

## Problem

- Postoperative delirium is a severe complication following surgery that occurs in patients over 60 years of age, with an incidence of 11.05% at a midsized hospital in Maryland
- Postoperative delirium is associated with increased morbidity and mortality; given the aging population and the limited impact of post-onset treatment, there is a considerable need for primary prevention strategies
- Implementing perioperative anesthetic interventions can reduce the development of postoperative delirium in the geriatric surgical population

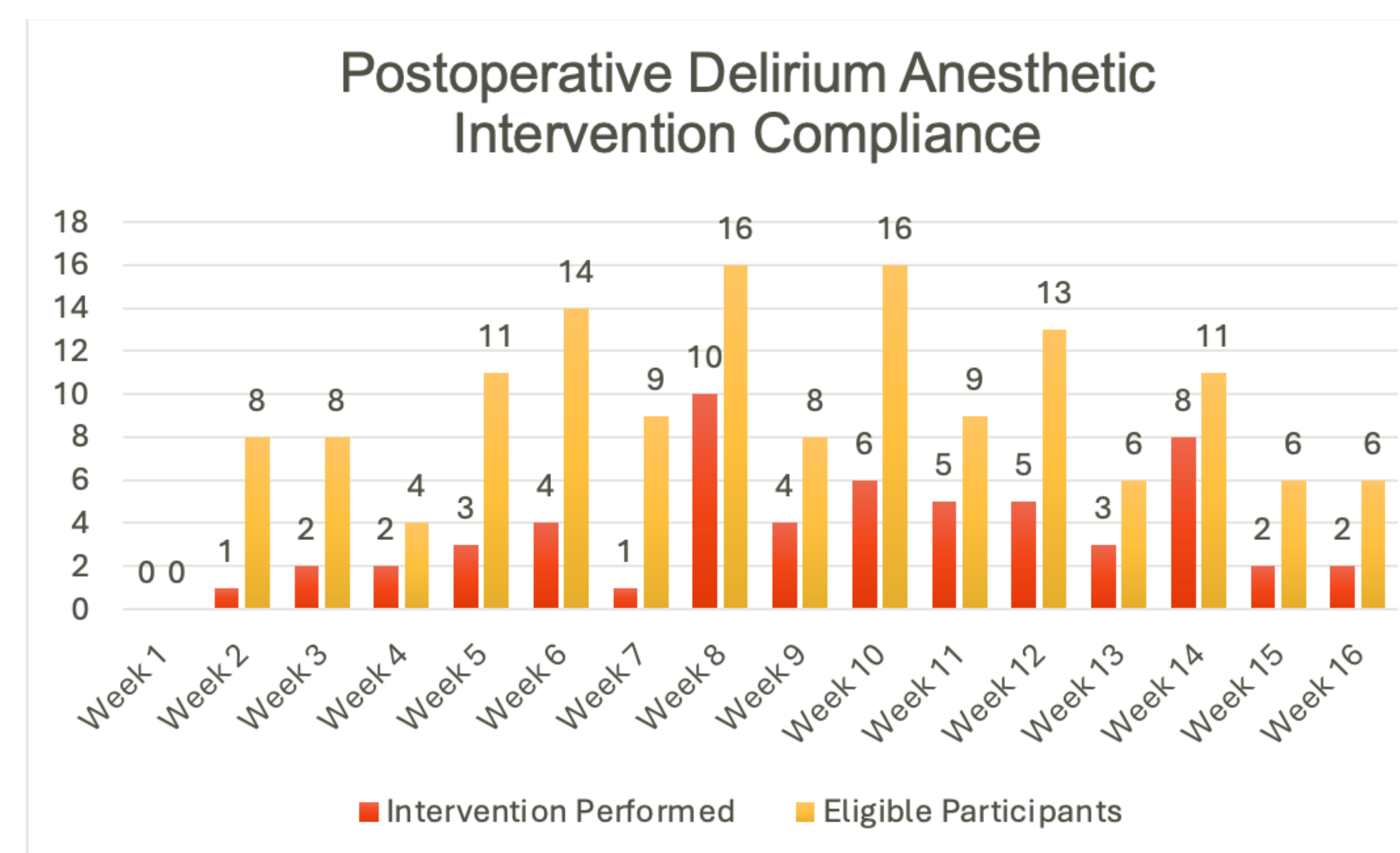
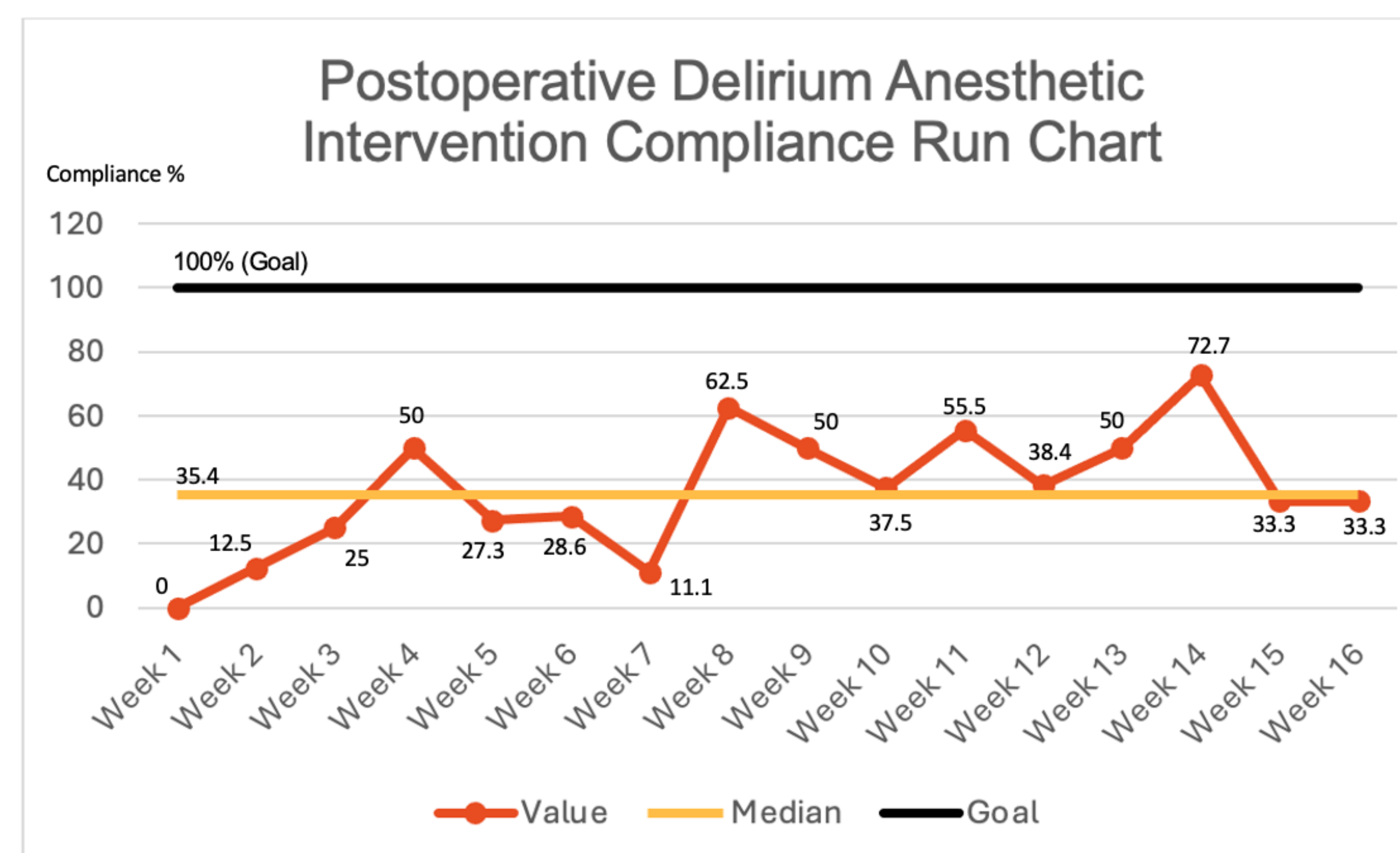
## Purpose and Goals

