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# TBI Research Update

Eli Mlaver, MD

GQIP Research Scholar

General Surgery Resident, Emory University

GQIP Trauma Collaborative Winter Meeting

28 February 2023

# Disclosures



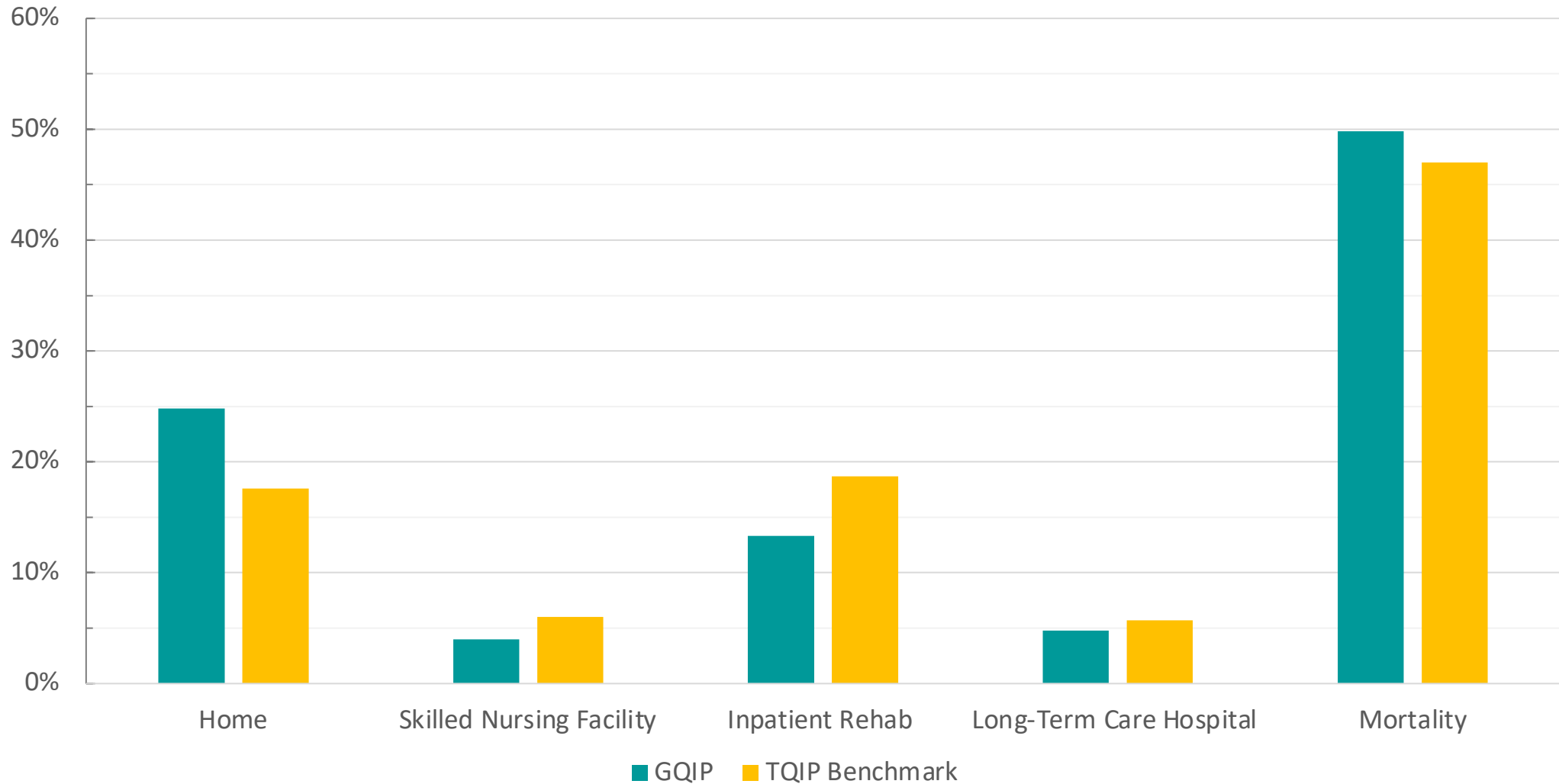
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# Fall '22 Collaborative Report – Comparison to National Benchmark



