Project Title

Bedside Swallow Screening Test (BSST) Protocol for Acute Stroke Patients

Project Lead and Members

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Project members: Gladys Tan Li Yue, Celeste Chew, Jenny Gan, Sylvia Yeo, Maznah Binte Marmin, Teo Hui Sin, Jodi Neo, Leow Li Pyn

Organisation(s) Involved

Ng Teng Fong General Hospital

Project Period

Start date: May 2018

Completed date: July 2018

Aims

To increase BSST protocol adherence rate by nurses from 16.7% to 100.0% by October 2018. This is to identify acute stroke patients with likely stroke-related dysphagia so that interim safety measures are implemented while awaiting swallow assessment by STs, and to reduce the waiting time prior to oral feeding for patients with no dysphagia.

Background

See poster attached/ below

Methods

See poster attached/ below

Results

See poster attached/ below

Lessons Learnt

Further data analysis helped us revealed the success of the intervention for one area and gather insights on possible solutions for other areas of the problem. Engagement of representatives from every stakeholder involved is important in identifying the relevant processes and barriers from different perspectives. This teamwork also helps ease the implementation of changes. Maintaining nurses' skill sets cannot be achieved with a once-off training, and needs to be sustained with refresher courses.

Conclusion

See poster attached/ below

Project Category

Care & Process Redesign

Keywords

Care & Process Redesign, Safe Care, Quality Improvement, Root Cause Analysis, Pareto Chart, Waiting Time, Compliance Rate, Allied Health, Speech Therapy, Nursing, Ng Teng Fong General Hospital, Bedside Swallow Screening Test, Acute Stroke Patients

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BEDSIDE SWALLOW SCREENING TEST (BSST) PROTOCOL FOR ACUTE STROKE PATIENTS

MEMBERS: GLADYS TAN LI YUE[1], CELESTE CHEW[1], SAMANTHA YEO[1], JENNY GAN[1], SYLVIA YEO[1], MAZNAH BINTE MARMIN[2], TEO HUI SIN[3], JODI NEO[3], LEOW LI PYN[1]

