



Showcase for Hopkins Inquiry and Nursing Excellence

SHINE

Conference

Implementation of Standard Oral Hygiene for Patients at Risk of Aspiration

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Patient Story



FAST Response to Stroke Symptoms and tPA Saves a Life | Althea's Story: <https://www.youtube.com/watch?v=JwuaQbgC4ao>

Respiratory Status

Day 1-4

Day 5

Day 6

Day 7

- Room Air
- RR WNL
- SpO₂ WNL

Respiratory Status

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- RR WNL
- SpO₂ ↓ to 88%
- 1L NC applied

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Respiratory Status

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- SpO₂ ↓ to 88%
 - 1L NC applied

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- SpO₂ ↓ to 88% on 1L
 - O₂ ↑ to 2L
- O₂ weaned down to 1L
- RR 20-30s by night shift

Day 7

Respiratory Status

Day 1-4

- Room Air
- RR WNL
- SpO₂ WNL

Day 5

- RR WNL
- SpO₂ ↓ to 88%
 - 1L NC applied

Day 6

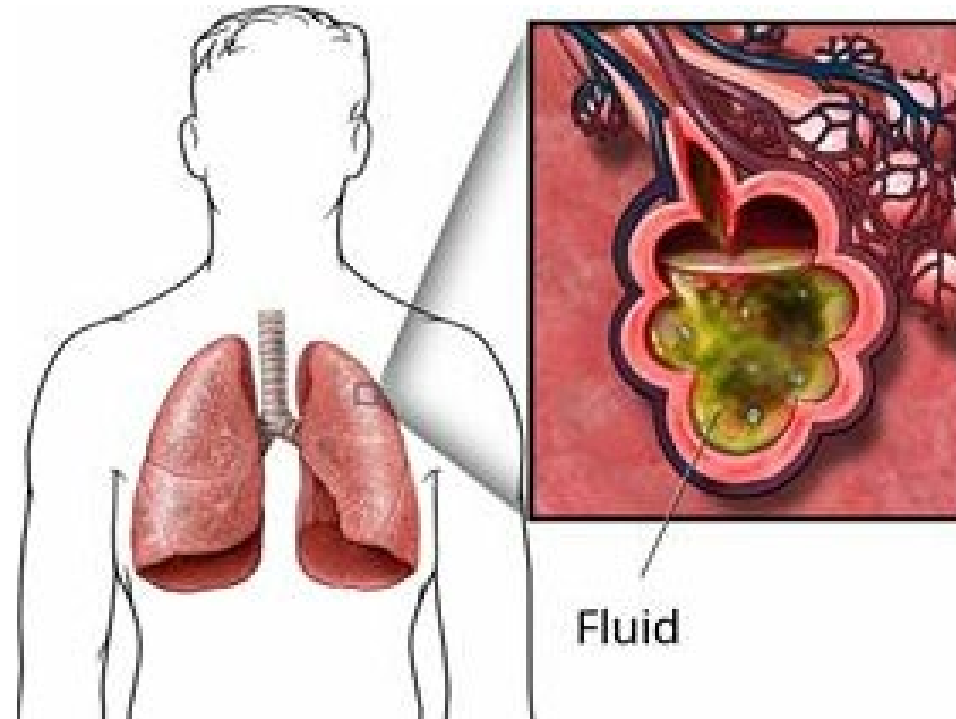
- SpO₂ ↓ to 88% on 1L
 - O₂ ↑ to 2L
- O₂ weaned down to 1L
- RR 20-30s by night shift

Day 7

- RR 30s on 1L NC
- BP 75/60 (MAP 65)
 - 1L NS bolus
 - BP responded
- Temp 38.7
- BP drops again to 85/66 (MAP 71)
 - ERT → ICU

What Caused this Patient to Deteriorate?