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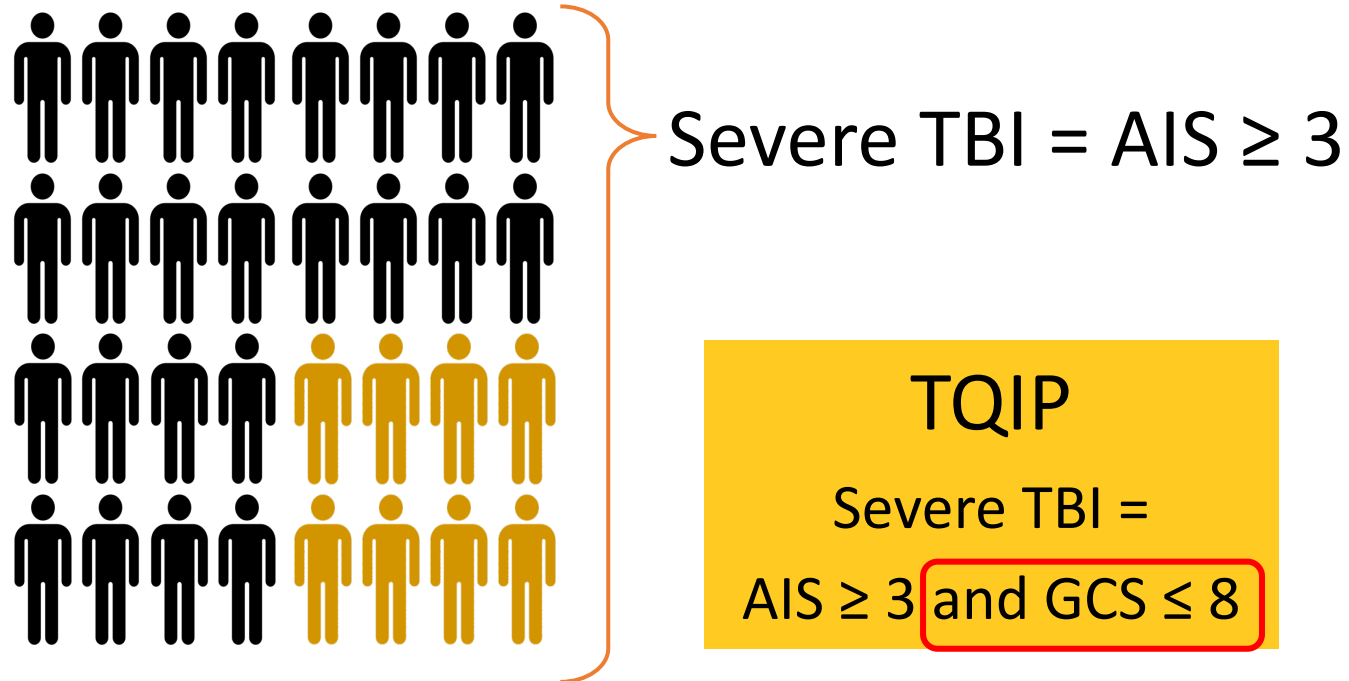
# Data Collection



- Thirteen level 1 and 2 trauma centers
- Jan 2019 – Dec 2021
- 11,193 patients with severe TBI (Head AIS  $\geq 3$ )

Data Collected	
Demographics	Comorbidities
Mechanism	Injury Complex & Severity
ED Disposition	ICU Length of Stay
Adverse Events	Hospital Disposition

