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## Introduction

### Fall Statistics:

- More than 800,000 patients per annum require hospitalization due to a fall injury (AHRQ, 2017).
- Over 95% of hip fractures are the result of a fall.
- Falls are the number one cause of traumatic brain injuries.
- Across U.S. hospitals, there were between 3.3 to 11.5 falls per 1,000 patient days (CDC, 2017).

### Medical Costs:

- A hospital fall: 34,294 dollars approximately (AHRQ, 2017, Masahiro, 2018).

## Goal/Objectives

### Goal:

- To reduce the falls in 30-bed rehab unit from 4.13 to 2.5 by utilizing the Chair/Commode/ Seatbelt Exit alarm at the end of September 2020.

### Objectives:

- To prevent risk of patient safety and injury from falls by developing a sustainable hospital fall prevention program.
- To improve the call light response time.
- To reduce the cost for falls with injury.
- Engage staff to drive a culture of safety by
  - Recognizing the high fall risk Veterans.
  - Activating the bed alarm/Chair/Commode/ Seatbelt alarm.
  - Hourly rounding using 5 Ps such as Pain, Potty, Pumps, Preferences and Position.

## Background

### Problem Statement:

Since October 2019, Rehab at VA North Texas Health Care System has had an average fall rate of 4.13 (Falls per 1,000 patient days) compared to the NDNQI fall rate (National Database of Nursing Quality Indicators) of 2.5, resulting in a continued risk of patient safety and opportunity for significant injury causing in an increased length of stay and increased medical costs.

### Root Cause Analysis:

- Incapacity of the Veterans to call for assistance due to confusion and forgetfulness.
- Limited ability to maintain the privacy of the Veterans while using the restroom
- Inconsistent use of purposeful hourly rounding process using 5Ps.

## Method

- Pilot Chair/Commode/Seatbelt exit Alarm from May 2020 to September 2020 to alert the nursing staff to respond immediately to Veterans' needs.
- Interprofessional collaborative fall prevention team formed in Rehab.
- Educated and trained 65 nursing staff in Rehab on chair/Commode/ Seatbelt alarm usage, cleaning, storage and reusage.
- Created audit tool for checking weekly.
- Re-educated the staffs on facility fall prevention protocol and interventions per policy.

### Criteria for Inclusion:

- One of the following three criteria including the Morse Fall Scale higher than 45.
  - Criteria 1: Age greater than 75/ CVA old/new/ One-person assistance
  - Criteria 2: Dementia or confused
  - Criteria 3: History of falls

## Parasol Chair/Commode/Seatbelt Alarm



Video: <https://youtu.be/6zNgyqHUcao>

## Features of Parasol Fall Prevention System

**PARASOL**  
Patient Fall Prevention System

### Pad Sensor Quick Start

**Bed Pad Positioning**

- Place bed pad across the width of the mattress beneath the fitted sheet
- Position the pressure pad so that the patients buttock is over the center of the pad
- Run the cord along the mattress and bed frame
- Be careful not to get the cord in the way of moving parts on the bed
- Connect the pad to the monitor & test pad prior to use

**Chair Pad Positioning (Side/Wheel Chair)**

- Place Chair pad across the width of the seat cushion
- Position the pressure pad so that the patients buttock is over the center of the pad
- Run the cord out the side of the chair
- Be careful not to get the cord in the wheels or other moving parts
- Connect the pad to the monitor & test pad prior to use

**Potty/Commode Pad Positioning**

- Position potty pad on the rim and directly below the bumper on the seat
- Remove the release liner on the adhesive tape to secure to the rim
- Run the cord behind the toilet above the tank
- Be careful to clear the cord from the patients path
- Connect the pad to the monitor & test pad prior to use

**Testing Pads**

- Before first and each use test the system
- Apply pressure to the pad for 3 seconds
- Monitor will "beep" once to signal monitor is active
- Remove pressure from pad and alarm should sound without delay
- If voice message has been recorded, playback will start before tonal alarm