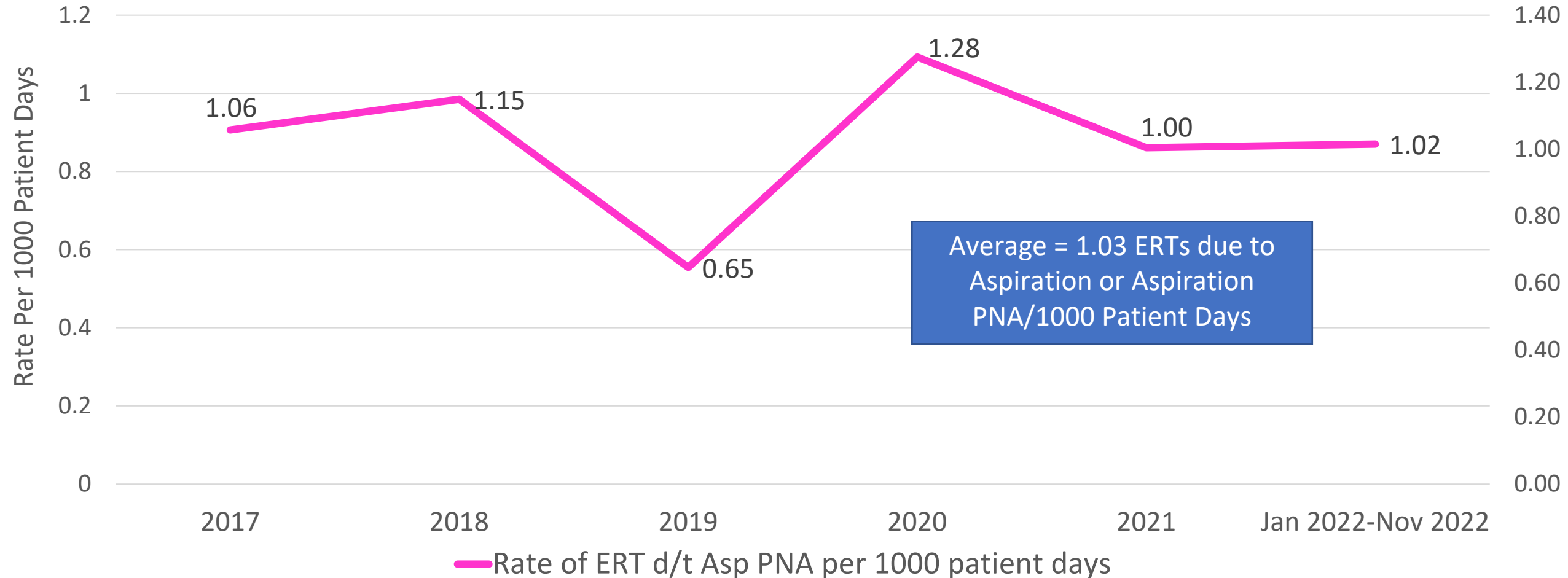
- Septic shock due to aspiration pneumonia



Inspiration for Project

Emergency Response Team (ERT) Activations due to Aspiration

Rate of ERTs due to Aspiration or Aspiration Pneumonia (PNA) per 1000 Patient Days



Practice Problem & EBP Question

- What can we do to have an impact on respiratory deterioration among adult hospitalized patients in the neuroscience population?
- What are the best practices to prevent respiratory deterioration for hospitalized adult neurosciences patients?

List possible search terms for each part of the PICO question:	
PICO Element	Possible Search Terms
P	neuroscience, stroke, neurosurgery, neurology, adult inpatient, hospitalized, acute care, intermediate care, progressive care
I	oral care, pulmonary toileting, oral hygiene, pneumonia, aspiration, enteral, triage, decompensating, deterioration, hypoxia, oxygen, early detection/identification, tool, score, transfer criteria, prescriber/provider communication, readiness for downgrade
C	N/A
O	acute respiratory compromise, intubation, bipap/cpap initiation, high flow oxygen initiation, rapid response, emergency response team

What did the literature say?

