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# Do you Hear What I Hear, A Clinical Alarm Fatigue Project

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# DO YOU HEAR WHAT I HEAR? A CLINICAL ALARM FATIGUE PERFORMANCE IMPROVEMENT PROJECT



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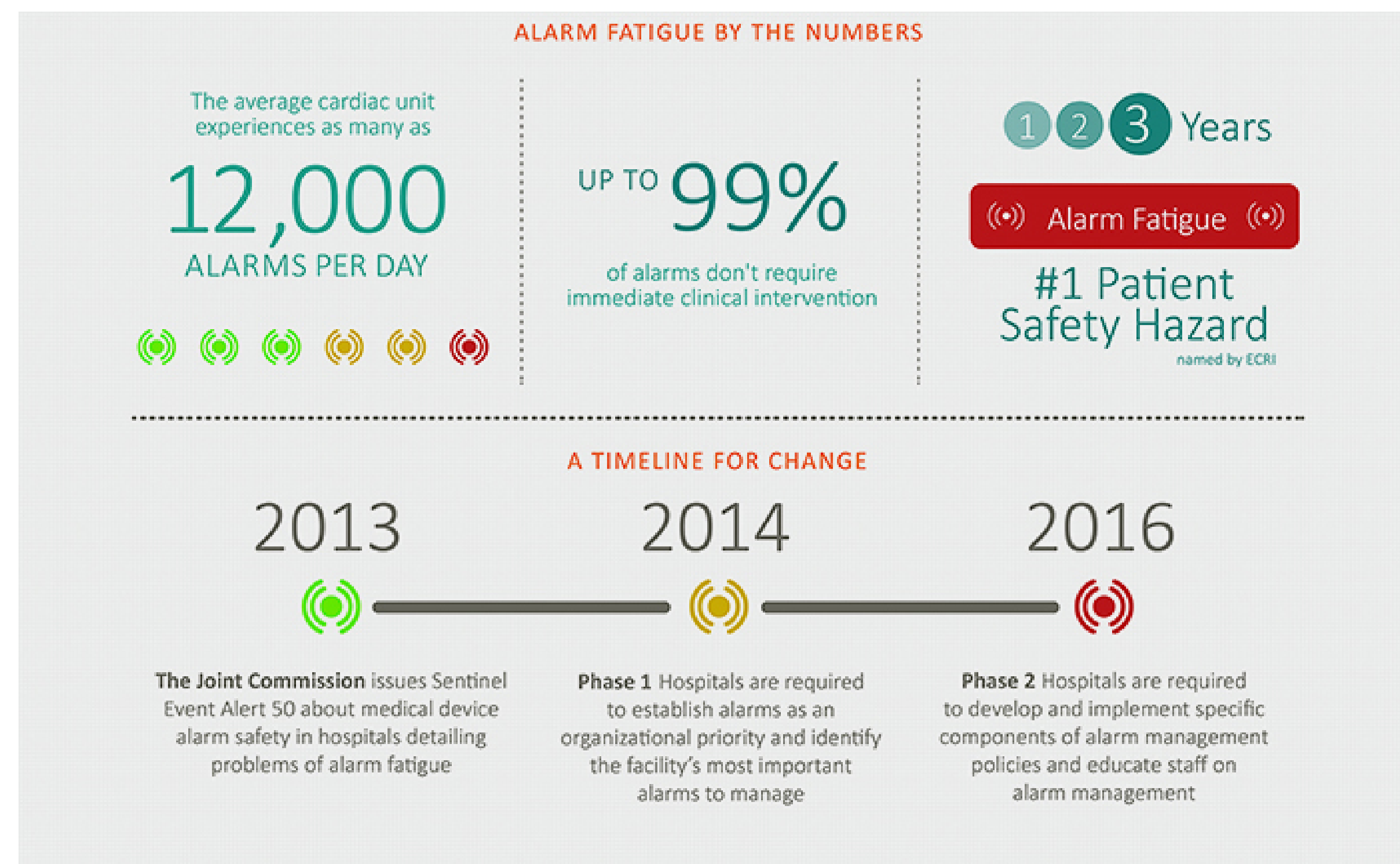
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## BACKGROUND

Alarm fatigue is the lack of response due to excessive number of alarms resulting in desensitization. This is a growing concern for patient safety in healthcare.

In April, 2013, The Joint Commission (TJC) received reports of 80 alarm-related patient deaths as released in their Sentinel Event Alert. In July, 2014, TJC released a new National Patient Safety Goal called NPSG.06.01.01 (Use alarms safely). The goal is to reduce harm associated with clinical alarm systems.

Alarm management and clinical alarm fatigue has become a priority in the healthcare arena nationwide. The Emergency Department at Homestead Hospital has implemented a performance improvement project to help increase staff awareness, promote patient safety, and decrease unnecessary alarms to prevent clinical alarm fatigue..



## PURPOSE

The purpose of this project is to decrease the number of clinically insignificant alarms in the Emergency Department by 20%, focusing on the heart rate and oxygen saturation alarms, thereby decreasing alarm fatigue and increasing patient safety.

