

### Introduction

Friendship Village of Bloomington is a 66-bed skilled nursing community. At Friendship Village of Bloomington, a major focus of our team is falls. Our residents especially have a strong tendency to fall, specifically attempting to self-transfer in and out of their bed or stationary chair. While our team is creative and effective with our fall interventions, we are always researching new ways to help our residents and prevent falls.

Falls in resident rooms has continued to be a major area of focus for our quality improvement team, both at Friendship Village of Bloomington and through every community in Lifespace.

In November 2022, we received 15 units of a new technology, “Virtusense.” These sensors utilize artificial intelligence (AI) to monitor and detect movement, without being a camera that has a memory or store data. The sensors are calibrated to detect and monitor a resident's bed and stationary chair when they are in their respective setting. While monitoring, the monitor will detect heat signatures of residents and send alerts to our nursing team through iPads and the nurse iPhones signaling a resident is sitting up, or possibly trying to self-transfer.

### Methodology

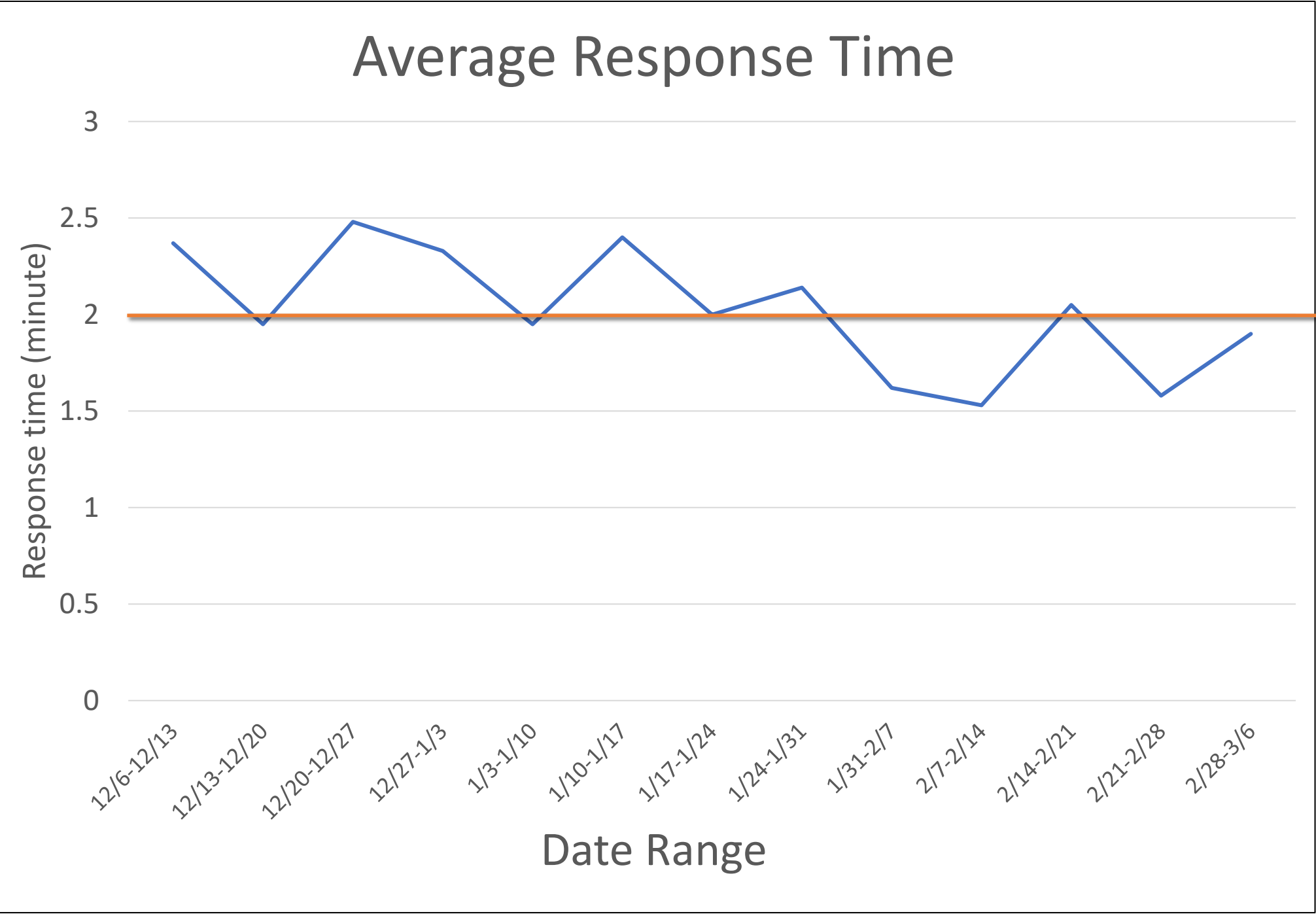
Utilizing the Kaizen technique of Lean Six Sigma was critical for the success of the Virtusense program. Kaizen tends to follow the Deming model of Plan, Do, Check, Act, enabling constant improvements, while promoting team engagement and input.