- Enhanced oral care protocols had positive impacts on non-ventilator hospital associated pneumonia rates and deaths

Clayton, 2012; Chick & Wynne, 2020; Robertson & Carter, 2013; Sorensen et al, 2013



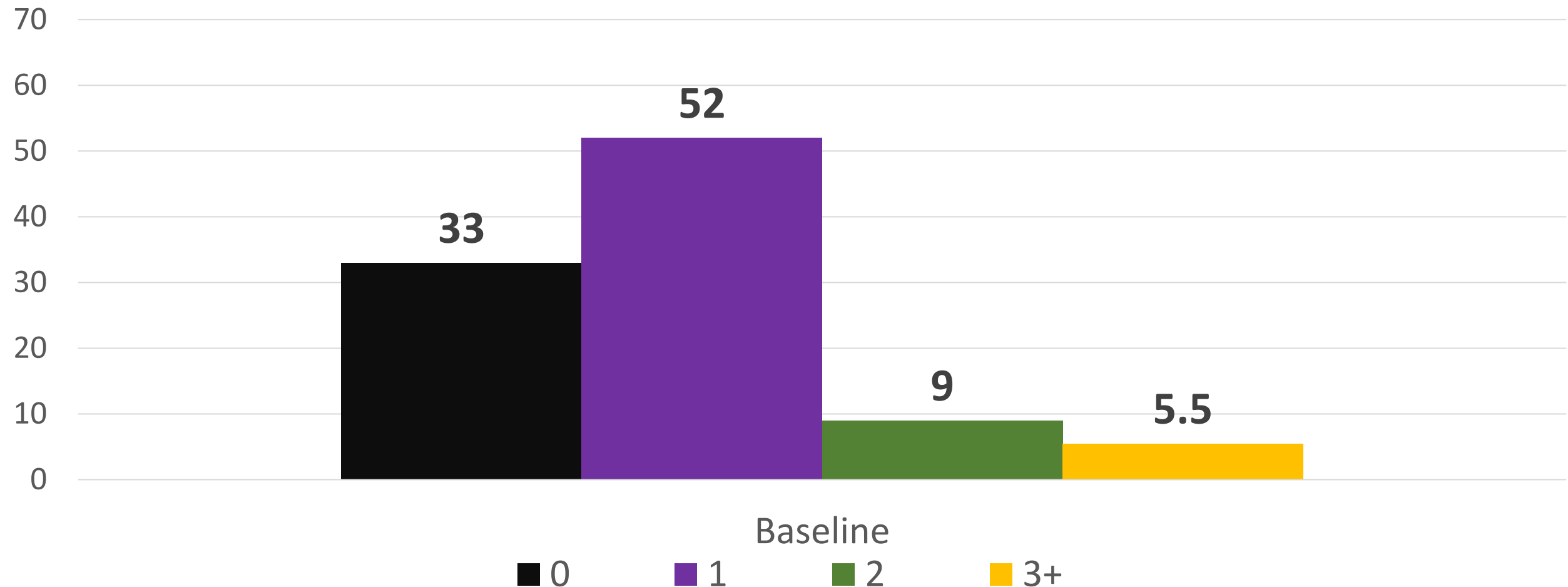
Oral Care Documentation in Patient Story

- Day 1—No Oral Care
- Day 2—No Oral Care
- Day 3—Mouth swabbed c hydrogen peroxide & mouth moisturizer x2
- Day 4—Mouth suctioned
- Day 5—None
- Day 6—None
- Day 7—None

