

# Reducing Alarm Fatigue Among Critical Care Practitioners Using AI Solutions

Poster 04



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## DID YOU KNOW?

In a typical ICU, a patient can trigger up to **187** alarms per day, with up to **89%** of these alarms *being false or clinically insignificant*. This means that responders will be attending **an alarm every 7.7 minutes**, often unnecessarily. [Huo 2022]

## Background

- Alarm fatigue in ICUs leads to **desensitization** and **delayed responses**
- Compromises **patient safety**
- Artificial Intelligence (AI)** offers promising solutions to **enhance alarm management**

## Study Objective

- To assess the **impact** of **AI-driven** alarm management solutions **on reducing alarm fatigue among ICU staff**.

## Methodology

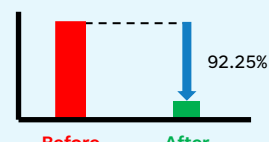
- Systematic review of studies published 2018 – 2024
- Databases:** PubMed, Scopus, EMBASE, Google Scholar, PLOS One, and CINAHL
- Keywords:** "AI", "alarm fatigue", "ICU", and related terms
- Inclusion criteria:** AI implementations for alarm management in clinical settings
- Data extracted:** false alarm rates, alarm duration, response times, and nurse fatigue levels
- Analysis:** quantitative outcomes related to alarms, alarm response and fatigue reduction



THE CACOPHONY OF ALARMS IN THE ICU

## Key Findings

### Reduction in false alarms



### Decreased alarm duration



Reduction in notifications to caregivers



Shortened response times to important alarms



Reduction in nurse alarm fatigue levels



## Why This Matters

- Improves patient safety** by ensuring critical alarms are not missed
- Reduces stress and cognitive load** on ICU staff
- Allows nurses to focus on patient care** rather than managing alarms
- Potentially decreases burnout rates** among critical care practitioners

## What's Next

- Integrate** AI solutions with existing hospital/ICU systems
- Develop of **user-friendly interfaces** for AI-enhanced alarm management
- Training programs** for ICU staff on using AI-powered alarm systems
- Conduct **larger-scale studies** to validate long-term benefits