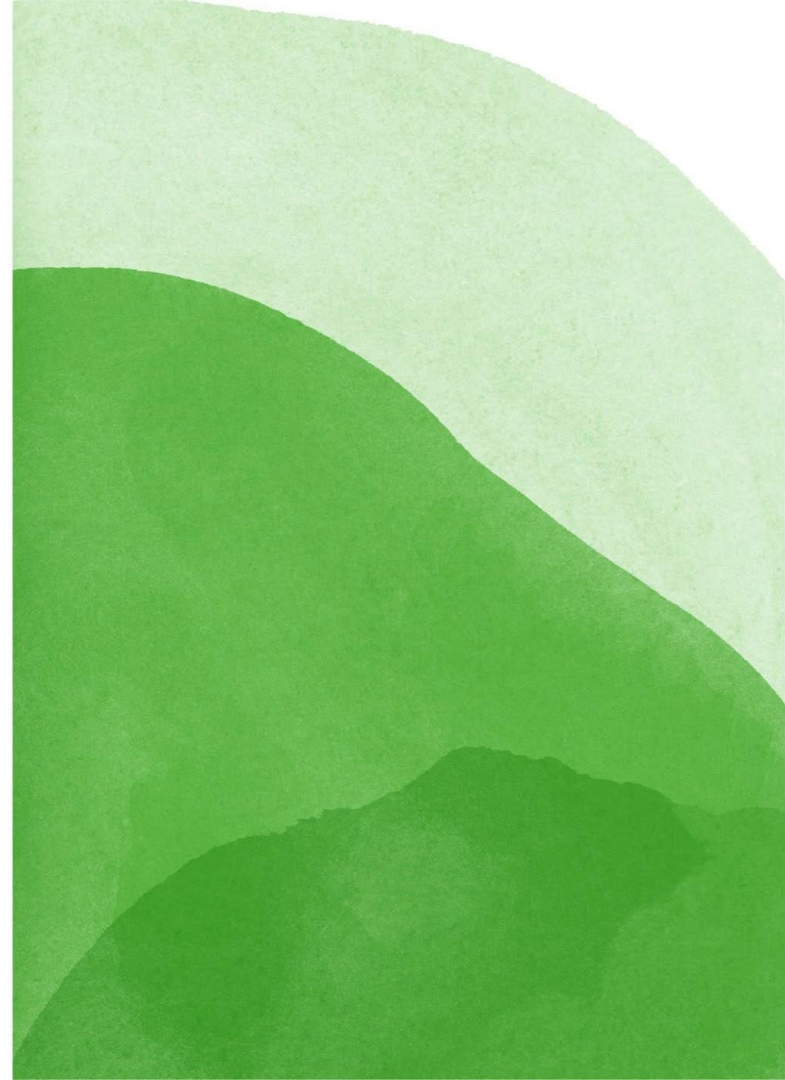


TBI Protocol Implementation

Julie Ley

September 9, 2021



The Beginning

12/6/2017 – first meeting with stakeholders

- Tacoma Trauma Trust Medical Director Dr. Ursic
- SCH ED Medical Director
- TMD
- TPC
- Director of Nursing Services
- Franciscan Inpatient Team, FIT Regional Director (hospitalists)
- FIT SCH Director
- SCH FIT providers

Outcome of First Meeting

- Dr. Ursic's proposal
- Questions/concerns
- The agreement
- Decision for patient placement
- Education
- Retrospective data

Retrospective Data Review

2017 4th quarter TBI transfers

- 12 patients transferred out
- 3/12 would have met inclusion criteria to stay at SCH
 - 89 y/o female
 - 77 y/o female
 - 84 y/o female
- Data review results

The Plan

- SCH MDTQI supported a 6 month pilot program
- The pilot to run from 5/1/2018 through 10/31/2018
- Data collection
- Case review

Implementation/Preparation

Education

- FIT
- ED providers
- Critical Care RNs

The Protocol

- Definitions
- Inclusion criteria
- Exclusion criteria
- Sample admission orders

Key Protocol Points

- Trauma surgeon consult note
- Admit to PCU or ICU per request of FIT
- Assessment
- Status changes
- Repeat head CT
- Status change transfer plan

Pilot Study: First Patient, First Day

- **Summary:** 91 y/o female, GLF, 3 mm SDH, no anticoagulants
- **Outcome:** repeat head CT showed stable SDH, patient discharged to SNF
- **Check and adjust:**
 - GCS & neuro assessments
 - FIT provider education

Pilot Study: Second Patient

- **Summary:** 61 y/o male, hit head on cabinet, AMS, possible trace SAH, on Coumadin with INR 6.2
- **Outcome:** the patient boarded in ED until follow-up CT was done that showed no evidence of SAH. Coumadin dose adjusted, patient discharged home
- **Check and adjust**
 - Level 3 case review
 - Protocol revision meeting scheduled

Protocol Revision Meeting August 2018

Criteria was revised to reflect the following changes

- INR for exclusion: if > 1.5 in the presence of TBI on CT scan, patient to be transferred to a higher level of care
- NSAIDS were removed as an exclusionary criteria
- $GCS \leq 13$ in the presence of traumatic mechanism and hemorrhage, contusion, or fracture on head CT will be transferred to a higher level of care
- In the instance of “trace” or “questionable” head bleeds, the trauma surgeon consulted will have the final say

Further Check and Adjust During 6 Month Pilot

Follow-up CT not ordered as recommended, or cancelled

- Staff education, protocol reinforcement

Trauma surgeon consult not entered into Epic

- Email or text to Dr. Ursic corrected incidents
- ED providers encouraged to remind trauma surgeon to enter note

Sample Trauma Surgeon Note

Trauma phone consultation

9:43 PM

I spoke with Dr. M about the patient. I reviewed the history, labs, and imaging. His head CT shows "Tiny focus of acute hemorrhage to the left frontal region, most likely subarachnoid.". He has a GCS of 15 by report. Per protocol, he does not need transferred to a higher level of care. I recommend observation and repeat CT head in 6 hours. If repeat imaging is unchanged and patient remains neurologically unchanged, he can be discharged.