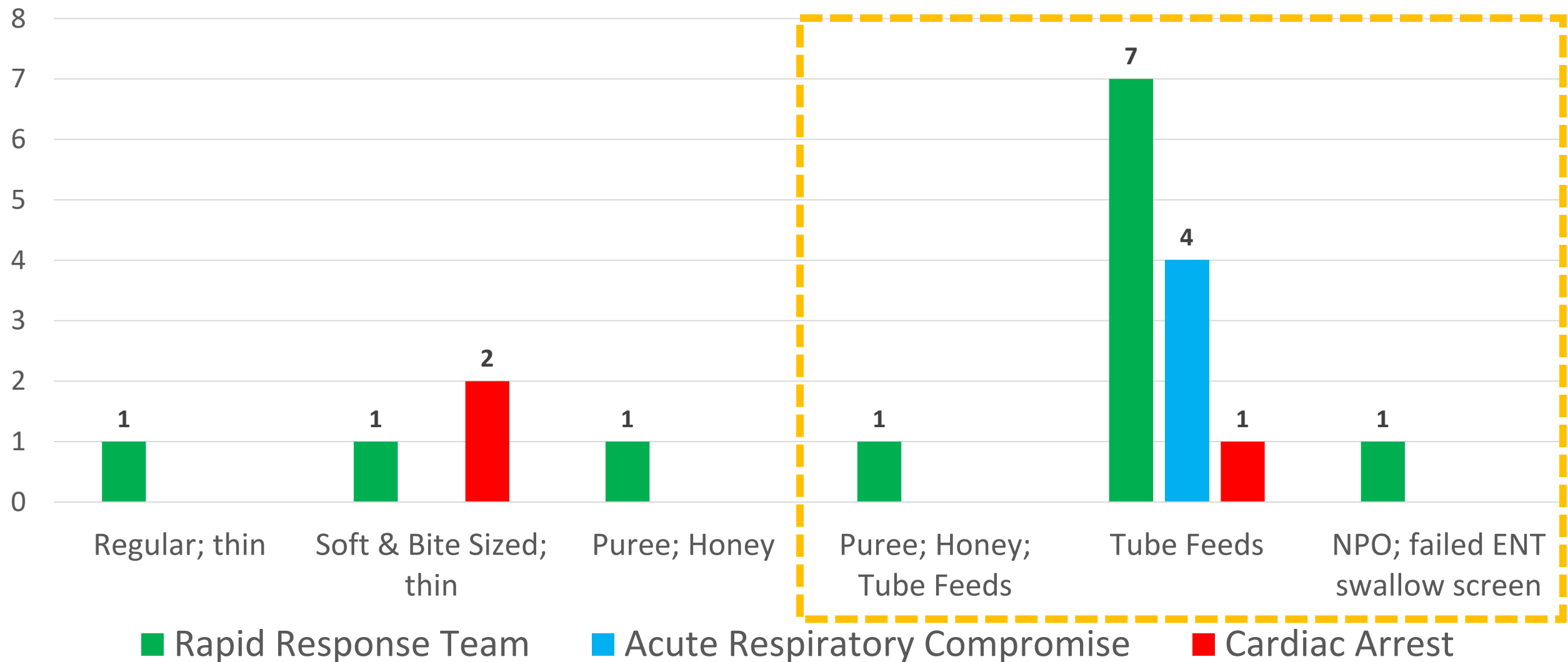
Baseline Oral Care

88 patients at risk of aspiration

Frequency of Daily Oral Care



Type of Diet for Patients that have an ERT due to Aspiration or Aspiration PNA



QI Project Goals

- Improve the quality of oral care
- Increase the frequency of TID oral care for patients at risk of aspiration that are NPO or receiving enteral tube feeds from 5.5% to 55%
- To decrease the rate of ERTs due to aspiration or aspiration pneumonia by 20%



Intervention

Quality of Oral Care



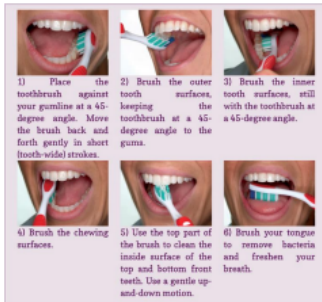
Medline Assisted Oral Care Kit (SAP#243087)

Each kit has an oral Yankauer and packages for Breakfast, Lunch, and Before Bedtime

- Soft toothbrush with suction capabilities
- Cetylpyridinium Chloride (cleanser and mouth moisturizer)

Directions:

- 1) Brush and suction
 - a. Pour cetylpyridinium chloride oral rinse into reservoir
 - b. Connect toothbrush to suction handle (ensure suction is on)
 - c. Clean teeth and gums for 1-2 minutes
 - d. Clean palate and tongue



- 2) Inspect the oral cavity and remove any additional particles using the oral yankauer.
- 3) Turn the suction off. Dip the suction toothette toothbrush into the cetylpyridinium mouth moisturizer and apply to the mouth, gums and lips.