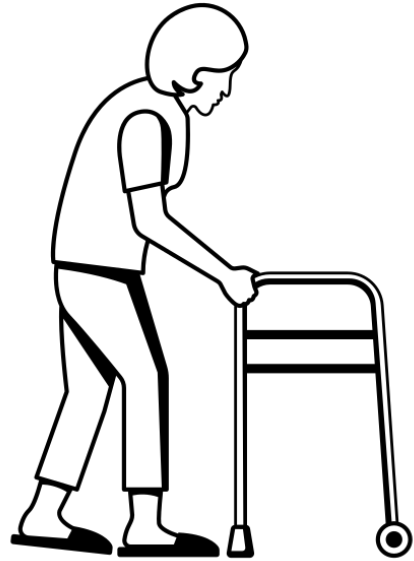
# Broader TBI Definition



# Data Trends



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# Data Trends



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# Two Distinct Age Cohorts



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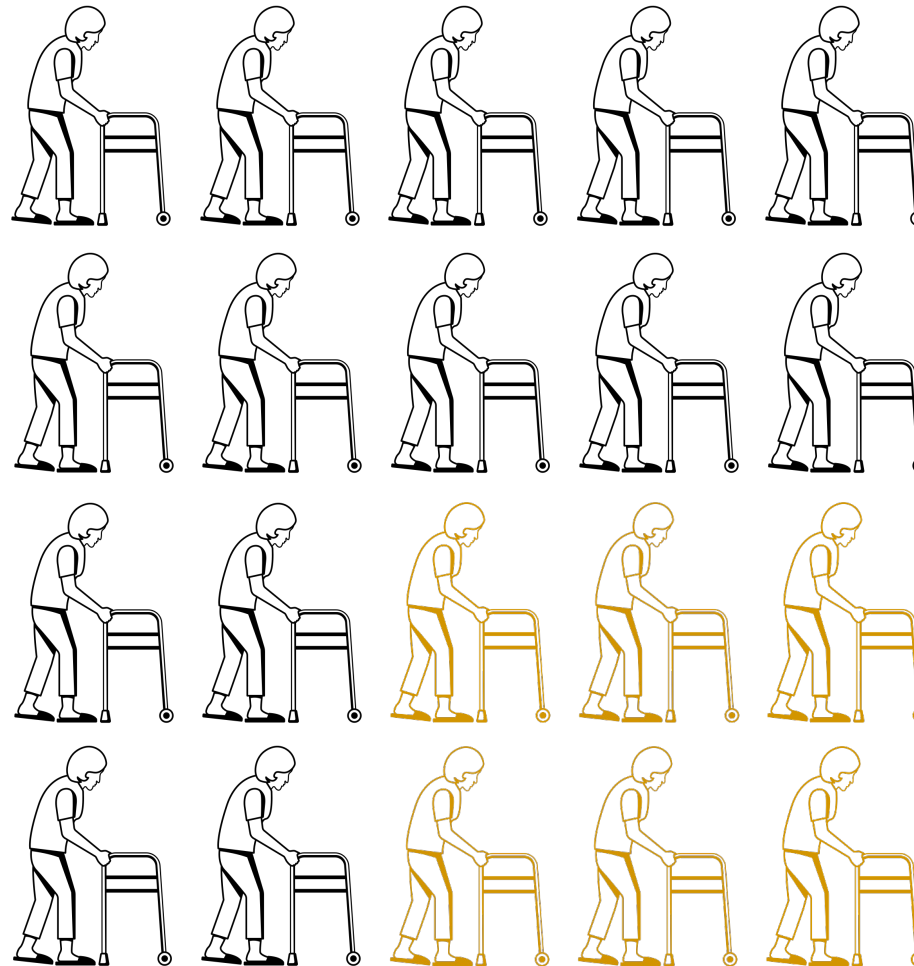
	Non-Geriatric (15-64)	Geriatric (65+)
Male	75%	52%
White	50%	77%
Functionally Dependent	3%	30%
Anticoagulant Use	4%	32%
Diabetic	8%	29%
GLF	19%	74%
MVC / MCC	38%	11%
Isolated Head Injury	71%	83%