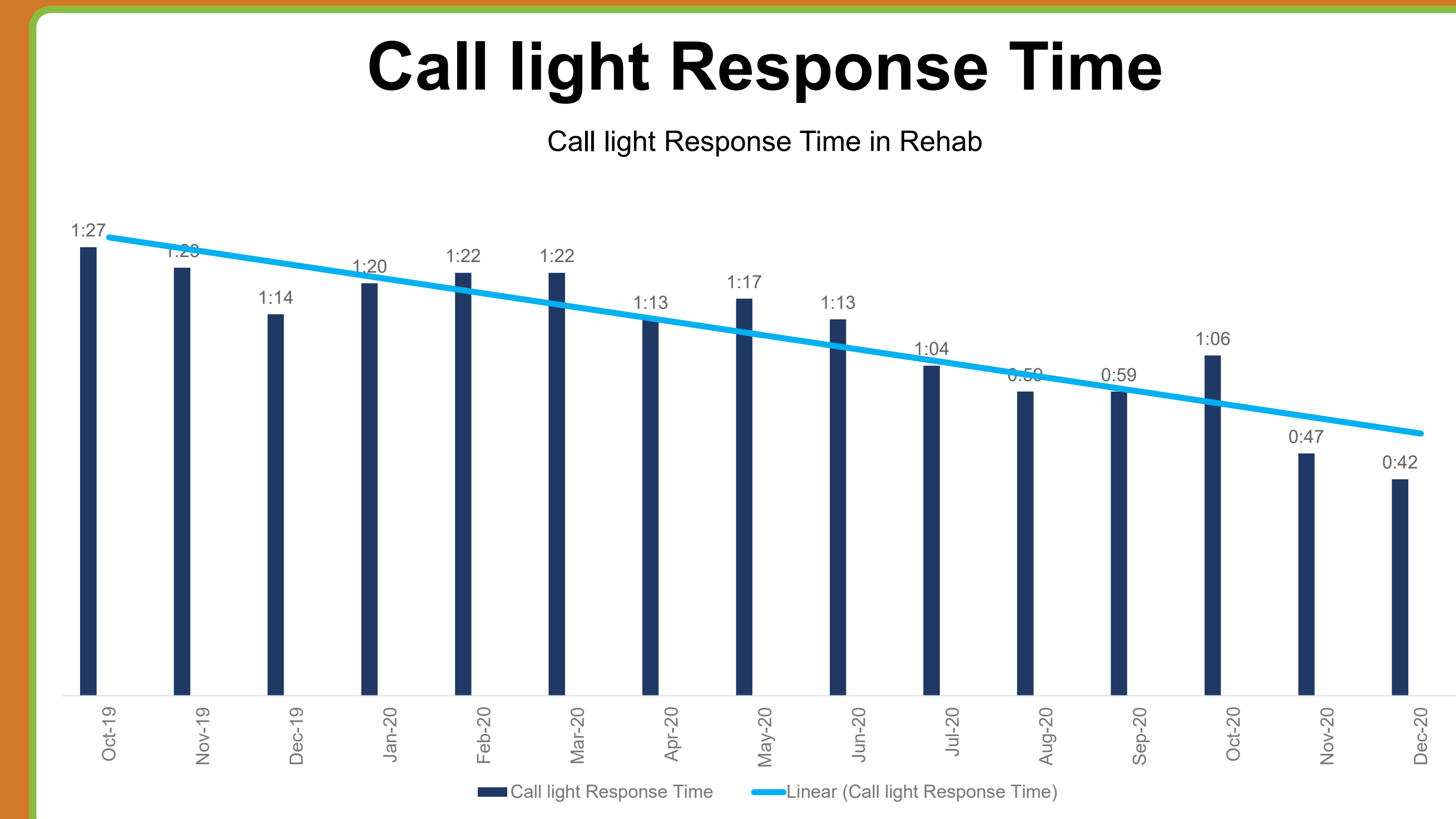
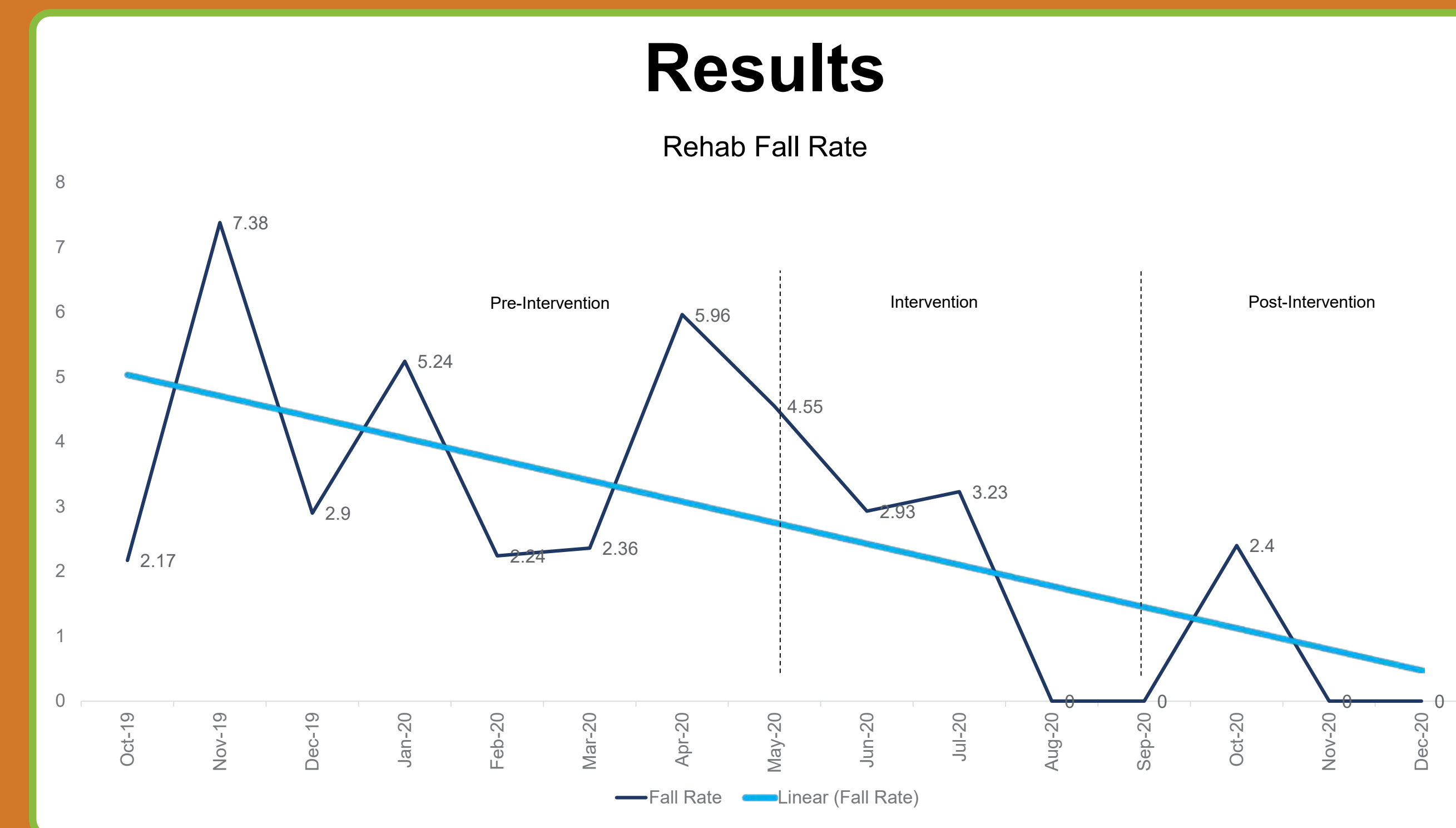
**Mounting Options**

- Insert the slide rails located on the back of the monitor into the top of the slide tracks located on chair & wall mounting plates
- Slide monitor down until it clicks and locks into place
- Press the release lever and slide monitor upward to remove

(Parasol Medical LLC, 2019)

## Results

- From May 2020 of Pilot Study to September of 2020, the fall rate decreased from 4.13 to 1.49 in Rehab.
- Call light response time decreased from 1.17 to 0.59 seconds.
- The approximate cost saving is 171,470 dollars for five hospital fall.



## Conclusion

The wireless fall prevention system is an additional resource to reduce falls in high-risk patients. The utilization of the wireless chair/commode/ non-restraint seatbelt was effective to decrease the fall rate in a 30-bed rehab unit.

### Follow-up Actions:

- Continue to utilize the Chair/Commode/ Seatbelt exit alarm in Rehab.
- Fall Champion continues to audit weekly.
- Begin replicating fall prevention interventions to acute care units.
- CNL continues to see the Navicare call light response data and fall data post implementation.
- Fall Prevention Meeting monthly.

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