1. SPEECH THERAPY DEPARTMENT, REHABILITATION
2. NURSING CLINICAL SERVICES
3. NURSING WARD B12

- ☑ SAFETY
- ☐ PRODUCTIVITY
- ☑ PATIENT EXPERIENCE
- ☐ QUALITY
- ☐ VALUE

Define Problem/ Set Aim

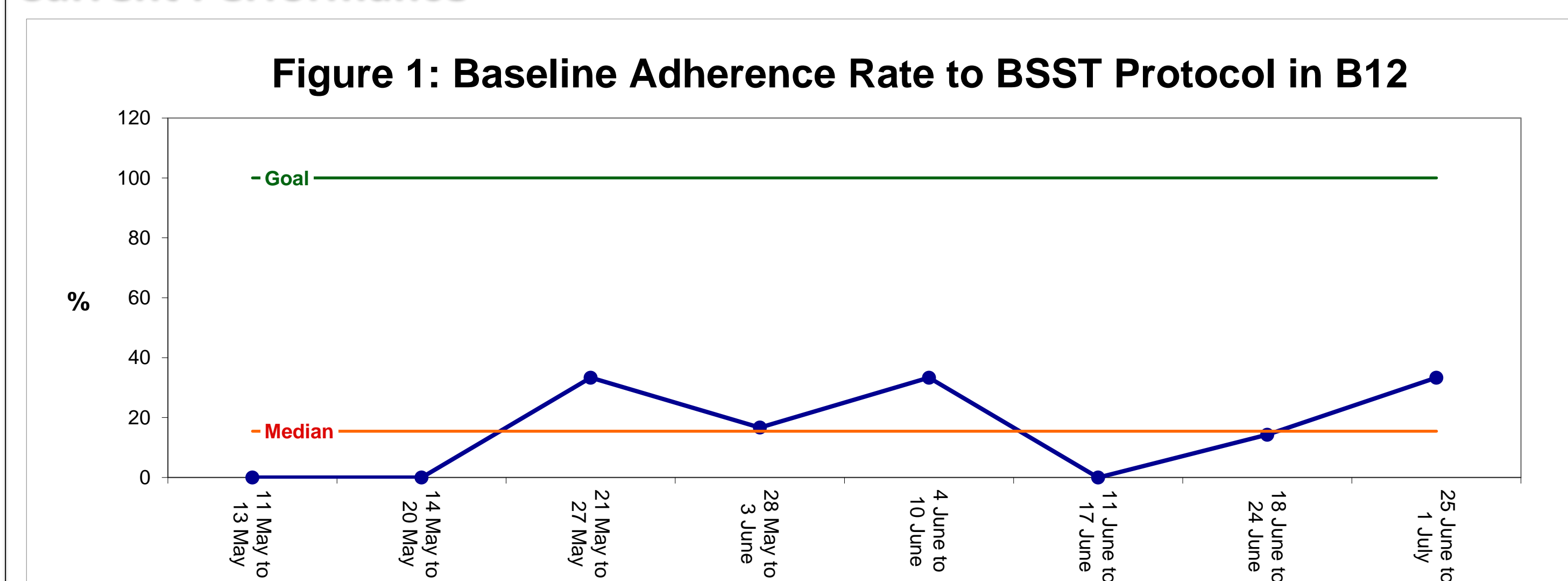**Opportunity for Improvement**

Approximately 6 months post-BSST competency training (11 May to 1 July 2018), the adherence to the BSST protocol by nurses for acute stroke patients in the neurology ward (B12S) was at 16.7% (Figure 1), which was below target of 100.0%. This potentially placed dysphagic patients at risk of complications (e.g. chest infection) and