# Age and Presenting GCS



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# Age and Presenting GCS



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10,703 patients	GCS $\geq 9$ : 8326 (78%)	GCS $\leq 8$ : 2377 (22%)
Geriatric	47.4%	20.5%
Female	37.4%	24.7%
White	63.4%	52.1%

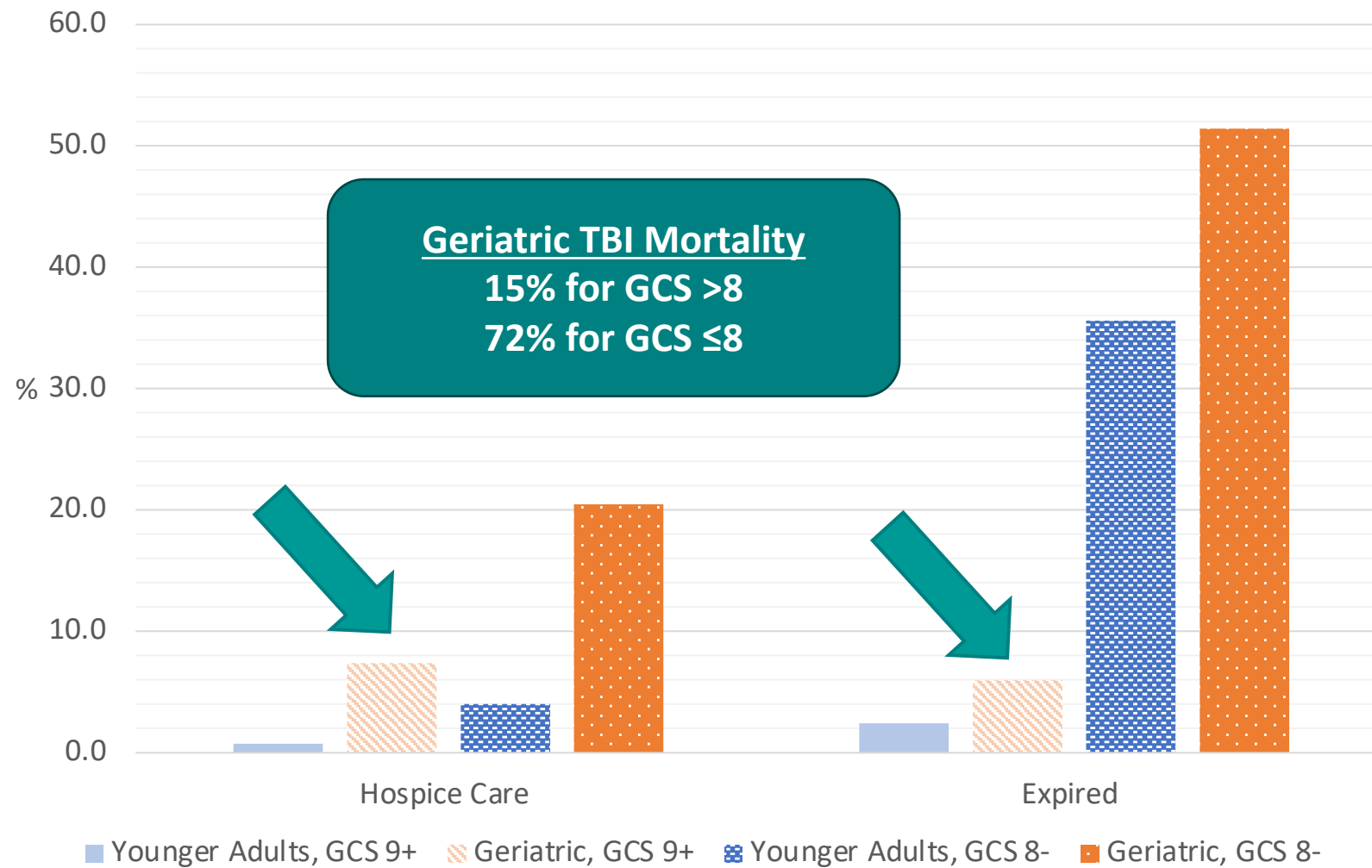
Geriatric Patients	GCS $\geq 9$	GCS $\leq 8$
anticoagulant use	32.4%	29.3%
COPD	10.6%	8.6%
dementia	21.2%	12.3%
functional dependence	30.9%	18.4%