**Plan:** Create training program for nursing team members. Identify residents who would benefit from Virtusense program, specifically reviewing fall trends, self-transfer tendencies, and significant injury. Receive consent from responsible party.

**Do:** Train nursing team, implement Virtusense and monitor results.

**Check:** Evaluate number of falls and response times in VST rooms to identify any trends of activity and fast or slow response times. Review information with nursing team each week.

**Act:** Review trends, move sensors to other residents, if applicable. Continue adjustments of training to effectively help with areas of concern.



### Results

Prior to March 6, 2023, 20 residents were chosen to use this software after being deemed as “friendly fallers.” Of the 20 “friendly fallers,” 10 had a history of falls 90 days prior to implementation, 1 was a high risk due to a self-transfer resulting in injury, and 2 admitted after implementation and had sensors placed after admission.

In the 3-month period (9/4-12/5) prior to full implementation, we had 64 falls in resident rooms, 32 of which were in rooms of residents that received a sensor. In the 3-month period (12/6-3/6) after implementation, overall falls in resident rooms decreased to 51, 15 of which were in resident rooms utilizing Virtusense sensors. This equals a 20% reduction in falls in resident rooms, and a 53% reduction in falls in rooms utilizing Virtusense.

Our response times have had a consistent trend of time reduction towards our goal of an average response time < 2 minutes. This will continue to be a metric that we focus on, and consistently improve around.

### Recommendations

- ❖ Utilize monthly check-ins with floor team to identify potential residents who would benefit from the program & those who may no longer benefit
- ❖ Continue open dialogue and education on progress and procedures with Virtusense technology
- ❖ Monitor trends of resident activity based on time of day to explore creative interventions to prevent falls

### Conclusion

With the continued increase in need for higher levels of care for the aging population, advances and implementation of technology in post-acute care will continue to be crucial in providing the best care possible for our residents. The implementation of VirtuSense technology at Friendship Village of Bloomington has proven to be crucial in preventing falls, while enabling our team to utilize their time that was typically spent creating incident reports. By introducing the use of technology, we have been able to reduce our falls in resident rooms, improving our CASPER, and providing our residents the highest quality of care possible.

### Opportunities & Objectives

The use of modern technology is an area that skilled nursing will continue to need to grow with, especially when assisting our aging population. Virtusense has been extremely successful in reducing falls within other Lifespace communities, and we feel it will be effective in fall preventions.

#### Objectives

This project is focused on reducing the number of falls residents experience with self-transferring into and out of bed and their stationary chairs. We have established 3 main objectives with this project as a community.

- ❑ Reduce the number of falls from bed and stationary chair by 50% within VST rooms and have a 10% reduction in overall falls in resident rooms.
- ❑ Maintain 2 or fewer falls resulting in significant injury within resident rooms.
- ❑ Establish the average response time to alerts as < 2 minutes.