caused patients with no dysphagia to be unnecessarily placed on Nil-By-Mouth status while awaiting swallow assessment by speech therapist (STs).

Aim

The Speech Therapy Department and B12S aimed to increase BSST protocol adherence rate by nurses from 16.7% to 100.0% by October 2018. This is to identify acute stroke patients with likely stroke-related dysphagia so that interim safety measures are implemented while awaiting swallow assessment by STs, and to reduce the waiting time prior to oral feeding for patients with no dysphagia.
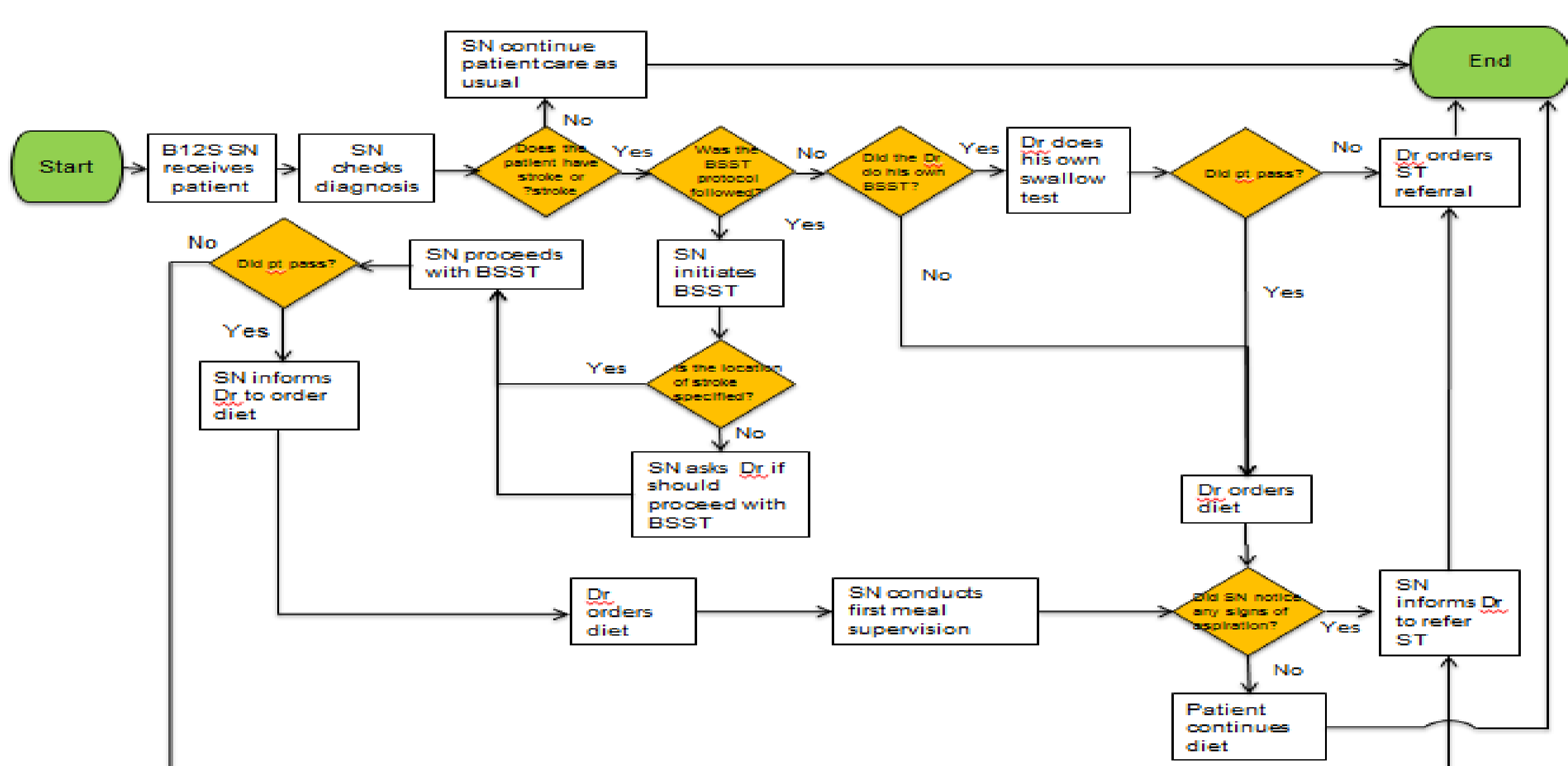
Establish Measures