- This quality improvement project aims to implement bispectral index monitoring or dexmedetomidine use in geriatric surgical patients at risk for developing postoperative delirium
- **Goals:**
  - BIS monitoring will be implemented in 100% of all adult surgical patients over 60 years of age undergoing general anesthesia
  - Dexmedetomidine use will be used as an adjunct to general anesthesia in 100% of appropriate adult surgical patients over 60 years of age

## Methods

- **Setting:** 198-bed community hospital with four general operating rooms in use and 23 providers administering anesthesia
- **Population:** Geriatric patients over 60 years of age undergoing elective general anesthesia
- **Interventions:** All operating rooms were provided with BIS monitoring and two vials of dexmedetomidine; Visual project reminders were provided in the form of cue cards placed on ventilators to screen for inclusion criteria and include at least one intervention for POD
- **Implementation strategies:** Staff education and training, identification of champions, resource allocation, technology integration
- **Measures:** EMR chart reviews, surveys

## Figures



## Results

- Postoperative delirium anesthetic intervention compliance was recorded on 145 eligible patients
- The mean age of patients included in the study was 69.53
- BIS monitoring was used in 56 out of 145 cases, or 35.4% of the time
- Dexmedetomidine was used in 1 of the 145 cases, or 0.69 % of the time
- At least one intervention for postoperative delirium was used 35.4% of the time
- **Week 1:** Pre-implementation
- **Week 7:** failure in technology
- **Week 8:** BIS monitors repaired and reintroduced, reeducation provided

## Discussion

- Findings suggest a partial adoption of recommended perioperative interventions
- Run charts detected notable variations in the application of interventions from week to week; While shifts show special cause patterns indicating a change in practice, there is still a gap between the recommended interventions and the goal of 100% application
- Further exploration into the factors influencing inconsistent adoption within the perioperative environment is warranted to reach a goal of 100%
- **Limitations:** inability to provide education to every provider, staff turnover, resistance to practice change

## Conclusions

- Overall, the quality improvement project was a safe, productive, and cost-effective solution to improve quality of care by addressing the root causes of postoperative delirium
- This quality improvement project is cost effective because of the immense healthcare costs incurred with an incidence of postoperative delirium; The cost of implementing this intervention would be less than the cost of treating one patient with POD
- Sustainability will require additional resources; screenings in the electronic medical record would increase intervention compliance; training could be converted to recorded sessions to increase accessibility
- This project could feasibly be expanded to hospitals in Maryland with a similar patient population; modifications will need to be made to fit the individual needs of the site

## References

- Please scan the QR code for a full list of references:



## Acknowledgments

- Lindsay Bearman, CRNA- Project Clinical Site Representative