

Background

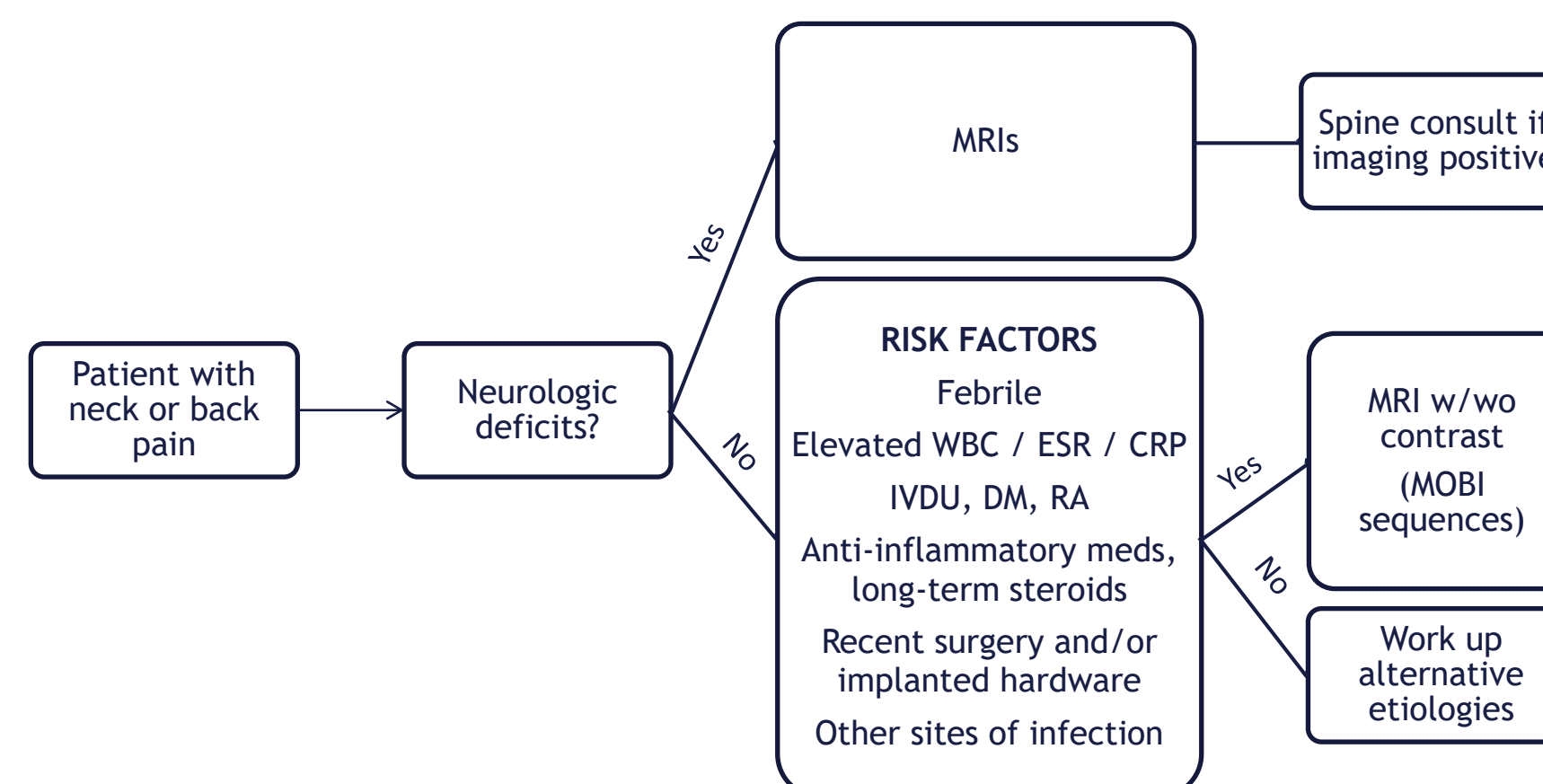
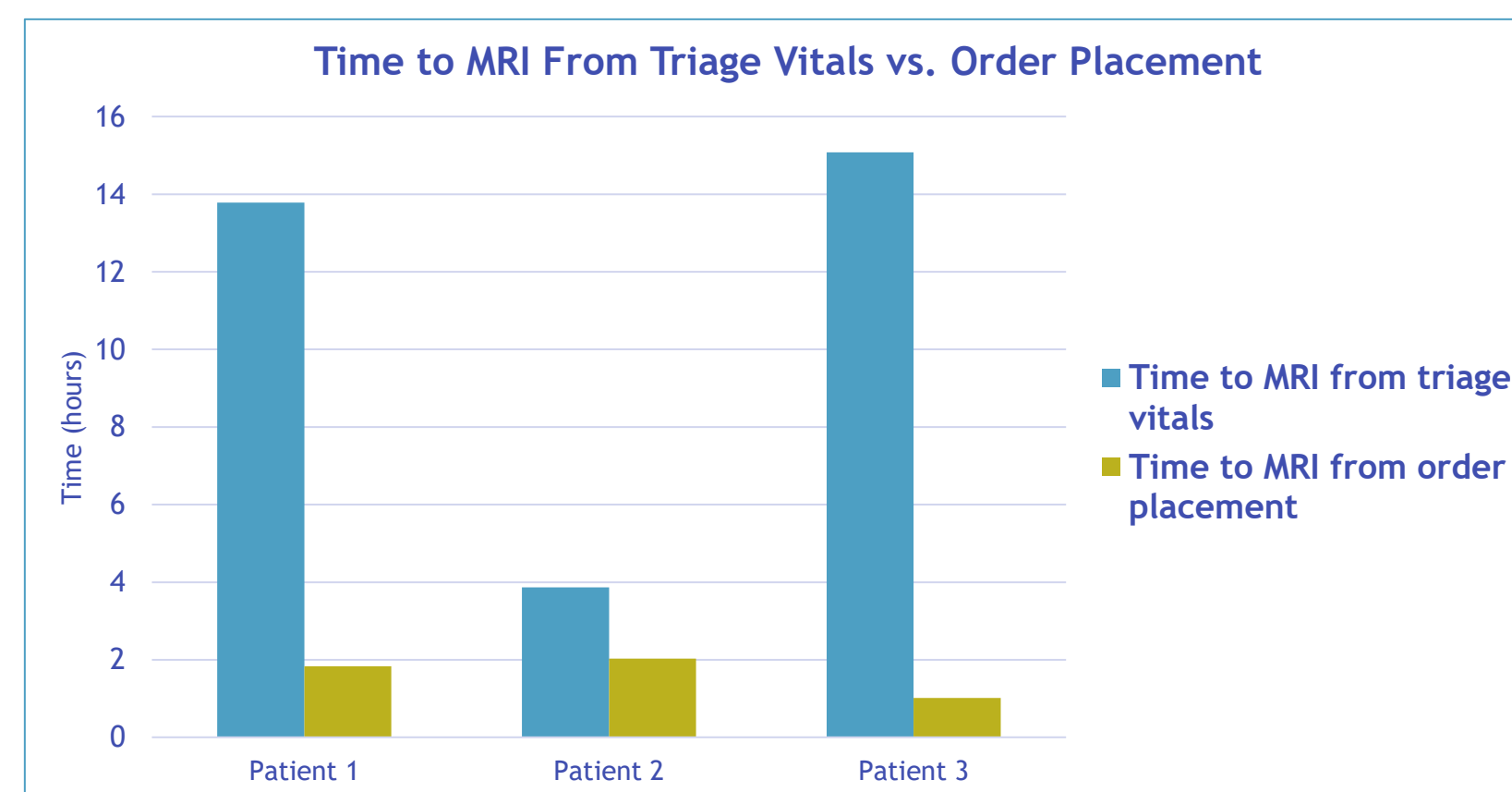
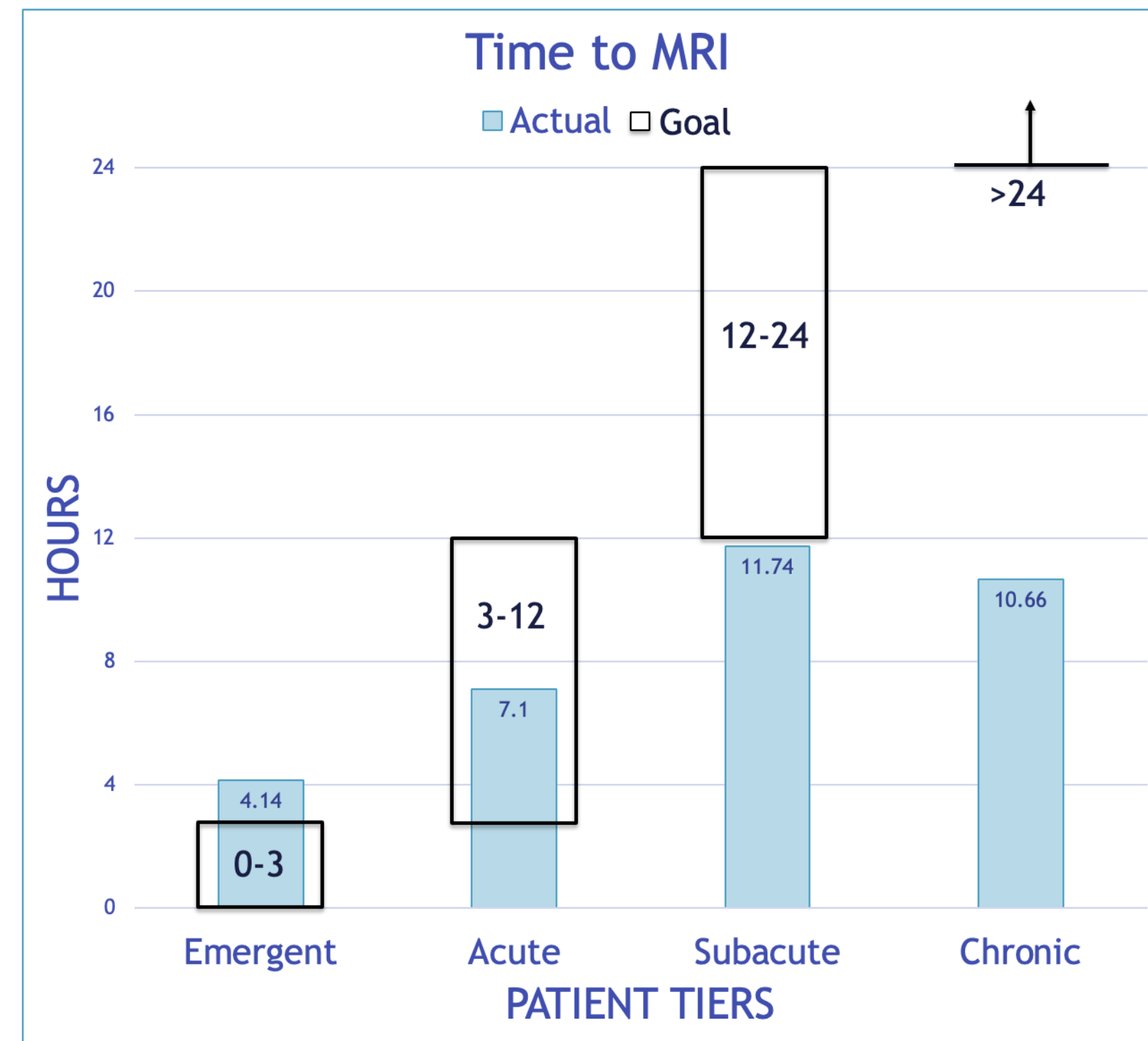
Magnetic resonance images (MRI) is integral in assessing pathology. This is especially true in the emergency room (ER), where delays in diagnosing emergent neurologic pathologies, including spinal epidural abscesses (EDAs), where the morbidity can be severe if not addressed in time. This study aims to implement an expedited imaging pathway for this urgent / emergent pathology.