Current Performance

Figure 1: Baseline Adherence Rate to BSST Protocol in B12
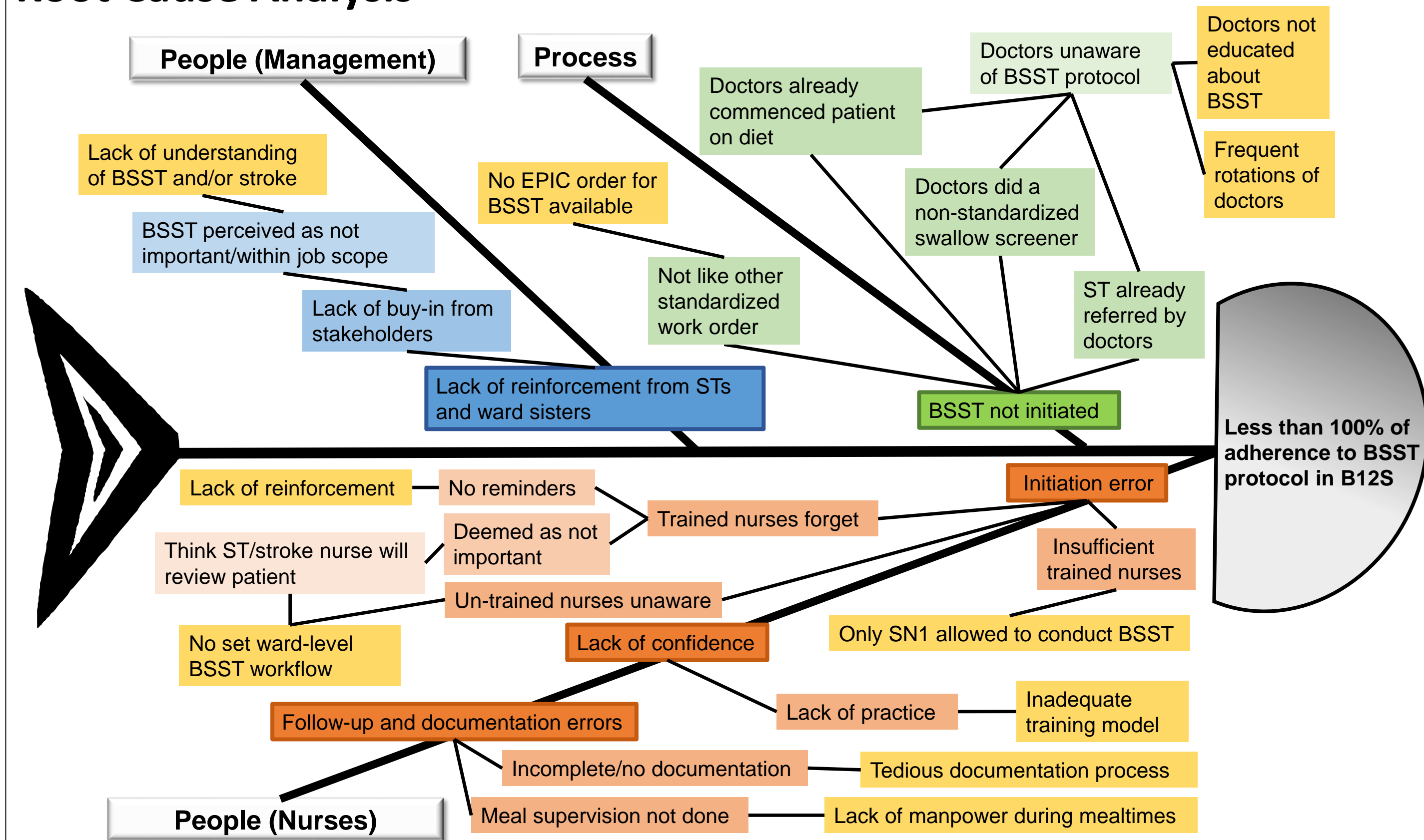