Tips:

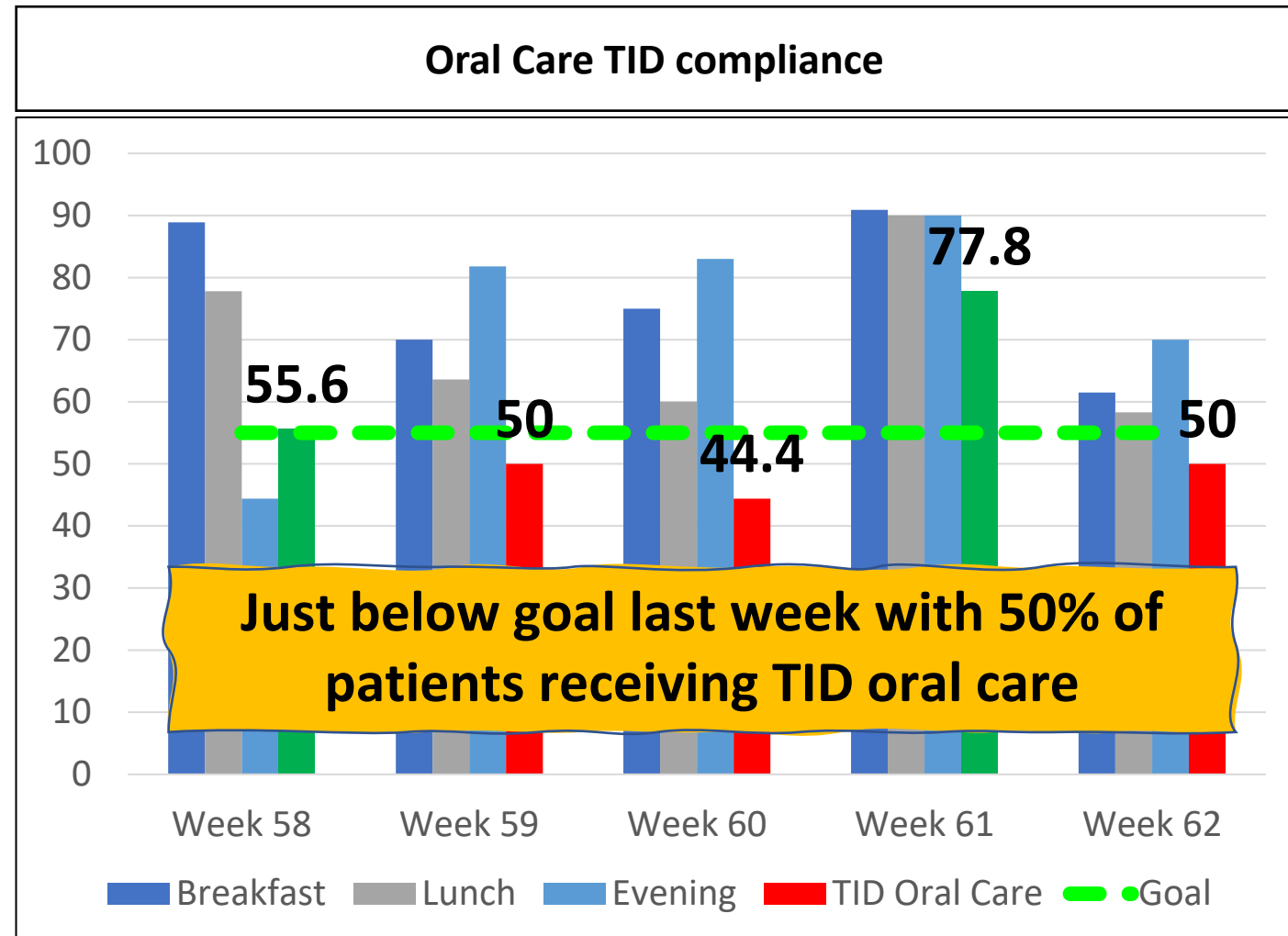
- 1) As appropriate, use PPE (facemask/shield) when completing oral care
- 2) Document oral care in EPIC
- 3) Disposable oral swabs for NPO patients are one time use only. Do not leave swabs soaking in water for later use.
- 4) Mouth rinse twice/day if able; swish for 20-30 seconds and spit
- 5) Floss (after each meal and before bedtime)
- 6) For build-up on the roof of patient's mouth use flashlight, Kelly clamp, and suction to gently try to release the build-up and prevent it from going down the patient's airway



Intervention

Frequency of Oral Care

- Standardize Documentation
- Task reminders in electronic medical record
 - 9A
 - 3P
 - 9P
- Huddle boards
- Emails & Applauses sent for staff appreciation



