

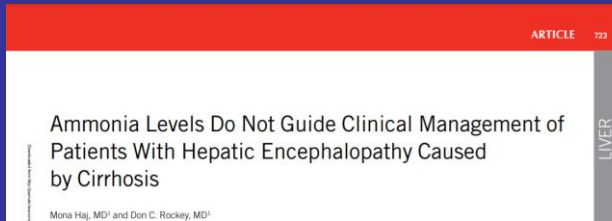
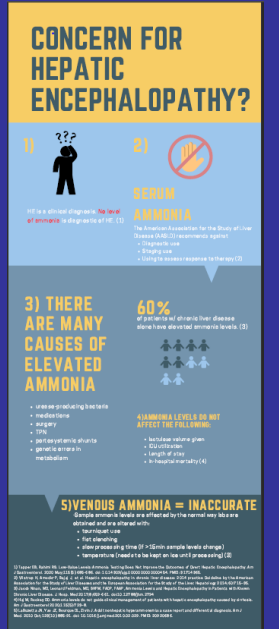
William Reiche DO, Bryce Schutte DO, Durva Masih MD, Suhail Sidhu BS, Darby Keirns BS, Isaac Burrignt BS, Ryan Walters PhD, Bradley DeVrieze MD, Paul Millner MD, Venkata Andukuri MD, MPH, Sandeep Mukherjee MD

## Background

- Hepatic Encephalopathy is diagnosed clinically. No level of serum ammonia has been shown diagnostic.
- Non-specificity of serum ammonia testing (chronic liver disease and/or cirrhosis)
- No effect on outcomes including LOS, lactulose volume, ICU utilization, or in-hospital mortality
- AASLD and ACP Choosing Wisely recommend against ordering serum venous ammonia in patients with CLD/cirrhosis
- Significant source of medical waste (CHI Creighton Bergan Mercy Medical Center 2020 data)
  - 327 inappropriate tests
  - One test is an approximate charge of \$250

## Countermeasures

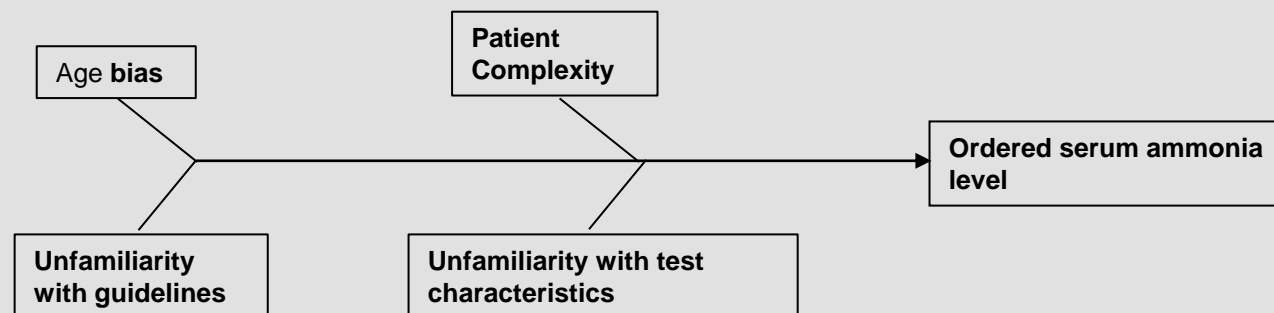
- Bulletins placed strategically in resident work rooms and lounge
- Journal club at IM academic half-day discussing pertinent articles
- Email and notification of project to chiefs, program directors, and internal medicine chair



## Goal

We aim to reduce the number of inappropriate serum ammonia tests ordered at CUMC-Bergan Mercy by 50% by 5/2022.

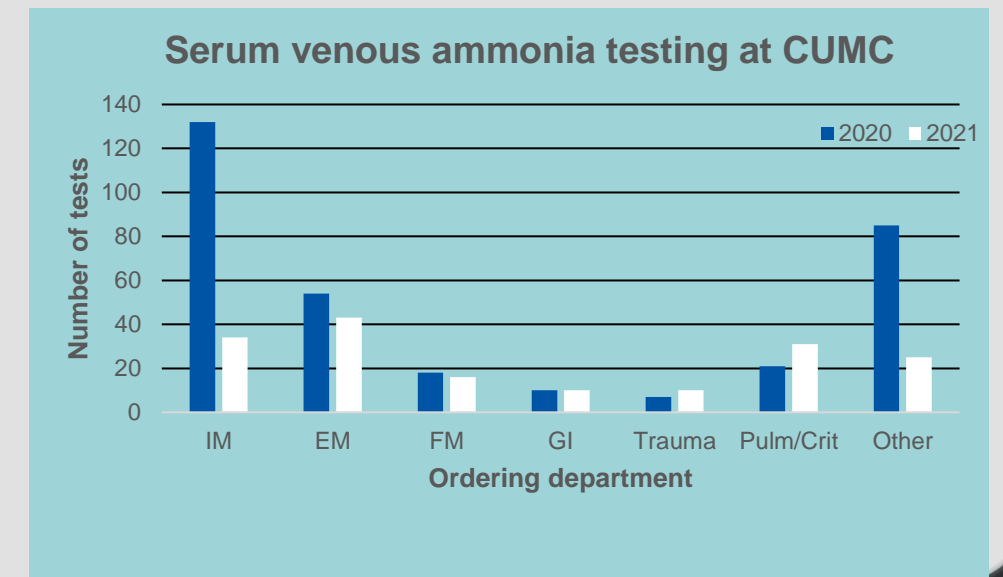
## Root Cause Analysis



## Effect Confirmation

Dept.	2020	2021
IM	132	34
EM	54	43
FM	18	16
GI	10	10
Trauma	7	10
Pulm/Crit	21	31
Other	85	25
Total	327	156

- Total testing reduced by 52%
- IM testing reduced by 75%
- 169 less tests compared to prior year
- 169 tests x \$250 = \$42,250 savings



## Follow-up Actions/Discussion

To sustain success, the next PDSA cycle will include the following:

- Audit (monthly/bimonthly basis) with education email to providers inappropriately ordering the test.
- Discuss with new interns in July as part of high-value care series.
- Inquire if a pop-up warning can be added to EMR.
- EASL guidelines (2022) on HE

## Project's Value

By reducing the amount of serum venous ammonia levels obtained we will be reducing healthcare costs.