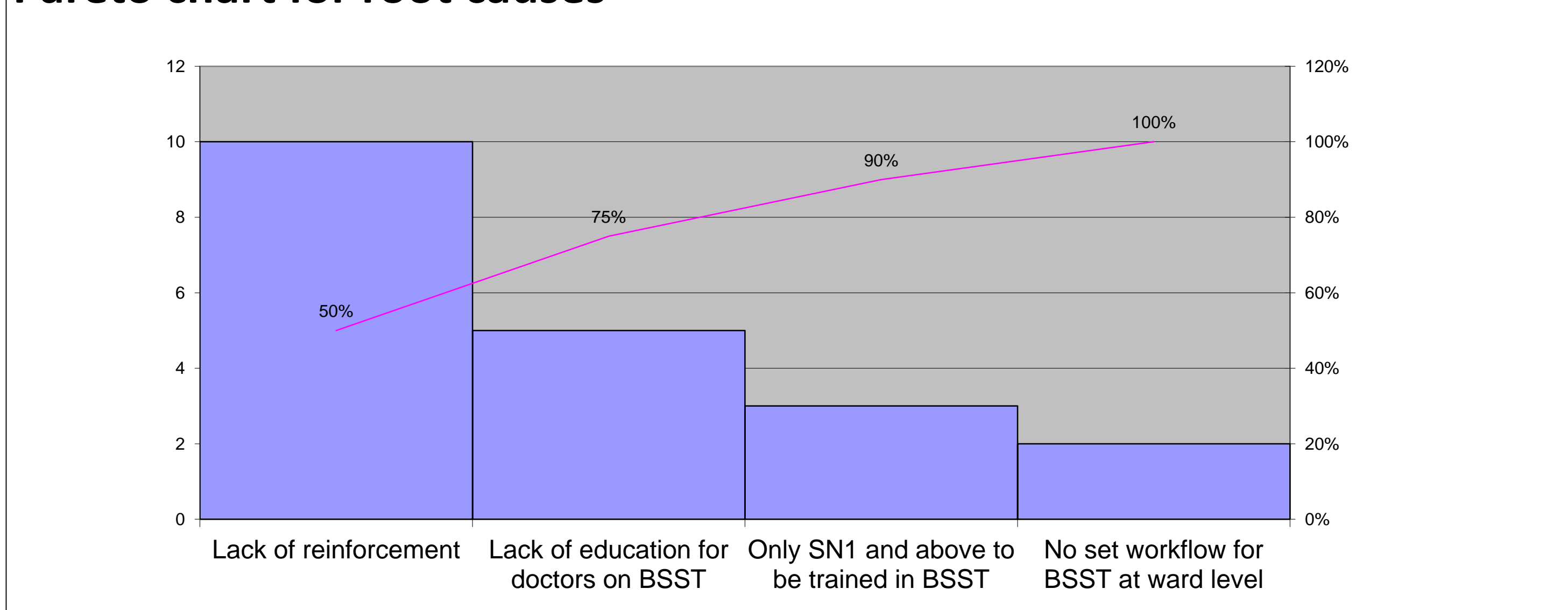
Analyse Problem
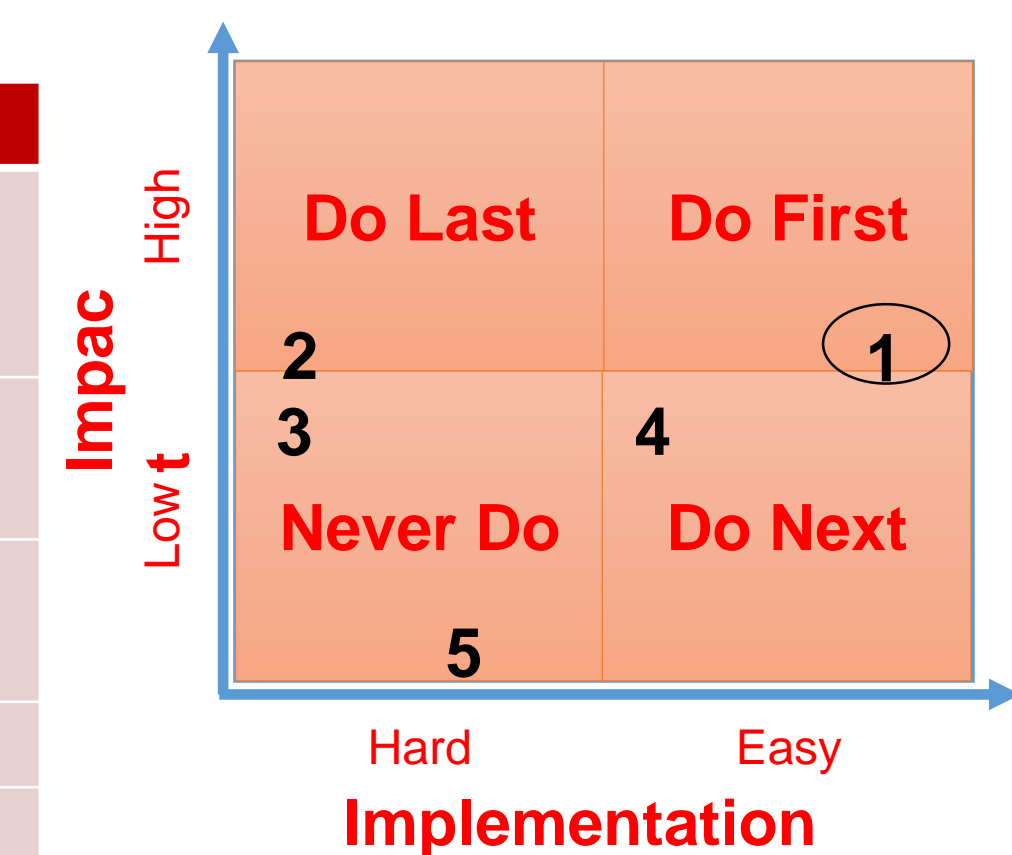
Current Process Mapping

