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## Using the Plan-Do-Study-Act cycle to manage interruptions during nursing team leader handover in the intensive care unit: Quality improvement project

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**Introduction:** Intensive care unit (ICU) nursing team leader (TL) handover is a process that is at risk for miscommunication, compromising patient safety. Interruptions during this process have the potential to increase miscommunication. Bedside handover and use of a structured handover tool are two strategies advocated internationally to improve safety of handover.

**Study objectives:** This quality improvement project employed the Plan-Do-Study-Act (PDSA) cycle to improve handover processes during nursing TL handover, including to reduce interruptions post-implementation of a multidimensional strategy.

**Methods:** The project was conducted in a 21-bed adult medical/surgical ICU, at a tertiary referral hospital, in Queensland, Australia. All TLs were invited to participate, with consent provided to observe and record process details of handover. Baseline data indicated that TLs experienced frequent interruptions during handover. An audit of the source and reason interruptions occurred informed the development of an intervention that included education sessions focused on safe handover practices, hands on training using an evidence-based electronic minimum dataset to discuss patient information and the relocation of handovers from the central ICU desk to the bedside. Data were analysed using descriptive statistics (median, IQR, frequency and percentages).

**Results:** Handovers during the baseline period ( $n = 40$ ) were conducted at the central desk and attracted 64 interruptions, equivalent to one interruption every 23 min. After implementation of the improvement strategy ( $n = 49$  handovers), 52 interruptions occurred at the bedside, equivalent to one interruption every 29 min. During both the baseline period and post-intervention nurses were the main source to interrupt handovers to exchange greetings with the TL and to discuss patient and organisational updates.

**Conclusion:** The PDSA provided a structure to understand the problem, develop an improvement strategy and inform future work to effectively manage interruptions during nursing TL handover.