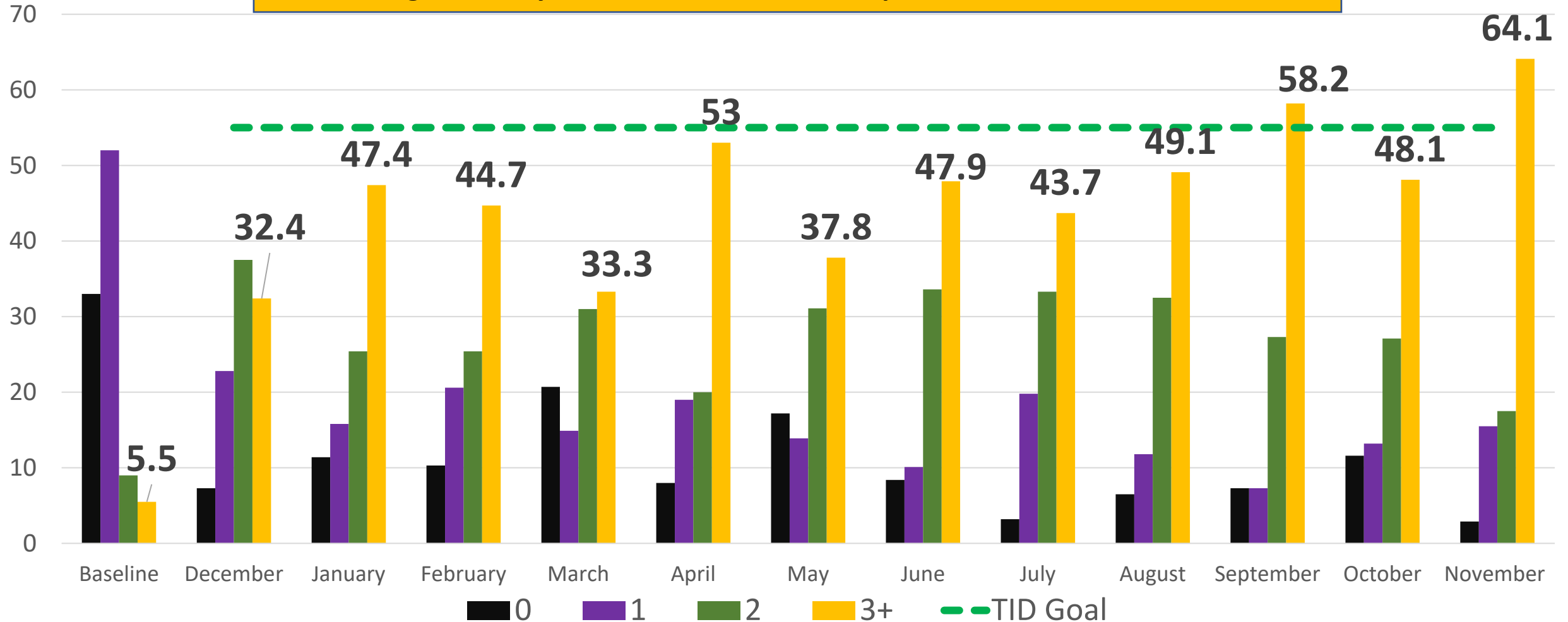
Auditing Plan

- Created a code book and excel document on a password protected site
- Collected list of patient meeting inclusion criteria daily
- Each member of the Neuro Inquiry Committee audited oral care documentation for all patients on one day (3-4 days of audits/week)