Root Cause Analysis

Pareto chart for root causes

Select Changes

Possible Solutions and Solution Selection

Root Cause		Potential Solutions
Lack of reinforcement	1	Implement daily roll call reinforcement of the workflow for BSST administration to the nurses
	2	Create EPIC set order for doctors to order BSST as point of trigger
	3	Create EPIC standard automatic pop-up reminders for BSST administration
	4	Refresher training
	5	Create a policy paper for BSST protocol

Test & Implement Changes

Solution Implementation

Plan

Reinforcements for B12S nurses via daily roll call announcements (for a week): A) reminder to initiate BSST; B) address common errors made; C) revise steps for completing flowsheet.

Do

Announcements were completed over a week (9 July 2018 to 13 July 2018) by Specialty Care Nurse (Neurology) and ST.

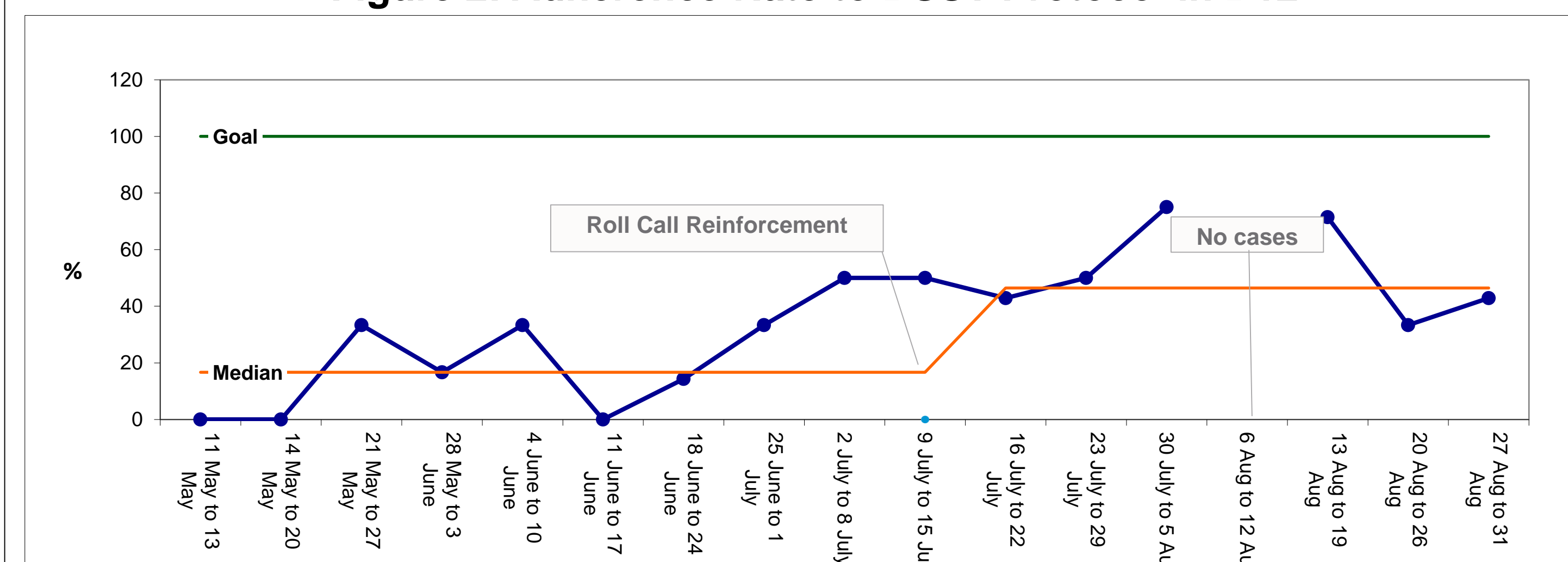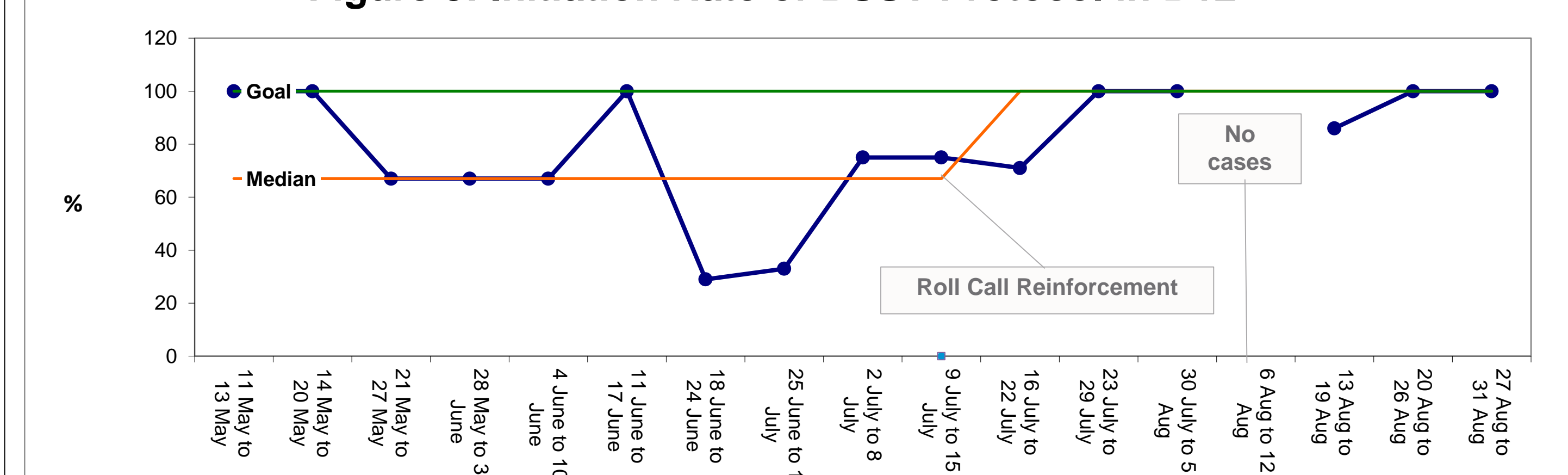Analysis

