

The trauma of hospitalization in medical inpatients:

A prospective cohort study

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and the GEMINI Investigators**

CSIM Annual Meeting 2017

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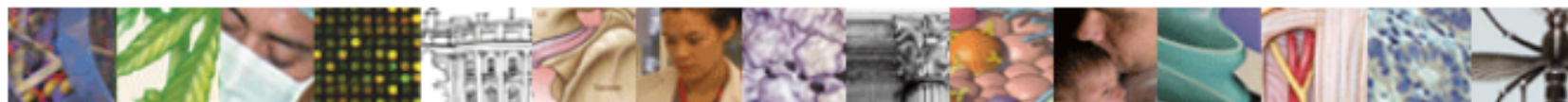
Disclosures

- **Potential for conflicts: None.**
- **Funders: Canadian Medical Protective Association and the Green Shield Canada Foundation.**





The NEW ENGLAND JOURNAL of MEDICINE



Perspective

Post-Hospital Syndrome — An Acquired, Transient Condition of Generalized Risk

Harlan M. Krumholz, M.D.

N Engl J Med 2013; 368:100-102 | [January 10, 2013](#) | DOI: [10.1056/NEJMp1212324](#)



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Viewpoint

June 4, 2014

JAMA[®]
The Journal of the American Medical Association

Reducing the Trauma of Hospitalization

Allan S. Detsky, MD, PhD^{1,2,3}; Harlan M. Krumholz, MD^{4,5,6}

- Acute illness
- Sleep
- Nutrition
- Depersonalization
- Pain and discomfort
- Medication changes
- Deconditioning



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**Trauma of
Hospitalization**



**Post-Hospital
Syndrome**



**30-Day ER Visit/
Readmission**



Objectives

- 1) Describe the prevalence of patient-reported disturbances in sleep, nutrition, mobility, and mood in GIM inpatients.
- 2) Determine whether these disturbances are associated with an increased risk of 30-day ER visit or readmission to hospital.



Methods

- St. Michael's & Toronto Western Hospital
- Eligible participants
 - LOS >48h, English-speaking, capable, discharge home, no ICU admission.
- Pre-discharge and post-discharge interview assessing multiple domains using established instruments.



Measures

Pre-discharge interview	
Sleep	PROMIS v.1.0 Sleep Disturbance-Short Form 4a
Mobility	Single-item adapted from eCOG
Nutrition	Hospital Nutrition Questionnaire
Anxiety/Depression	Question from EQ5D
Outcomes	
30-day readmission, ER visit	Manually abstracted

