

Background

- Syncope is a common condition defined as loss of consciousness due to transient global cerebral hypoperfusion with spontaneous complete recovery.
- Syncope etiology is broad and initial evaluation complex. Hence a systematic approach is important for an accurate diagnosis and risk stratification.
- In-patient management of syncope represents a large economic burden for health care, with raising costs in the past decade. Overuse of auxiliary tests, laboratory analysis and imaging continues to be a problem.
- Guideline directed recommendations have been published. However, its application is deficient, leading to poor resource utilization.

Methods

- This was a 13-month, pre and post intervention study that examined the rates of Orthostatic vital signs (OVS), carotid doppler ultrasound (CD) and risk stratification in patients admitted with syncope in a single center.
- The rates calculated were interpreted as a marker of adherence to current guidelines.
- Baseline rates were obtained after retrospective evaluation of medical records from June 2020 to July 2021, a total of 166 cases were identified and 99 met selection criteria.
- In the post intervention period, a total of 48 cases were included in the study.
- A series of PDSA cycles were implemented in month 1, 5 and 9. Interventions included education to physicians, followed by education to other key stakeholders (physicians and nursing staff), using visual aids as a reminder of guideline recommendations. And lastly the implementation of a syncope EMR template that included clinical variables, a risk stratification tool (Canadian syncope risk score), along with an order set. To enhance adherence to current guideline directed recommendations.