Please do not hesitate to call us back with any questions.

...MD, FACS

Trauma, Acute Care Surgery, Surgical Critical Care

Pilot Study Data

25 patients screened

6 patients kept at SCH = 24%

No adverse outcomes

- 1 patient showed increase in bleed and was subsequently transferred to level II facility
- 5 patients discharged home after follow-up CT unchanged, stable

Expansion of Project/Goals

- Implementation at other sites
 - SFH started September 2018
 - SAH started January 2020
 - SAnH started March 2021
 - SMH protocol has been approved by Trauma Committee and they have initiated
- Development of regional guideline
- Added to audit filters

2019 Data

- SCH: **44** pts screened, **12** pts kept = **27%**
- SFH: **68** pts screened, **17** pts kept = **25%**

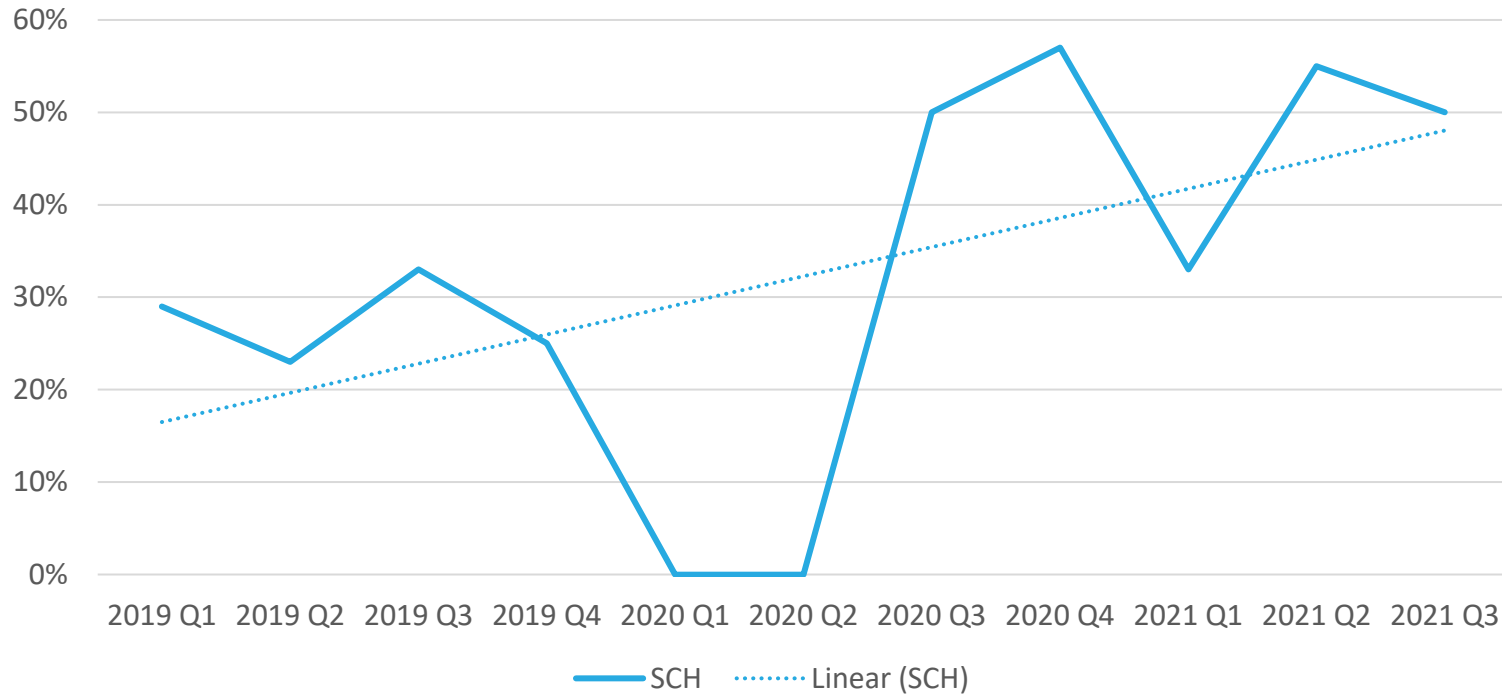
2020 Data

- SCH: 3rd & 4th Q (first 2 quarters, SCH did not participate 2/2 CT machines being replaced and unable to guarantee follow-up)
17 pts screened, **9** pts kept = **53%**
- SFH: **59** pts screened, **16** patients kept = **27%**
- SAH: **55** patients screened, **10** patients kept = **18%**

2021 Year to Date Data

- SCH: **23** pts screened, **11** pts kept = **48%**
- SFH: **29** pts screened, **7** kept = **24%**
- SAH: **26** pts screened, **12** pts kept = **46%**
- SAnH: **27** pts screened, **6** pts kept = **22%**
- SMH: **68** pts screened, **32** pts kept = **47%**

Percentage of TBI Patients Kept at SCH



Reduced Transfers Since Implementation

- SCH: 38 patients
- SFH: 44 patients
- SAH: 22 patients
- SAnH: 6 patients
- SMH: 32 patients

Total = 142 TBI patients
managed at level III & IV
trauma facilities



Lessons Learned

- Guideline written for staff in Policy Stat as a reference
- Addition to guideline regarding DNR/inoperative/comfort care patients
- Request to call Trauma services first, NOT neurosurgery