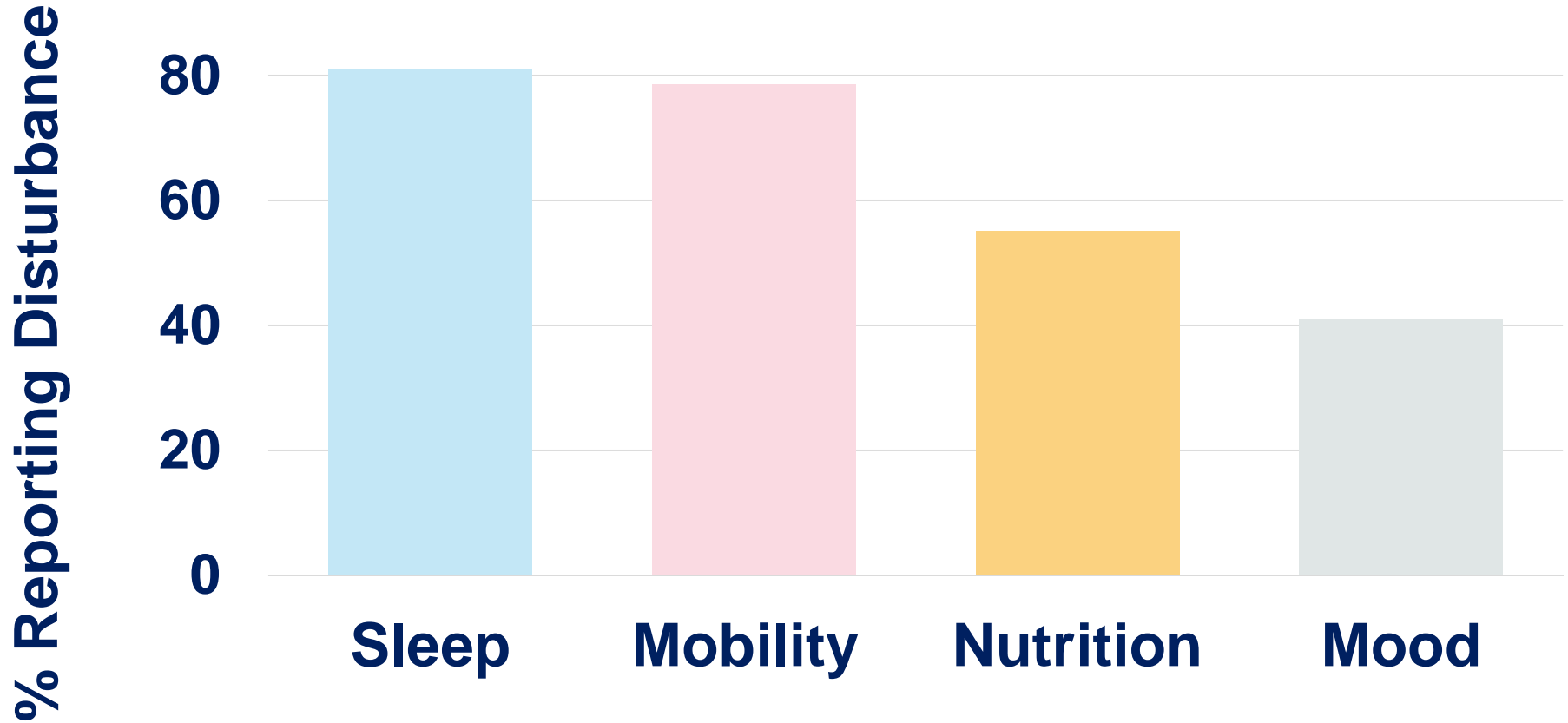


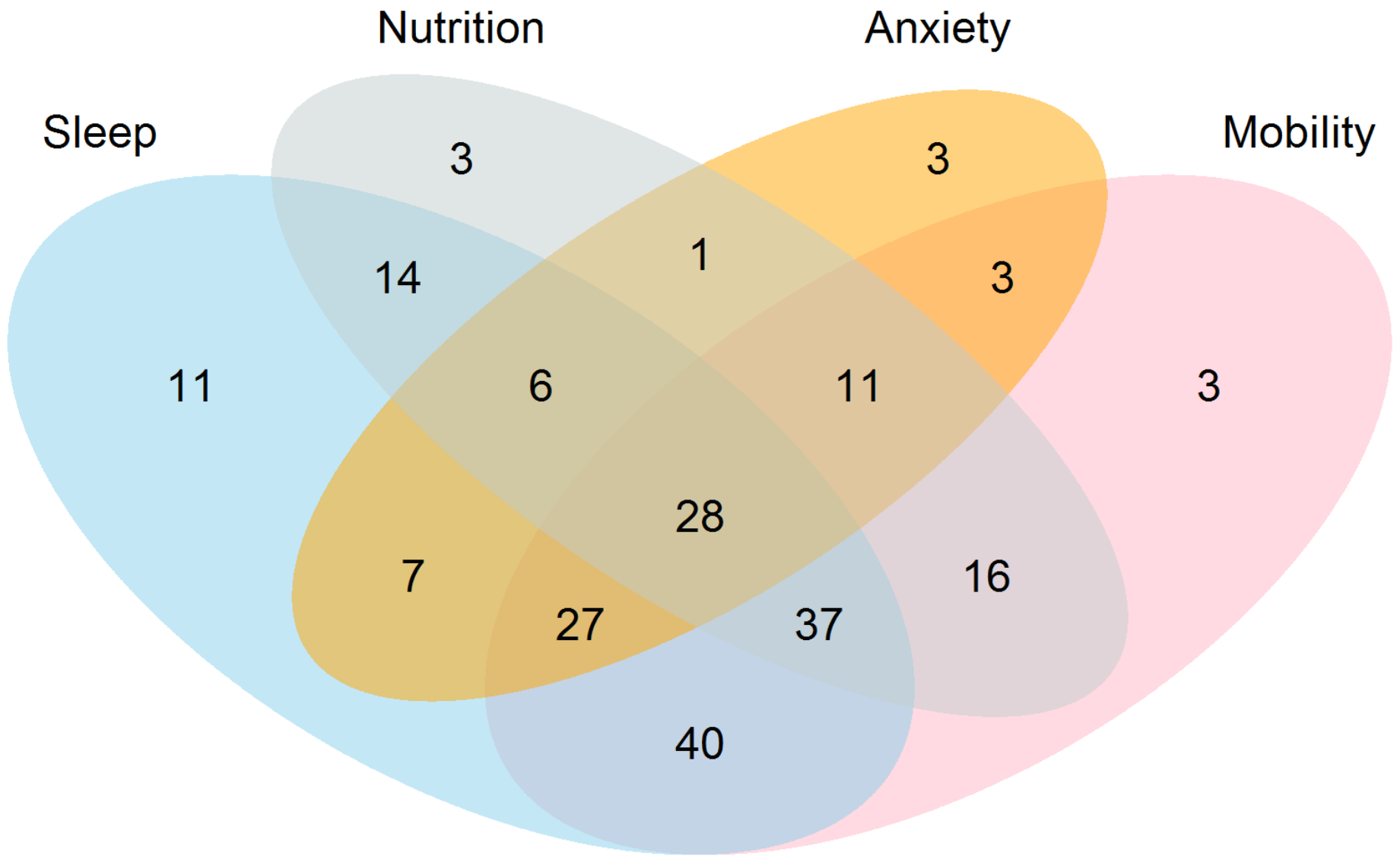
Table 1: Baseline Characteristics (N=210)