Step 1 Identify residents who would benefit from the program & receive consent

Step 2 Install sensors in resident rooms

Step 3 Train floor team members on VSTAlert app and best practices

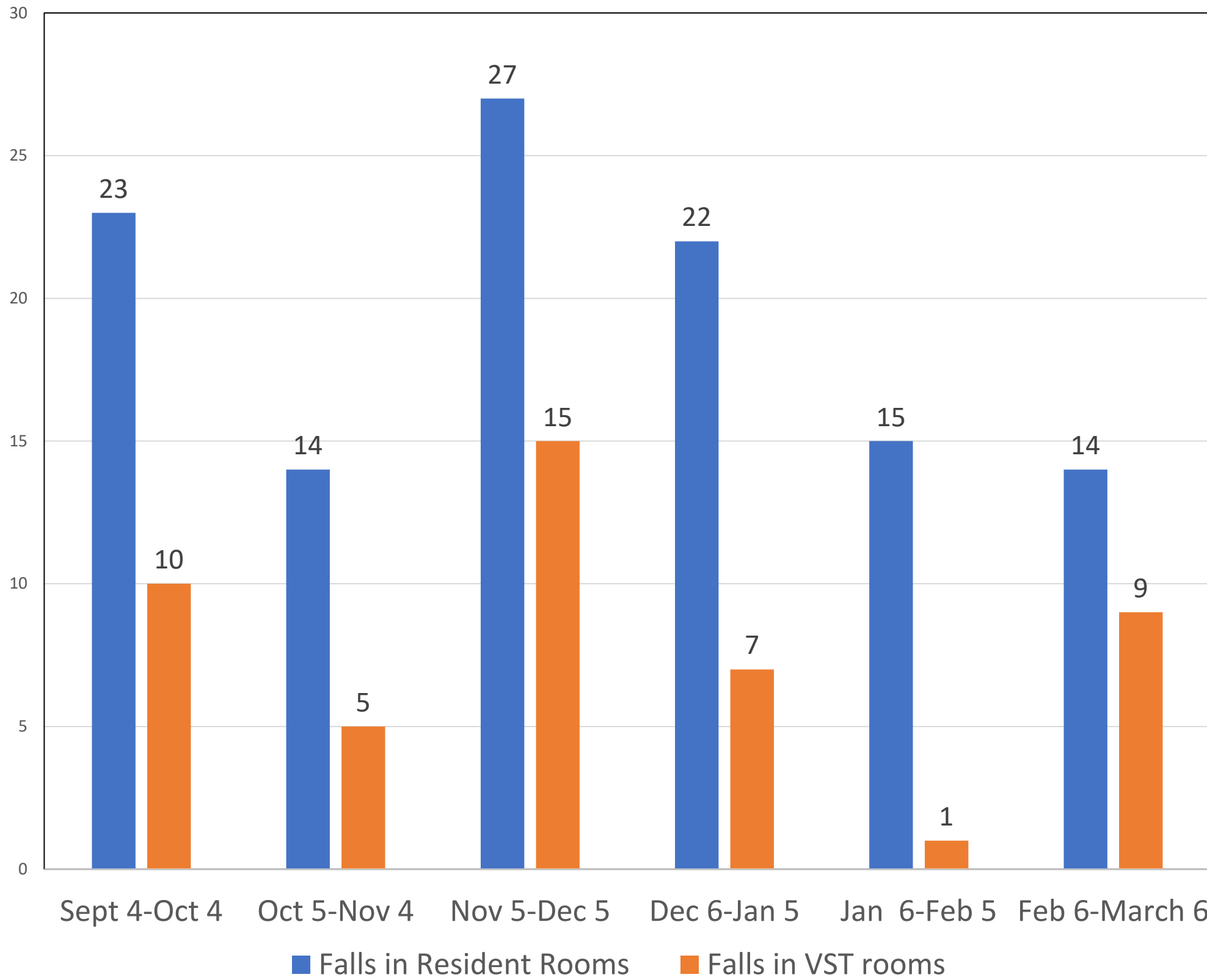
Step 4 Implement and begin use of VSTAlert