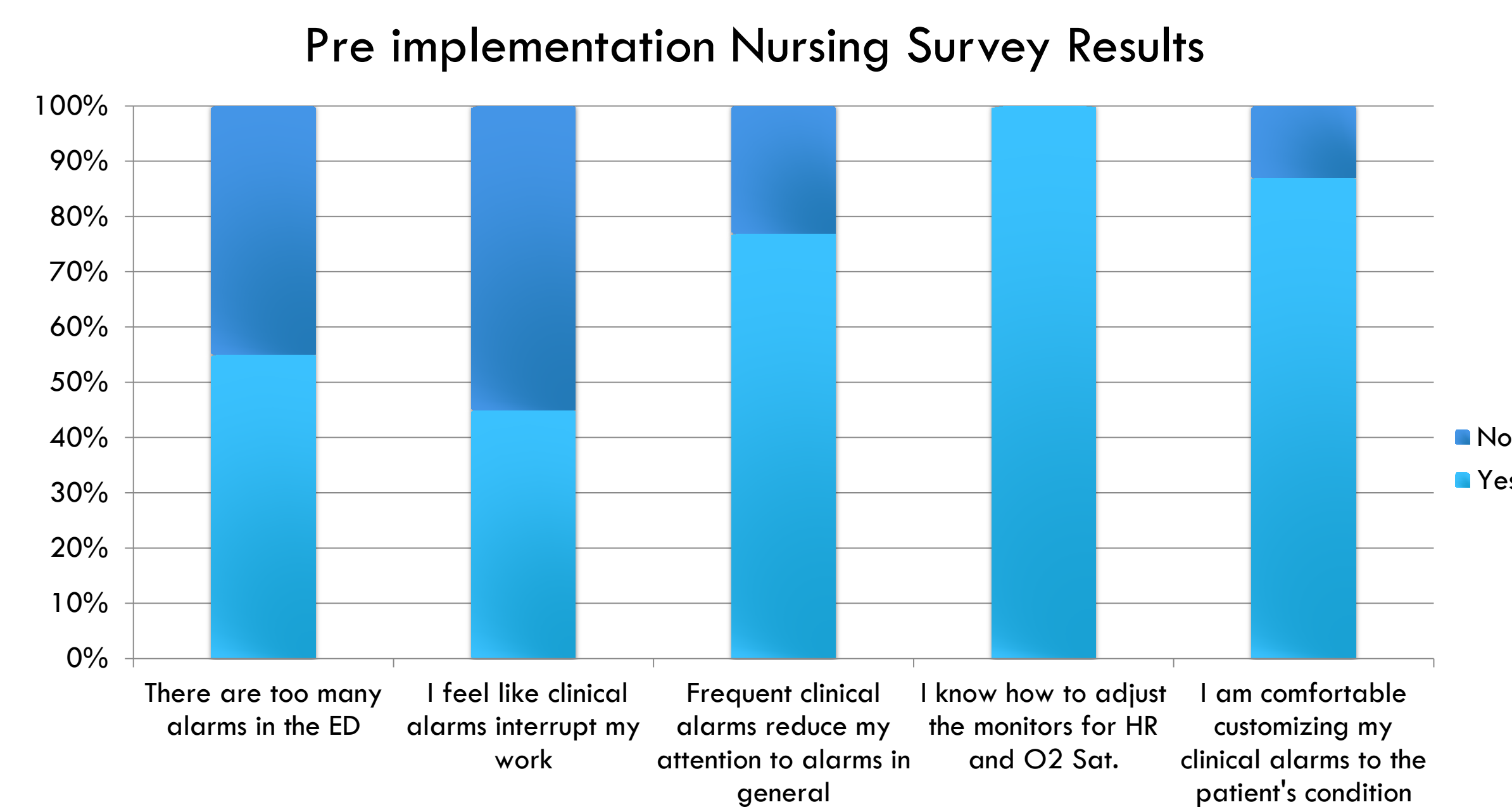
## METHODS

- The Plan, Do, Check, Act model was used in this initiative.
- A pre-implementation nursing survey was conducted regarding staff knowledge and perception of clinical alarms. The pre implementation survey results were used to guide the implementation stage.