Bias of who presents (or is transferred) to level 1/2 centers vs ability to gather history

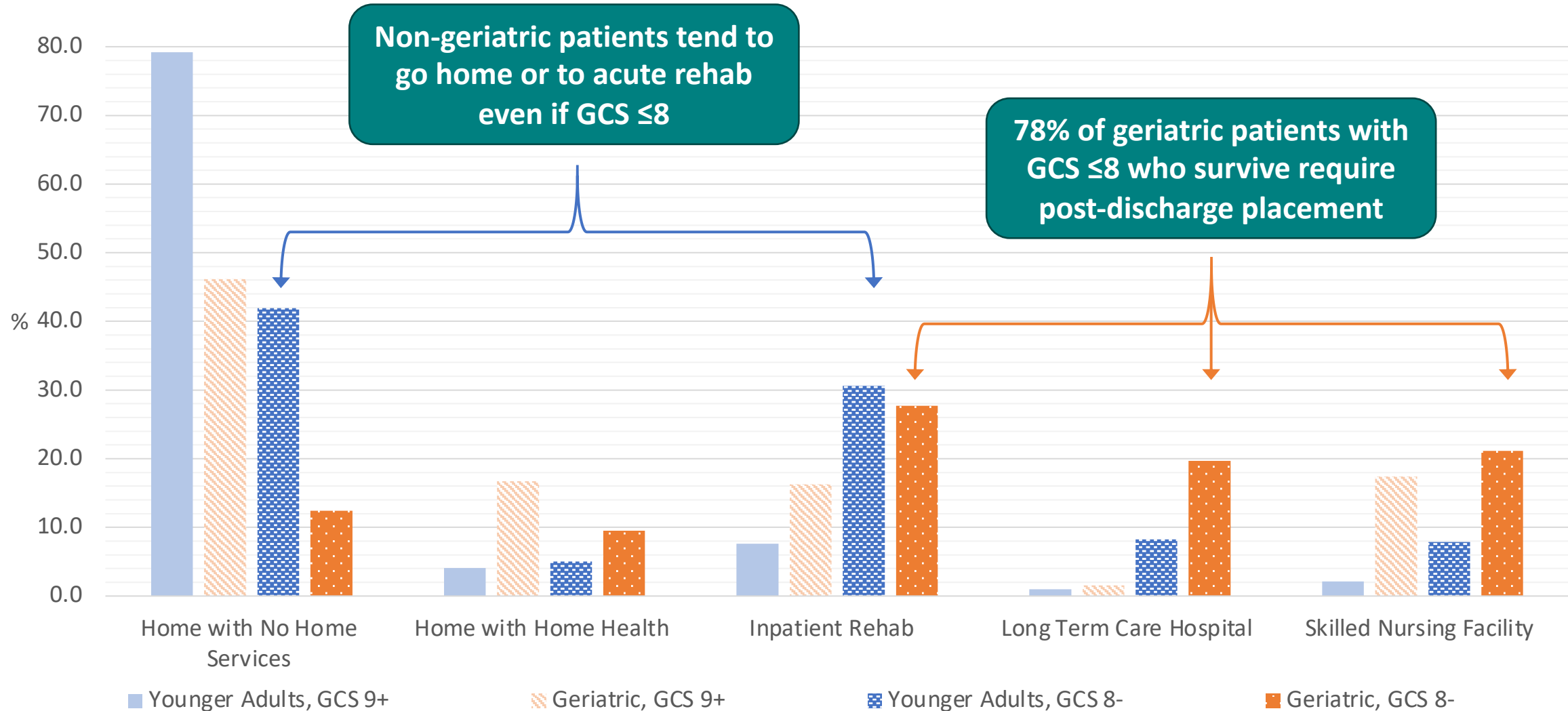
ICU Admission	GCS $\geq 9$	GCS $\leq 8$
Geriatric	59.6%	75.0%
Non-geriatric	55.5%	74.7%