Basic Metrics

A retrospective analysis of ER patients at Thomas Jefferson University Hospital that required an MRI between March and April 2022 was done. Variables included patient demographics, pathology, time to MRI, and MRI ordered. Patients were then split into four imaging tiers based on acuity: emergent (0-3 hours), acute (3-12 hours), subacute (12-24 hours), chronic (when able). Patients with EDAs who came through triage were further isolated and assessed.

Intervention

Imaging tiers that differentiate pathologies by acuity were created and showed that emergent pathologies were still not within range. A proposed pathway for EDAs was created to help shorten this disparity.



Challenges and Lessons Learned

Formulating a pathway that works for multiple departments within the hospital remains logistically difficult. This study shows MRIs in the ER are meeting goals for all categories except emergent pathologies. As such, we aimed to create a new pathway for patients with potential EDAs coming through triage to help mitigate this delay. This pathway is currently still in review by the ER oversight committee.

Future Directions

We hope to continue discussing with the ER oversight committee to implement this pathway. Our study shows that these patients are waiting significantly longer times to receive MRIs from when they enter triage. While this patient subgroup is small, it could have substantial impact on time to diagnosis and treatment for this morbid and sometimes fatal condition.

Linkage to Healthcare Disparities

Patients with EDAs, especially, present in significant pain and can have devastating outcomes if there is a delay in diagnosis. By expediting this process, the cost to the healthcare system and patients in general will decrease substantially.