Results

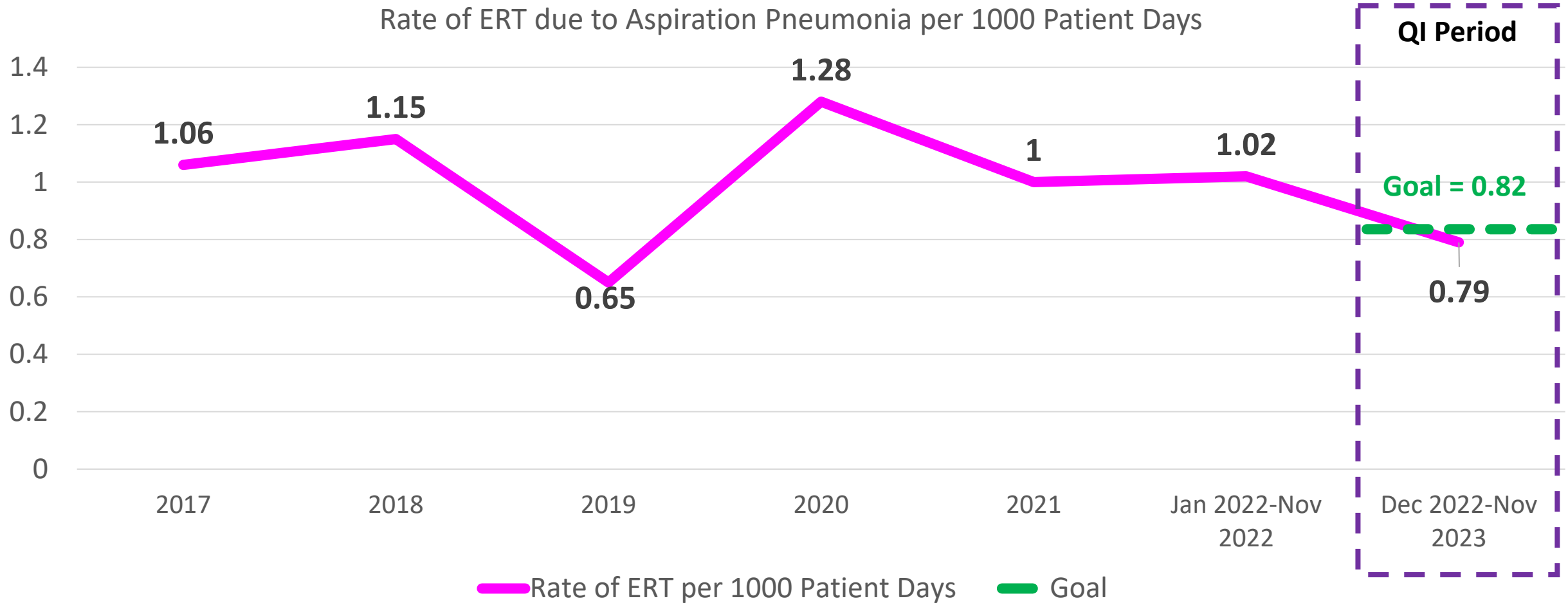
Frequency of Oral Care Provided Each Month

Average Monthly Rate of TID Oral Care Compliance Last 3 Months = 56.8%






Results

Emergency Response Team (ERT) Activations due to Aspiration



Summary of Goal Outcomes

- Improve quality of oral care 
 - Completion of hands-on staff training on technique to provide oral care
 - Staff must brush patient's teeth and gums & select "teeth brushed"
- Increase frequency of TID oral care to 55% 
 - Average for TID oral care TID the last 3 months of the QI period = 56.8%
 - Oral care BID or more often increased from 15% to an average of 82% over the last 3 months of the QI period
- Decrease ERTs due to aspiration or aspiration pneumonia by 20% 
 - Decreased rate by 23%

Future Steps

- Expansion of TID oral care to include all patients on aspiration precautions
- Working with JHHS Aspiration Taskforce to simplify oral care documentation



Oral Care QI Project Team

- Carey DeWalt, MS, CCC-SLP
- Barbara Fitzsimmons, MS, RN, CNRN
- Nora Laaris, PhD, MSN, RN
- Nicole Minahan, BSN, RN, CNRN
- Heather Newton, MAS, RN
- Kyung Pyo Lee, BSN, RN
- Nozomi Tahara, BSN, RN, CNRN
- Amelia Tenberg, MSN, RN, AGNP-C, CNRN
- Elizabeth Zink, PhD, RN

- Borglin, G., Eriksson, M., Rosén, M., & Axelsson, M. (2020). Registered nurses' experiences of providing respiratory care in relation to hospital-acquired pneumonia at in-patient stroke units: a qualitative descriptive study. *BMC nursing*, 19, 1-11.
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Questions?

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