Likely impact of extracranial injuries... more on that later

# Results – Non-Survivors



# Results – Survivors



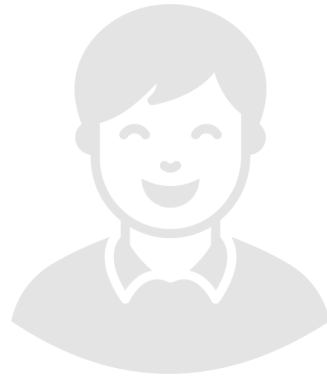
# Data Trends



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# Focus on Isolated Head Injuries



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The **Committee**  
on **Trauma**



# Two Distinct Populations

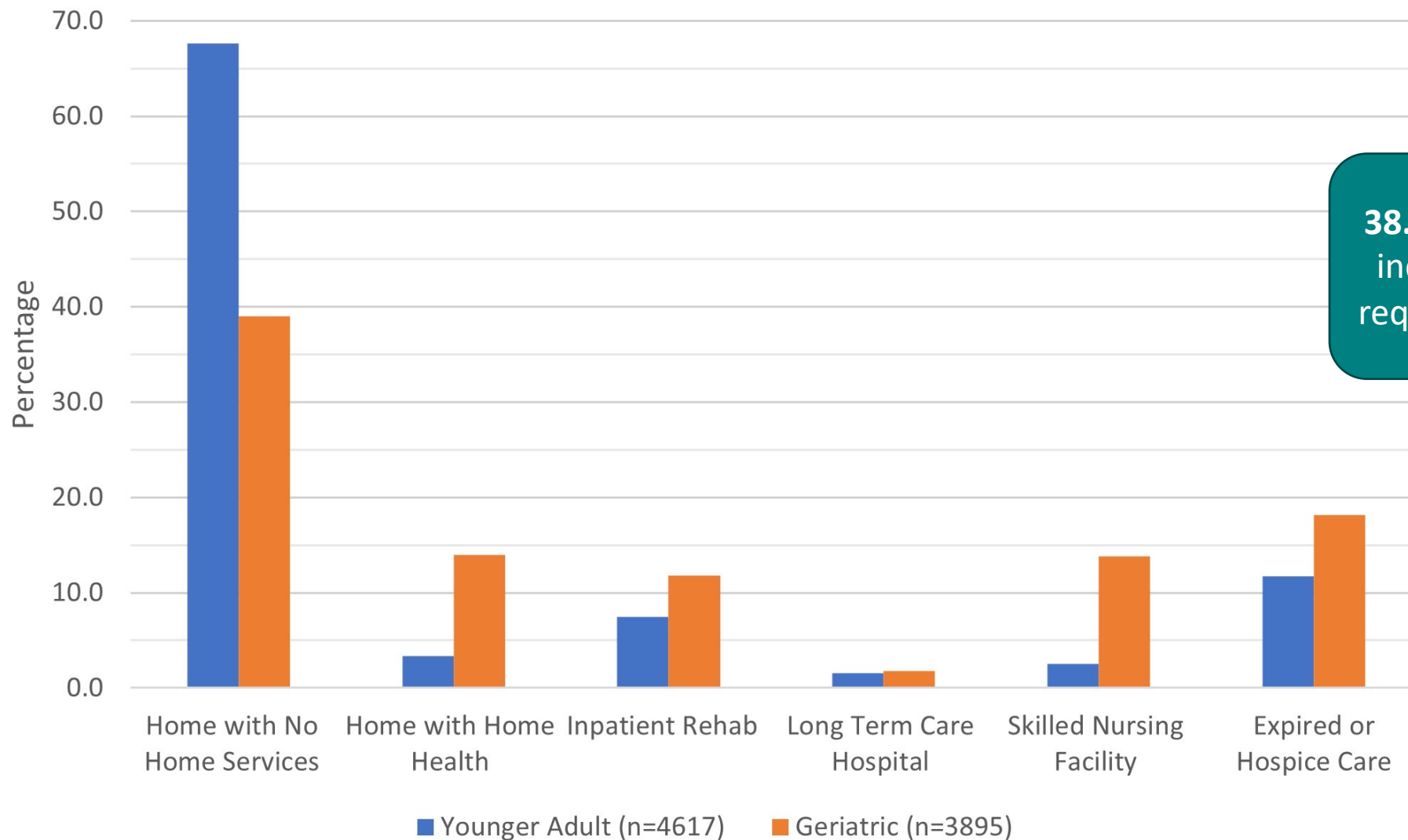


	Non-Geriatric (15-64)	Geriatric (65+)
Male	75% → 76%	52% → 51%
White	50% → 50%	77% → 76%
Functionally Dependent	3% → 4%	30% → 32%
Anticoagulant Use	4% → 5%	32% → 34%
Diabetic	9% → 9%	30% → 30%
GLF	19% → 24%	74% → 78%
MVC / MCC	38% → 28%	11% → 7.2%
ICU Admission	61%	60%

# Focus on Isolated Head Injuries



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**38.7%** of previously functionally independent geriatric patients required post discharge services.



