

# Development and validation of a performance metric for interdisciplinary communication around unscheduled caesarean birth.

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## INTRODUCTION

- Poor communication is frequently a root cause of clinician error and subsequent patient harm.
- Current communication training models may not result in staff reaching high quality standards of performance.
- **Proficiency based training (PBT)** involves characterisation of a task into a series of steps and errors defining optimal performance (a task metric) which can be used to objectively assess task performance.
- The benefits of PBT are well established in technical skills training[1], but **less so** in the area regarding non-technical skills[2].

## AIMS

- Develop and validate a **multidisciplinary communication tool** using the ISBAR framework to support communication training using a **PBT approach**.

## METHODS

- Task analysis was undertaken by a multidisciplinary expert panel.
- A transactional model of communication was applied to the task of communicating need for Lucas category two and three unscheduled caesarean birth.
- Draft metrics for sender and recipient roles were developed and refined through a 3-round modified Delphi process.
- A correlational study was conducted to assess rater accuracy and inter-rater reliability for each metric item.
- Scripted interdisciplinary handovers based on simulated cases were recorded and reviewed by independent raters.
- Levels of agreement and intra-class corelation coefficients were calculated.
- Task metrics were subsequently updated based on findings from the correlational study.

| Recipient Communication Metric            |   |                                                                                                            |      |                     |                            |
|-------------------------------------------|---|------------------------------------------------------------------------------------------------------------|------|---------------------|----------------------------|
| OLAMC – Emergency CS Metric               |   |                                                                                                            |      |                     |                            |
| Open – Listen – Analyse – Discuss & Close |   |                                                                                                            |      |                     |                            |
| Item Code                                 |   | Item                                                                                                       | Step | Error (if unticked) | Sentinel Error (if ticked) |
| O1                                        | O | Identifies self.<br>(First name or Surname)                                                                |      |                     |                            |
| O2                                        | O | Identifies own role.                                                                                       |      |                     |                            |
| O3                                        | O | Identifies caller.<br>(First name or Surname)                                                              |      |                     |                            |
| O4                                        | O | Identifies caller role.                                                                                    |      |                     |                            |
| O5                                        | O | Completes opening items before moving on to Listening.                                                     |      |                     |                            |
| L1                                        | L | Interrupts caller during handover (may interrupt a caller not giving an appropriately structured handover) |      |                     |                            |
|                                           | L | Closes communication loop with information received (as follows)                                           |      |                     |                            |
| L2                                        | L | • Category of EmCS                                                                                         |      |                     |                            |
| L3                                        | L | • Indication for EmCS                                                                                      |      |                     |                            |
| L4                                        | L | • Relevant background                                                                                      |      |                     |                            |
| Lseq                                      | L | Completes Listening items before moving on to discussion.                                                  |      |                     |                            |
| D1                                        | D | Elicits missing details (one attempt per missing detail)                                                   |      |                     |                            |
| D3                                        | D | Discuss theatre readiness with caller (e.g. ongoing cases, whether emergency theatre should be opened).    |      |                     |                            |
| Dseq                                      | D | Completes discussion items before moving to close.                                                         |      |                     |                            |

## RESULTS

- Paired task metrics were produced describing communication around unscheduled caesarean birth.
- When used in tandem, they formed a comprehensive and concise handover of case details deemed relevant across nursing, midwifery, obstetrics and anaesthesiology.

## DISCUSSION

- The Delphi process ensured consideration of a broad variety of professional viewpoints with respect to care of the pregnant person.
- Consensus was achieved rapidly, indicating that there is a set of core information points which are relevant across professional silos.
- The correlational study allowed us to examine which items examiners have difficulty assessing, allowing us to further streamline the task metrics and make rational decisions about scoring systems.
- Educational interventions for healthcare professionals are common in the literature but often lack strong grounding in evidence. There are financial and non-monetary costs associated with training in healthcare.
- We have a responsibility to payers, patients and healthcare professionals to choose interventions which are well designed and aligned well with clinical need.

## REFERENCES

1. Mazzone E, Puliatti S, Amato M et al. (2021) A Systematic Review and Meta-analysis on the Impact of Proficiency-based Progression Simulation Training on Performance Outcomes. Ann Surg 274:281-289. <https://doi.org/10.1097/sla.0000000000004650>

2. Breen D, O'Brien S, McCarthy N et al. (2019) Effect of a proficiency-based progression simulation programme on clinical communication for the deteriorating patient: a randomised controlled trial. BMJ Open 9:e025992. <https://doi.org/10.1136/bmjopen-2018-025992>