issues 11% to 77% ( $p < 0.001$ ).

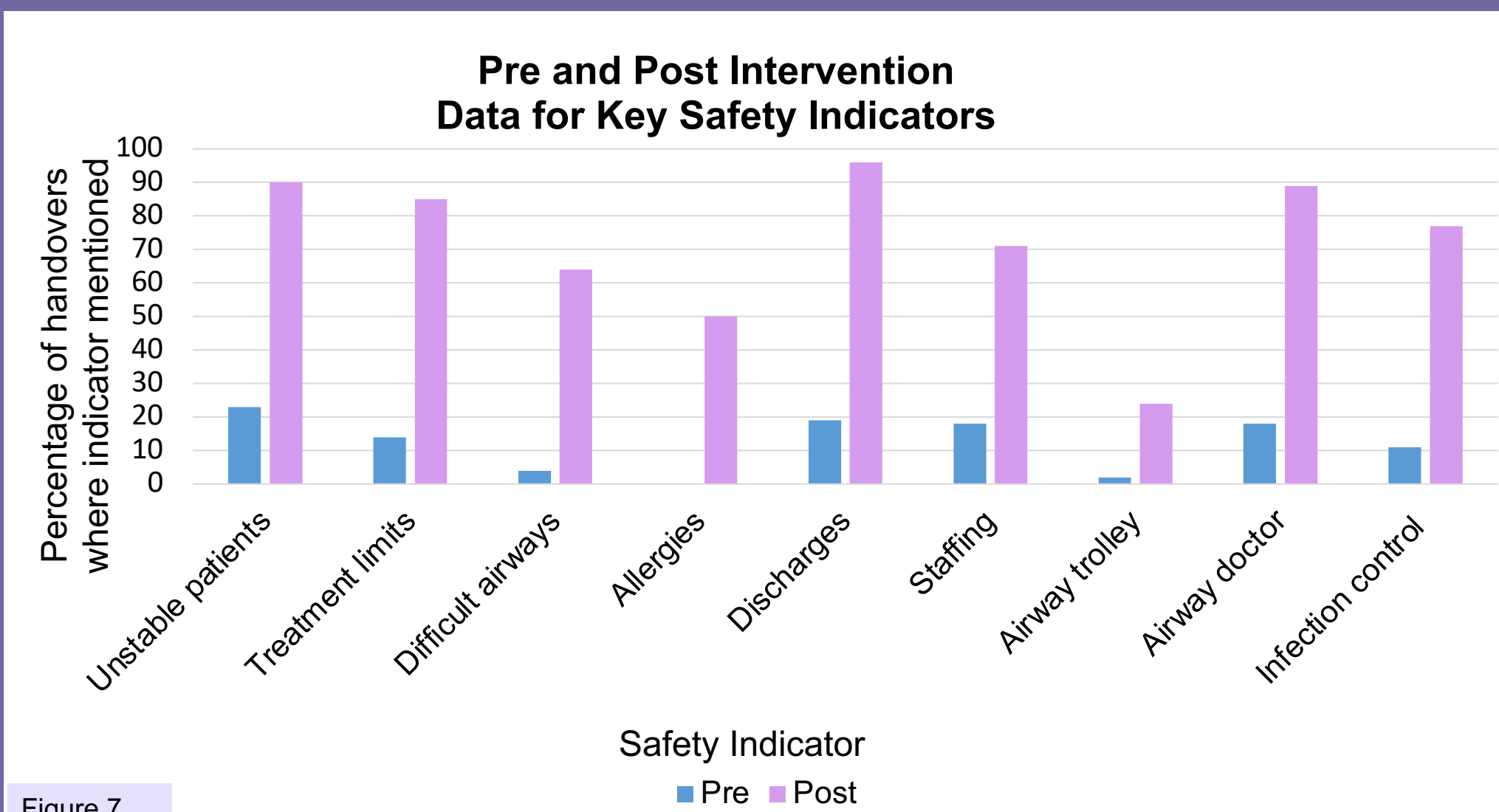


Figure 7

### Conclusion

A structured 'safety checklist' has been shown to be highly effective in improving the frequency with which safety information is transferred between incoming and outgoing teams on ICU. This is a simple measure which clearly returns great rewards for both patient care and staff satisfaction. Future PDSA cycles are planned to further improve the uptake of the checklist and incorporate its use into standard practice.

### References

1. Merten H, Galen LS van, Wagner C. Safe handover. *BMJ*. 2017;359. doi:10.1136/BMJ.J4328
2. Medical Council G. Good medical practice. Accessed August 15, 2021. [www.gmc-uk.org/guidance](http://www.gmc-uk.org/guidance).
3. Emergency and acute medical care Contents. *Nice Guid*. 2018;NG94. Accessed August 15, 2021. <https://www.nice.org.uk/guidance/ng94/evidence/32.structured-patient-handovers-pdf-172397464>
4. Jigajinni S, Sultan P. The intensive care unit handover: The most stressful part of the shift. *Br J Hosp Med*. 2010;71(2 SUPPL.). doi:10.12968/HMED.2010.71.SUP2.46506
5. FICM. Guidelines for Provision of Intensive Care Services, 2019