

Inpatient Management of Delirium

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Background

Problem Statement:

- Delirium is a common inpatient problem; a 2013 study found a prevalence approaching 20% at a tertiary care center¹
- Delirium is associated with increased length of stay, increased mortality, and healthcare costs of approximately 150 billion dollars^{2,3}
- A variety of medications and environmental interventions have been studied with no single modality proving efficacious.⁴
- Physical restraints are often utilized to prevent self-harm for patients with poorly treated delirium. However, restraint use is associated with increased physical injury and is independently predictive of increased length of stay.^{4,5}

Project AIM:

This project will improve inpatient delirium treatment, with the aim of reducing use of nonviolent restraints by 10% on a single inpatient unit over a 3-month period.

Baseline Data

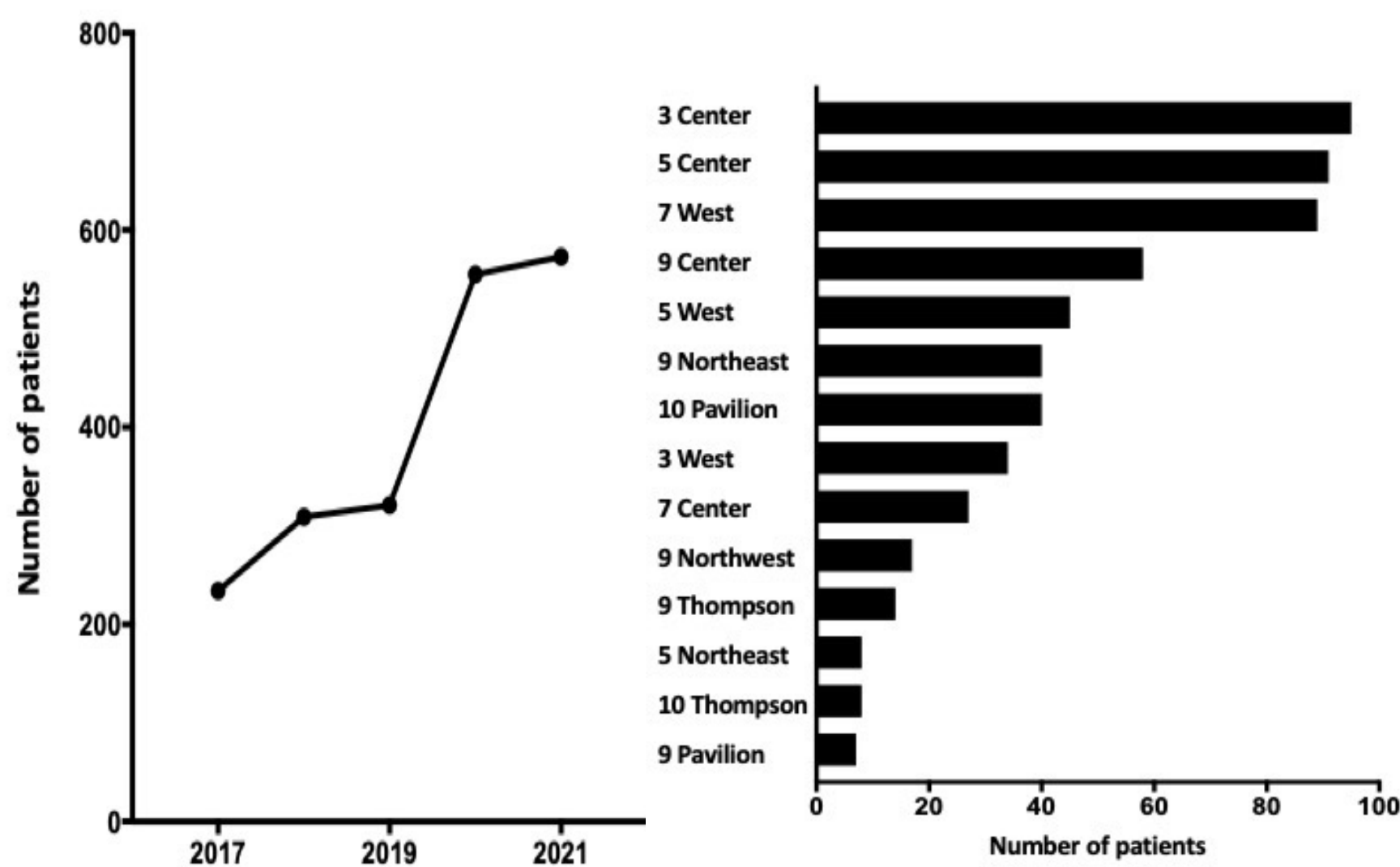
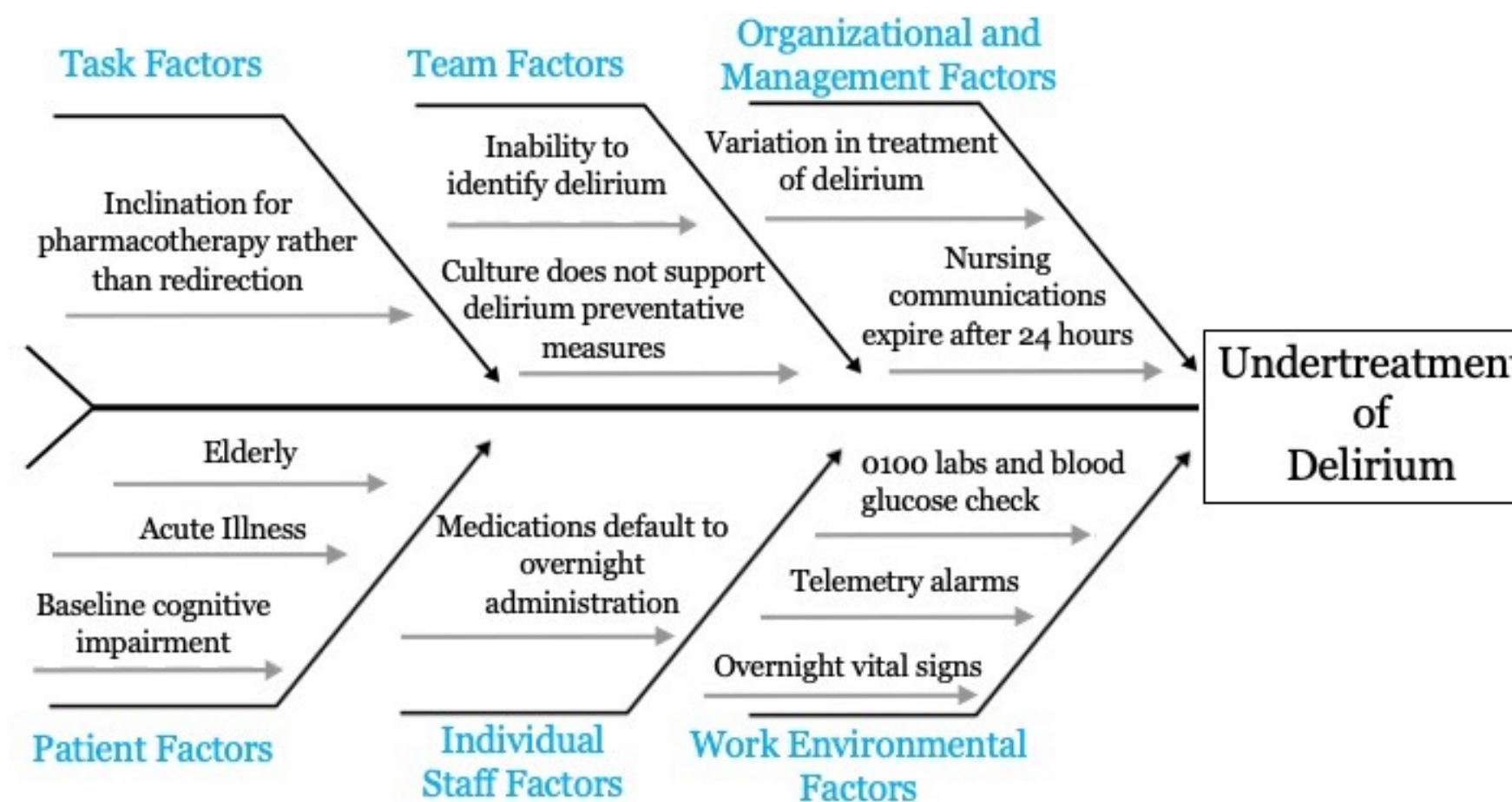