## METHODS

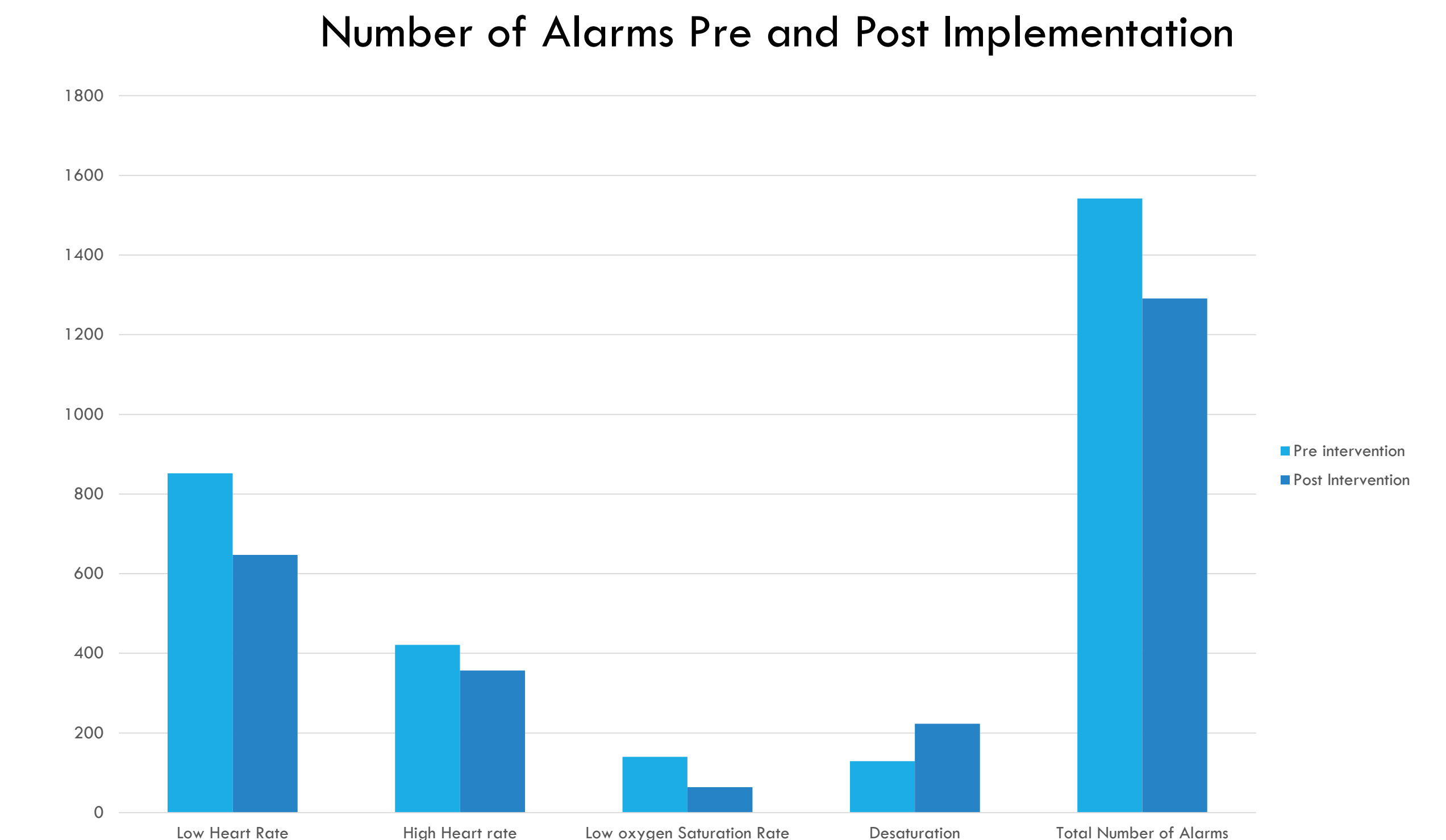
- Pre and post implementation alarm data were recorded from the 24-bed Main Adult Emergency Department of Homestead Hospital in a 12 hour period for 7 days.
- Education was provided to the 167 unit staff members involving nurses and technicians through in-services and shift huddles. The focus of the education is on proper skin preparation, customization of alarm parameters, changing of default settings and reviewing clinical indications for monitoring.
- Interventions were reviewed for effectiveness and will be modified and/or reinforced as needed in the next PDCA cycle.

## RESULTS



- 41% of the nurses (47 out of 116 ) responded to the pre implementation nursing survey. It indicated their perception of clinical alarms as occurring too many times in the department (55%) and are interrupting their work (45%). 77% responded that frequent clinical alarms reduce their attention to alarm in general. Although 100% of the respondents said they know how to adjust their monitors and 86% are comfortable customizing their clinical alarms, only 45% always customize their alarms to the patient's condition, while 53% responded *sometimes* and 2% *never*.
- 80% of the staff were in-serviced prior to the post implementation data collection (134 out of 167).
- Post implementation, the number of alarm reduced per category: low heart rate (25%), high heart rate (16%), and, low oxygen saturation level (54%) . Desaturation increased by 44%.
- The total number of alarms decreased by 17% post implementation (1542 to 1291).

## RESULTS



## CONCLUSIONS

This project resulted to a decrease in the number of clinical alarms in the department. Although the 20% goal was not reached, the significant reduction in alarms (17%) has been a beneficial process in determining successful interventions and will serve as a guide in the future projects in improving the department's alarm management. A post intervention staff survey will be conducted following the completion of additional PDCA cycles.

The plan for sustainability will focus on the compliance on alarm customization. Evidence based studies will be reviewed to improve oxygen saturation monitoring. Inclusion of the EKG alarms will be included in the future performance improvement projects for clinical alarms.

Alarm fatigue is a multifaceted problem with a very high potential of causing patient harm and therefore should be a top priority in hospitals. Although there is a significant amount of work to be completed in the future, the Emergency Department is making strides in the right direction.

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