

## Capstone for Impact Submission | GY2020

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**Project Title:** Postoperative Hepatic Encephalopathy

**Student Name(s):** Zachary Saleh

**Advisor Names(s):** Elliot Tapper, MD

**Branch:** SHBC

**Path of Excellence:** Scientific Discovery

*If this project can be continued by another UMMS student, please include your contact information or any other details you would like to share here:*

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**Summary:** A study seeking to find the incidence of postoperative hepatic encephalopathy (HE) within the Michigan Medicine health system, the factors associated with its development, and thoughts on future directions.

**Methodology:** Retrospective chart review on patients who underwent non-biliary and non-liver surgeries at Michigan Medicine within the last ten years – analyzing their postoperative course, development of HE, course of HE, and factors associated with its development.

**Results:** While still undergoing analysis, of the 580 patients that met criteria for the study, 40 (6.9%) developed HE during their postoperative course. Patients who developed HE tended to have a longer length of stay, higher in-hospital mortality, and higher preoperative Charlson Comorbidity Index and Mayo 30-day mortality risk.

**Conclusion:** The incidence of postoperative HE, at least within this health system, was determined over the past decade. Development of HE was associated with worse outcomes and is a potential area for future interventions.

### **Reflection/Impact Statement:**

Starting this research study from beginning (drafting the IRB) to performing data extraction and analysis, and now moving into the stage where a manuscript will be drafted has been an enriching experience. I was not prepared for how much time data collection for an initial patient population of more than 1000 would require, but now that it has been completed, we are ready to complete the data analysis. To continue to propel the project forward, we will draft the manuscript, submit it for publication, and begin any interventions/changes we realize from the data analyzed. For future students considering a retrospective chart review project, I would highly recommend leveraging the power of two university resources – Data Direct and EMERSE – both of which were incredibly handy for a targeted chart review with many variables.