# Discussion



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**78%** Geriatric patients with GCS  $\leq 8$   
require post-discharge placement

**41%** Previously functionally independent  
geriatric patients requiring post-  
discharge placement / services



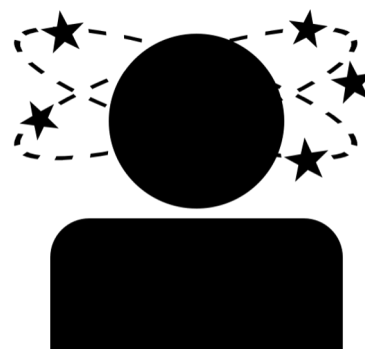
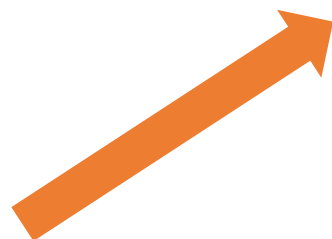
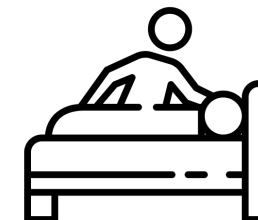
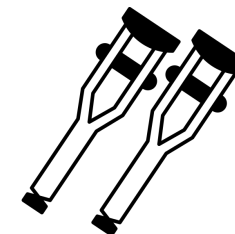
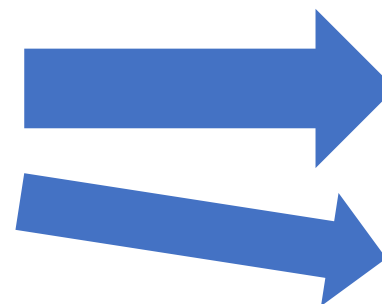
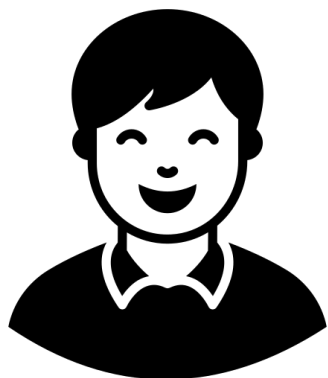
# Two pathways



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Acute / ICU

Post-Discharge







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Thank you

Email: [Emlaver@emory.edu](mailto:Emlaver@emory.edu)