Figure 2: Adherence Rate to BSST Protocol in B12

Figure 3: Initiation Rate of BSST Protocol in B12

Study

- BSST adherence rate increased to 71.4% by August 2018 with implementation of solution. However, results were not maintained as adherence fell back to pre-intervention levels in the following week (Figure 2).
- BSST initiation rate increased and maintained at 100.0% post-intervention (Figure 3). The reinforcing of BSST protocol during roll calls was effective in reminding B12S nurses to initiate BSST for all acute stroke patients.
- However, it did not improve the overall adherence to the BSST procedure. Errors in implementation and documentation by nurses and the medical team contributed to the drop in adherence rate.
- Possible reasons for this outcome are: information given during roll call was too much for the nurses to remember; and/or auditory & visual delivery method during roll call was insufficient to address errors types; and/or other stakeholders (e.g. doctors) were not involved.

Summary: Roll call reinforcements were effective in improving and maintaining initiation of BSST but fell short with regards to improving adherence to the protocol.

Act

1) Continue with reinforcement of BSST during B12S roll calls to maintain initiation rate. Suggest to identify and engage BSST "super users" to reinforce BSST adherence at the roll calls.
2) Initiate BSST refresher training to reduce errors with adherence for previously trained B12S nurses.
3) Modify current BSST curriculum focus for newly promoted nurses to reduce commonly made errors.
4) Engage Neurology team to raise awareness of BSST protocol in the wards.

Learning Points

1) Further analysis of data helped us reveal the success of the intervention for one area of the problem and gather insight on possible solutions for the other area of the problem which was not addressed by our intervention.
2) Engagement of representatives from every stakeholder involved is important to help identify the relevant processes and barriers from different perspectives. This teamwork also helps with ease of implementation of changes.
3) Maintenance of skill sets for the nurses cannot be achieved with just a once-off training. It has to be sustained with refresher courses.

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Members of the NUHS