Age, mean (SD)	60.0 (17.0)
Sex (%)	
Female	85 (40.5)
Male	125 (59.5)
Hospital Site (%)	
St. Michael's Hospital	137 (65.2)
Toronto Western Hospital	73 (34.8)
Length of stay, mean (SD)	8 (7.0)
30-day ER visit (%)	55 (26.2)
30-day Readmission (%)	30 (14.3)

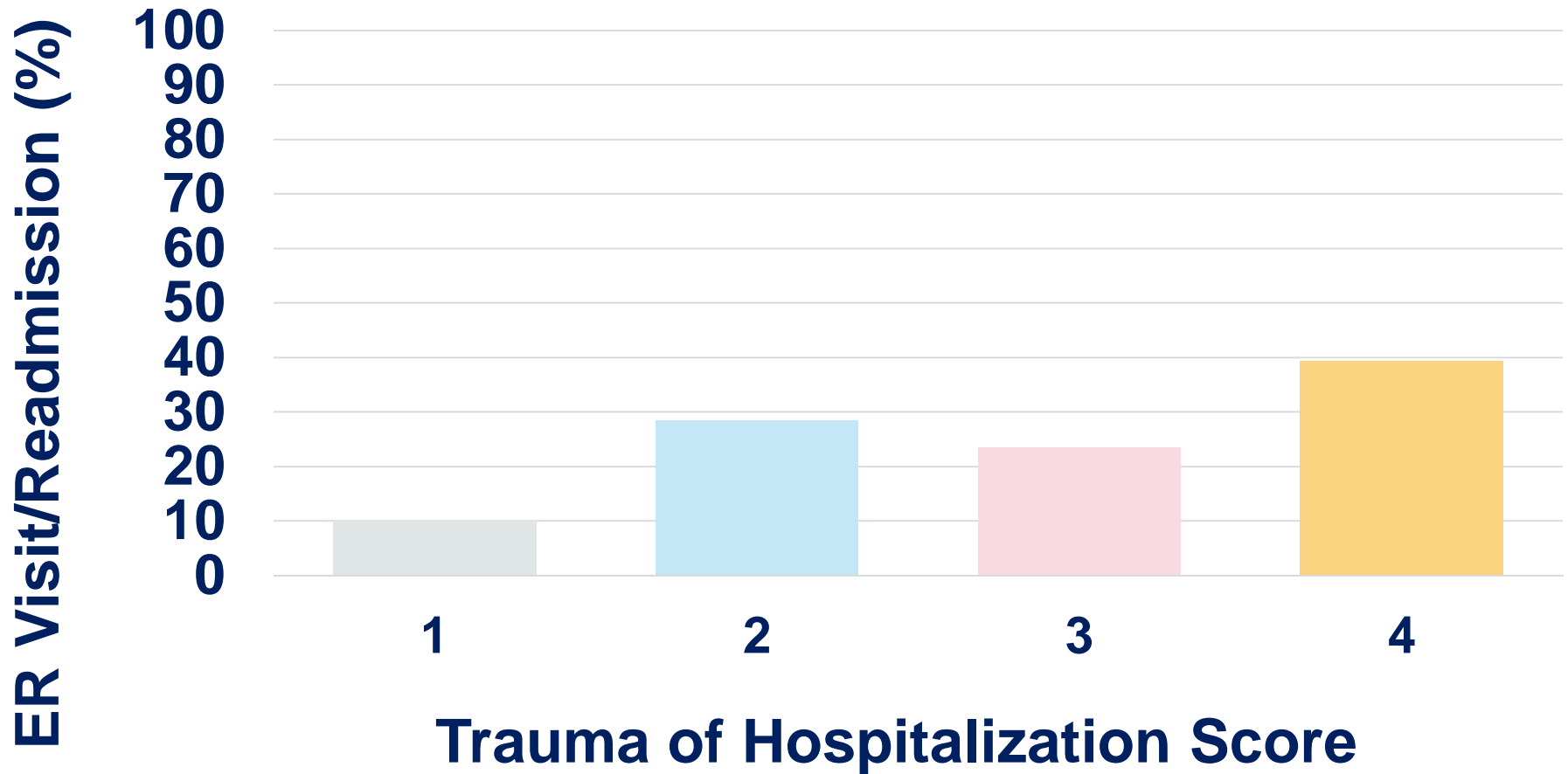


Trauma of Hospitalization





TOH Score and 30-day



Multivariate regression of TOH Score and 30-day outcomes

Trauma of Hospitalization Score	OR*	95% CI
1	Ref.	Ref.
2	4.1	1.0-27.5
3	3.0	0.8-20.5
4	6.7	1.5-48.7

*Adjusted for age, sex, LOS



Summary

1. The majority of participants in our cohort described disturbances in sleep, mobility, nutrition, and mood.
2. A higher TOH Score was associated with 30-day ER visits and readmissions.
3. Collecting patient-reported outcomes in GIM inpatients is feasible, illuminating, necessary.



Acknowledgements

Yishan Guo, Arthi Vasantharoopan,
and Matt Riley.



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Measures

	TOH	No TOH
Sleep	Average fair or less	Good, very good
Mobility	Confined to bed or chair for >50% of waking hours or confined to bed/chair	Up and about for >50% of waking hours, fully active
Nutrition		
Anxiety/ Depression	Moderately, severely, extremely anxious or depressed	Slightly anxious or depressed, not anxious or depressed



Measures

	TOH
Sleep	<ul style="list-style-type: none"> • My sleep quality has been • My sleep has been refreshing • I have had a problem with my sleep • I have had difficulty falling asleep.
Mobility	<p>During my hospitalization, I was...</p> <p>Fully active</p> <p>Not fully active but up and about for >50% of waking hours</p> <p>Confined to bed or chair for >50% of waking hours</p> <p>Totally confined to bed or chair</p>
Nutrition	<p>When I was eating I was disturbed</p> <p>My mealtimes were interrupted by self</p> <p>I missed meals because I was not available when they were served</p> <p>I missed meals because I had to avoid for tests</p>
Anxiety/ Depression	<p>Moderately, severely, extremely anxious or depressed</p>
	<p>Short portable mental status questionnaire</p>



Trauma of Hospitalization

	Trauma of Hospitalization (N=190)	No Trauma of Hospitalization (N=20)
Sleep	170 (81.0)	40 (19.0)
Mobility	165 (78.6)	45 (21.4)
Nutrition	116 (55.2)	94 (44.8)
Anxiety/Depression	86 (41.0)	124 (59.0)



Multivariate regression of TOH Score and 30-day outcomes

Trauma of Hospitalization Score	OR*	95% CI	P Value
1	Ref.	Ref.	Ref.
2	4.08	1.03-27.50	0.08
3	3.03	0.76-20.50	0.17
4	6.70	1.47-48.70	0.03

*Adjusted for age, sex, LOS