Step 5 Monitor trends and identify problem areas

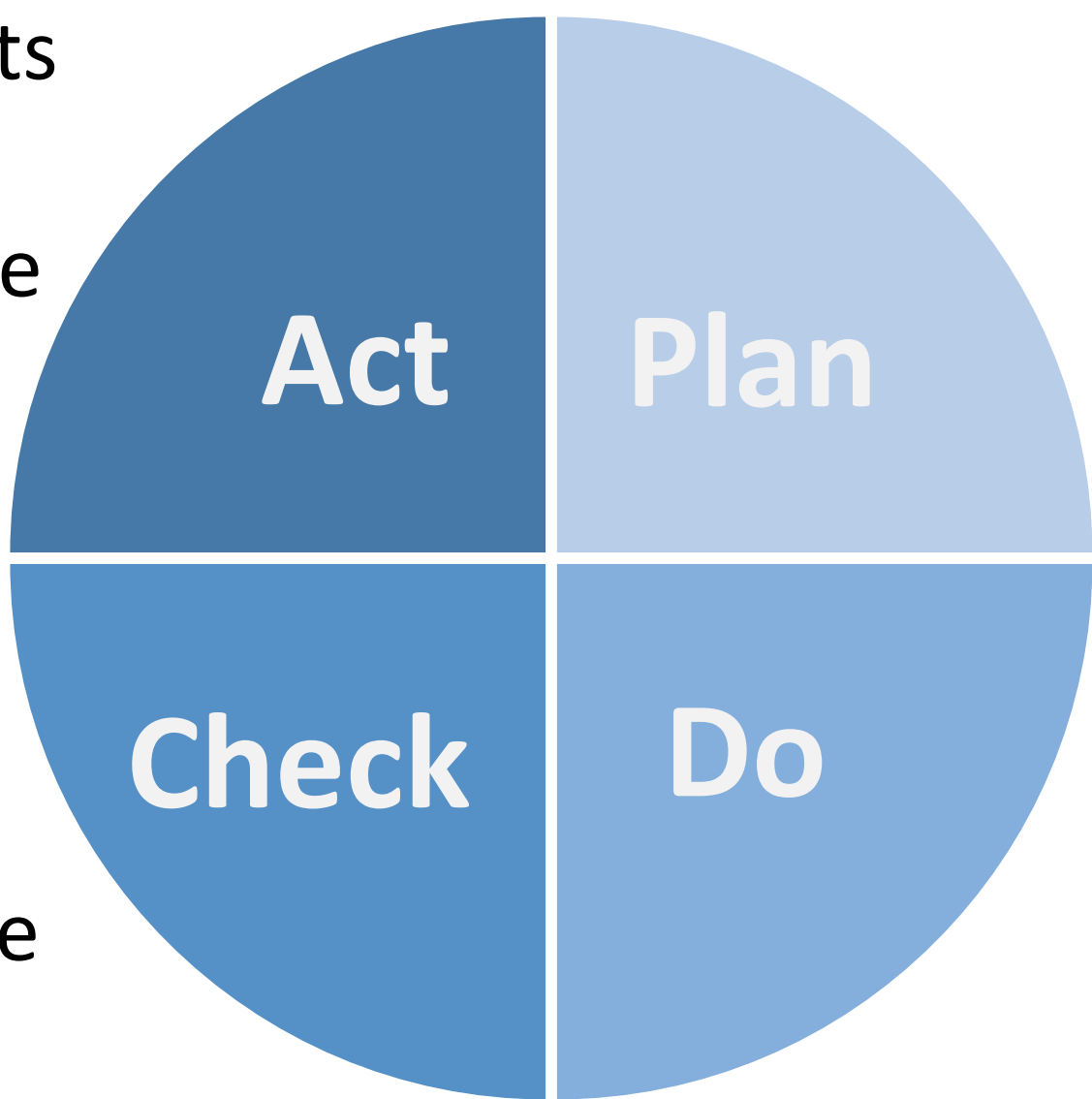
Step 6 Conduct monthly review sessions with team adjust to assist with concerns

Step 7 Review data, identify residents who may benefit from program

### Number of Falls in Resident Rooms



Adjustments  
and  
Standardize  
Process



Measure  
and Analyze  
Outcome

Identify  
Problem  
Analyze  
Current  
Process

Create and  
Implement  
Solution