

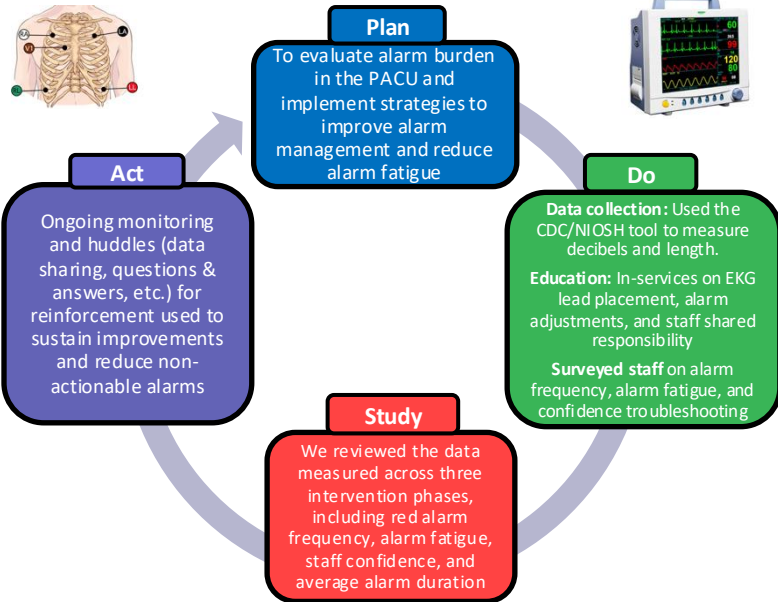
BACKGROUND

Clinical alarms in the PACU are a persistent patient safety issue. Monitors, IV pumps, and other devices generate frequent non-actionable alarms, which can contribute to alarm fatigue, alarm desensitization, workflow disruption, and delayed recognition of clinically significant events.

Alarm fatigue reduces nurses' responsiveness, concentration, and workflow in critical care settings.

Aim: To improve clinical alarm management in the PACU by strengthening nurses' response to alarms, reducing their frequency and length.

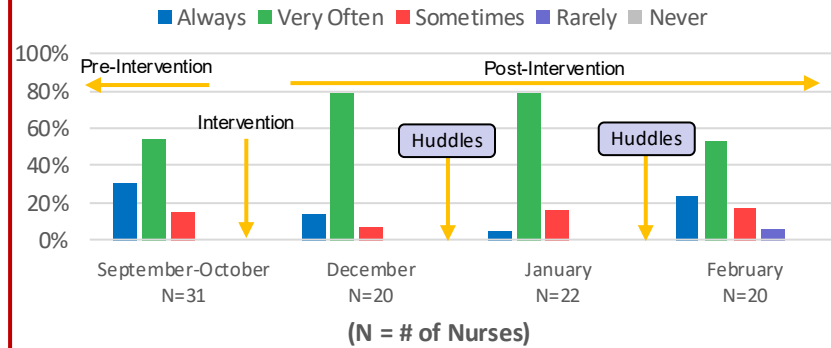
METHODS



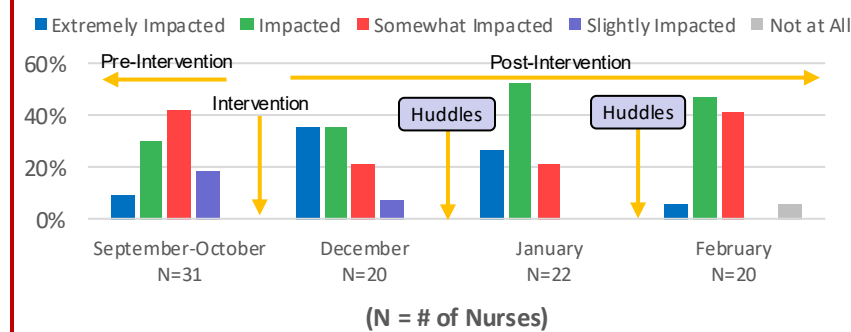
KEY FINDINGS

- Clear, objective improvement in average alarm duration
- Nurse survey comments highlighted reduced focus, workflow disruption, and increased stress contributing to alarm fatigue
- High staff confidence in troubleshooting alarms
- Alarm fatigue is widespread and persistent; it is not easily reduced

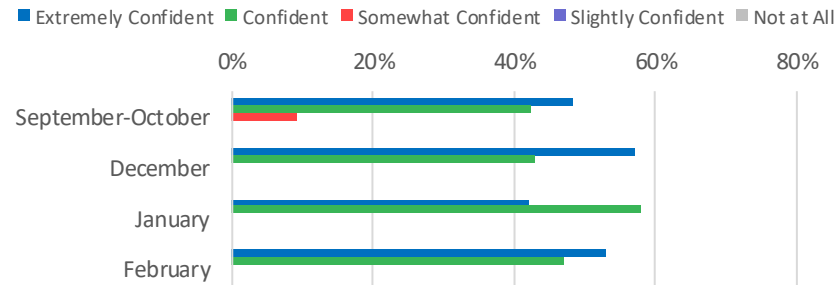
Perceptions of Red Alarm Frequency



Reported Impact of Alarm Fatigue



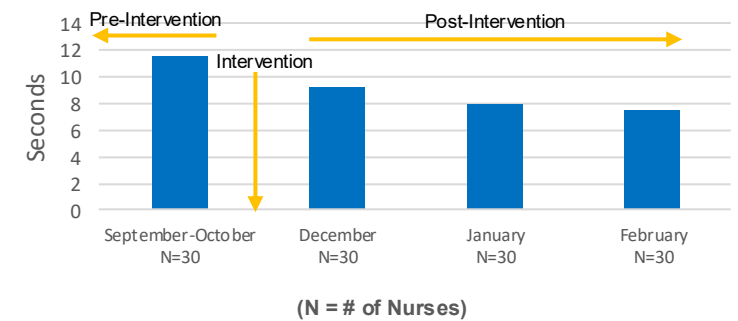
Nursing Confidence in Troubleshooting Alarms



RESULTS

- Post-intervention, red alarm frequency decreased in intensity
- A successful and sustained reduction in average alarm duration following intervention, from 12 seconds to 8 seconds
- On average, 45% of nurses reported being impacted by alarms, with changes reflecting a shift from extreme to moderate alarm fatigue over time

Average Alarm Length



DISCUSSION

- Education and troubleshooting strategies improved staff confidence and reduced alarm burden
- Alarm fatigue is a workflow, safety, and patient care issue that requires both technical and behavioral interventions
- Decreased alarm duration suggests improved staff responsiveness
- Variability in alarm frequency reflects patient acuity and workflow differences
- Ongoing monitoring and reinforcement are needed to sustain improvements

REFERENCES

Shaoru, C., Zhi, H., Wu, S., Ruxin, J., Huiyi, Z., Zhang, H., & Zhang, H. (2023). Determinants of medical equipment alarm fatigue in practicing nurses: A systematic review. *SAGE Open Nursing*, 9(9).

Bosma, S., & Christopher, R. (2023). Implementing a Unit-Based Alarm Management Bundle for Critical Care Nurses. *Critical Care Nurse*, 43(2), 36-45