Figure 1. Use of non-violent restraints for non-ICU patients at TJUH has been increasing in recent years

Figure 2. Use of non-violent restraints by inpatient TJUH unit informed possible locations for intervention pilot

Planning and Intervention

Fishbone Diagram



Epic Order Set

Easily accessible for any patient with high risk factors for delirium or active delirium. Automatically triggered by ordering or renewing of non-violent restraints.

Delirium Precautions Door Sign

Visual reminder placed on patient's door to remind all staff members about non-pharmacologic delirium precautions.



Epic Order Set: Delirium Precautions	
Epic Banner	Delirium Precautions
Vital Signs	No 0200 vitals
Activity Order	OOB to chair with assistance
PRN Precaution	1:1 sitter
PRN Equipment	Posey Vest
0800 or 2000 Lab Draws	CBC with diff, RFP, MG, HFP, PT/INR, T&S
0800 Nursing Communication	AM delirium precautions: blinds open, lights on, encourage family communication, ensure communication tools (hearing aids, glasses, dentures, interpreter prn)
1800 Medication	5 mg melatonin
2000 Nursing Communication	PM delirium precautions: blinds closed, lights off, TV off, cluster care

Challenges and Lessons Learned

- Unable to mine CAM scores from EMR data. Posed a challenge to define a surrogate metric for delirium, i.e., measuring use of non-violent restraints
- Projected difficulty getting buy-in and emotional engagement from staff, given additional strain to ensure delirium precautions are implemented
- Epic Alert Fatigue—placing the actual delirium order set orders may be ignored by physician staff given perceived constant bombardment with EMR pop-ups and check boxes
- Avoiding over-ambitious goals can make a project more palatable to stakeholders, so that the achievements of the project can be used as a jumping-off point for future, larger projects, and in effect, secure more buy-in

Future Directions

- Merging our efforts with existing multidisciplinary working group
- Evaluate useability of order set and effect on overall restraint use
- Determine the effect of standardized delirium treatment on length of stay
- Test intervention on multiple inpatient units including medical, surgical, and telemetry

Linkage to Healthcare Disparities

- A 2020 study at two major academic medical centers in Massachusetts found that neighborhood-level markers of social disadvantage, particularly socioeconomic status, may be associated with an increased risk of delirium incidence and severity after major surgery⁶
- A cross-sectional study at an emergency department in Connecticut found that the use of physical restraints for agitation and delirium was significantly higher in Black or African American patients, male patients, patients without private insurance, and those who were undomiciled⁷

Health disparities may play a role in the risk of developing delirium. Implicit and systemic biases that may also exist in the acute management of delirium. Therefore, our study will also analyze markers of social determinants of health including race, ethnicity, zip code, and insurance type in our target population. Our findings may elucidate disparities in treatment of delirium and inform a more comprehensive approach for treatment.

References
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