Results

Figure 1: Run Chart Period September 2021-2022

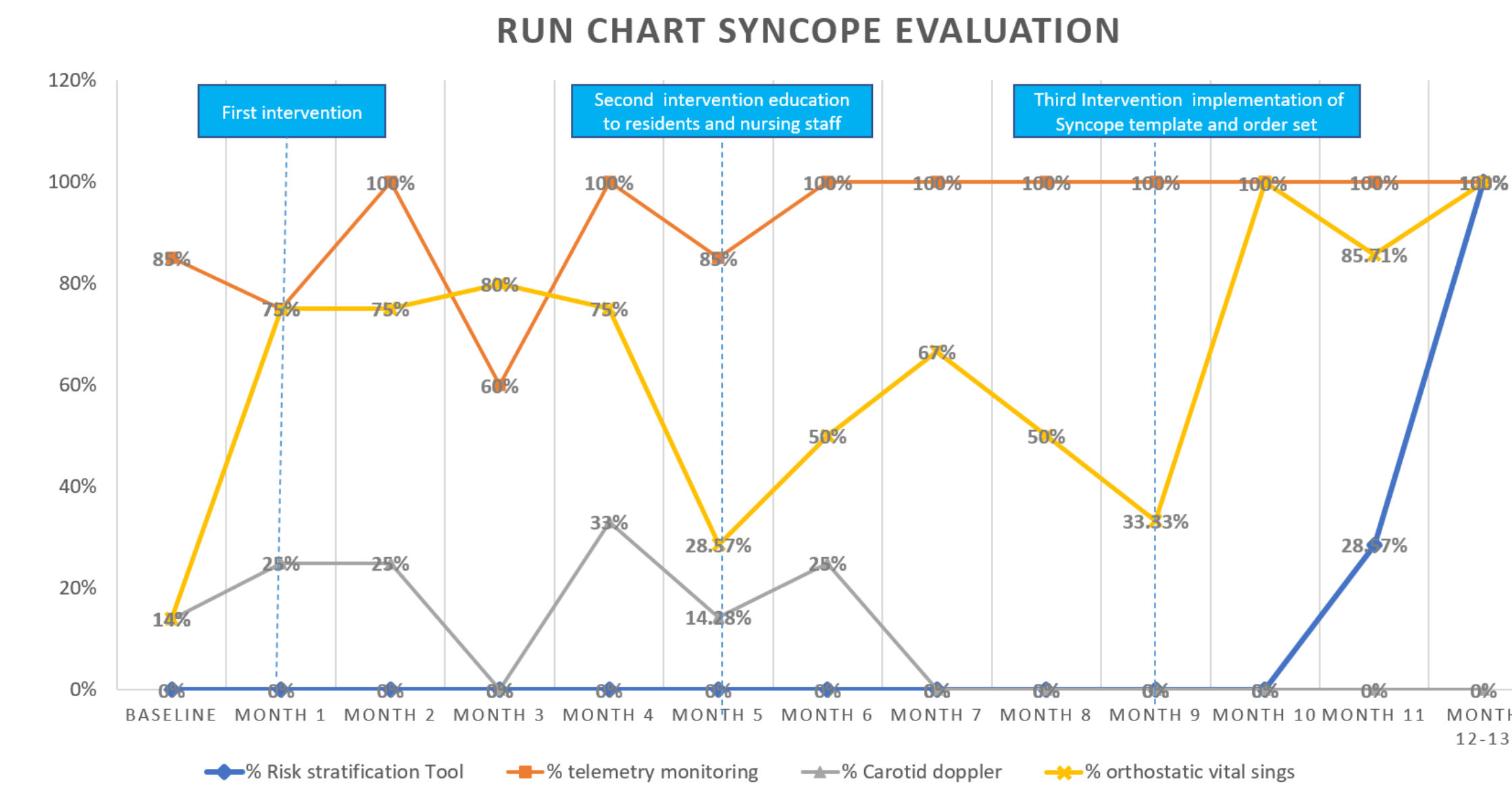


Figure 2. Rate of Orthostatic vital signs

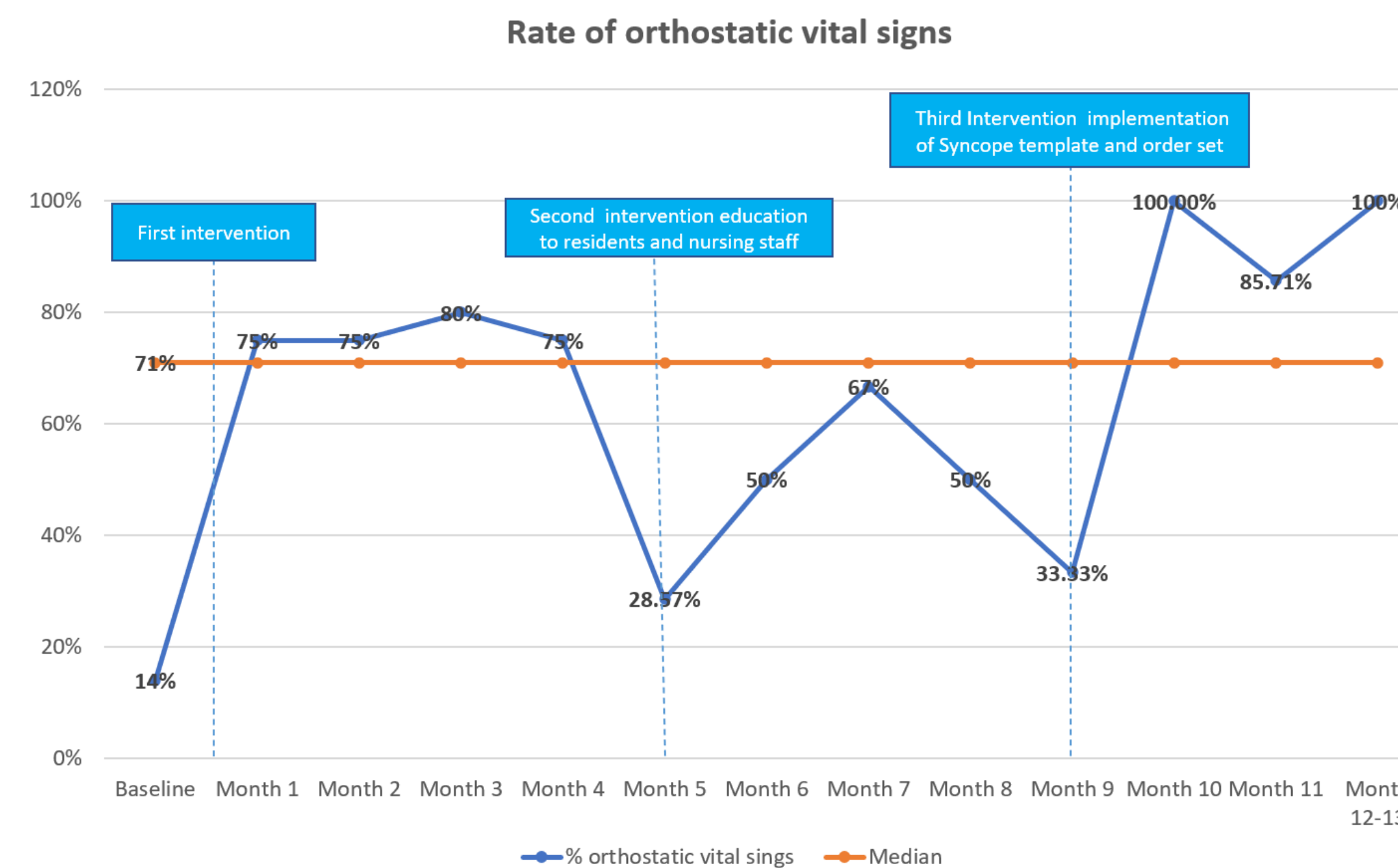
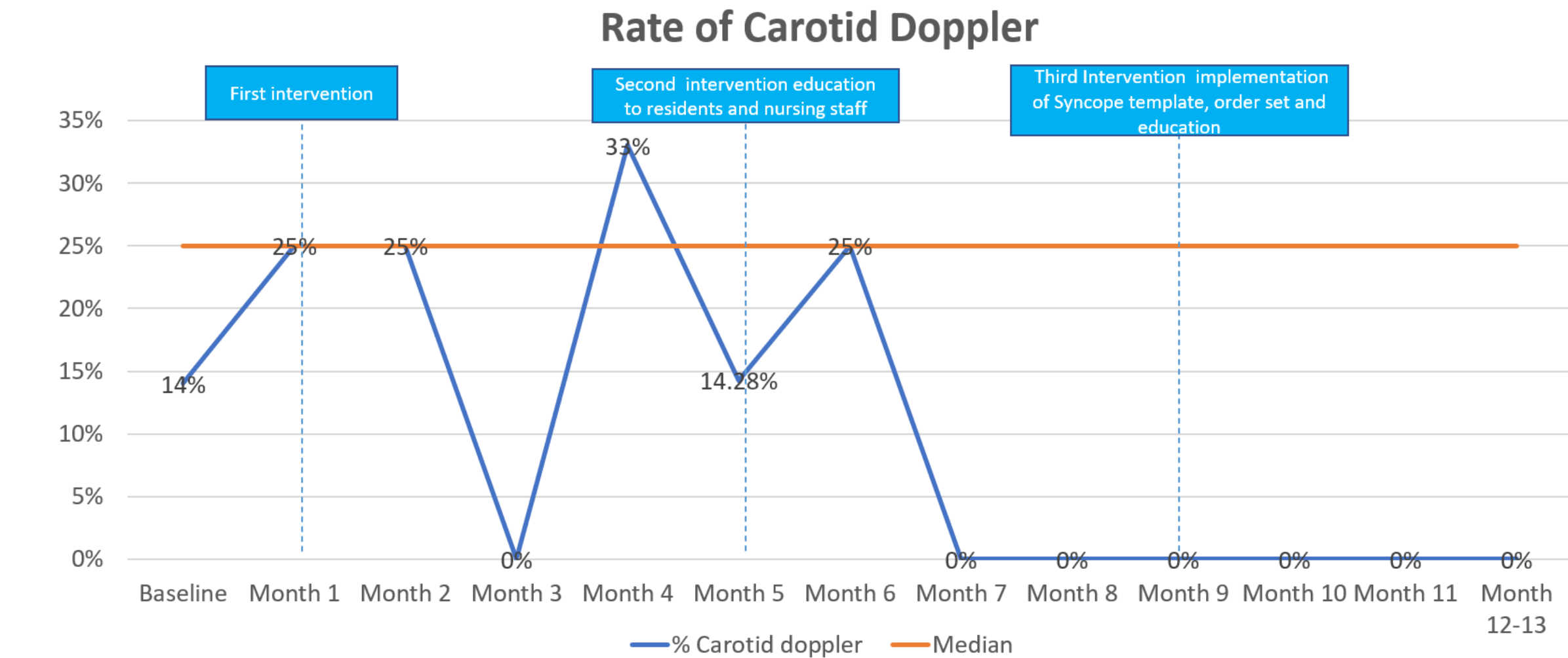


Figure 3. Rate of Carotid Doppler and PDSA cycles



- Baseline characteristics include OVS (12.12%), CD (13.9%), and risk stratification assessment (0%).
- Compared to baseline higher rates of OVS and lower rates of CD were achieved at month 1 and month 7, respectively.
- After the first intervention, OVS rates peaked to 80% and fall to 28% by month five. The second intervention led to a similar trend peaking to 67% and decreasing to 33%. The third intervention had 3 measurements above the median.
- CD rates remain elevated during the first 6 months (14-33%).
- The second and last intervention lowered CD ordering rates. The change was effective and sustained for more than 5 months, with more than 6 measurements below the median.
- Risk assessment rates increased in the last 4 months of the study

Conclusions

- Education alone increased the rate of orthostatic vital signs but was not sufficient to achieve a significant impact on improvement. Its effect decreased overtime.
- Education along with an EMR template with a risk stratification tool, and clinical variables showed improvement in limiting unnecessary testing particularly Carotid doppler in patients admitted with syncope.
- Our last intervention could potentially reduce costs in syncope admissions. Larger studies may further elucidate this question