Background

- The MELD-Na score is accurate at predicting of short term (<90 day) mortality
- Lower MELD-Na patients (score <15) have low rates of 90 day mortality, however their extended outcomes have not been studied
- Prior data has indicated they have an all-cause mortality rate of 18.6% in 5 years
- Is this related to their liver disease? Would they benefit from transplant?
- HealthLNK, a Chicago-wide database:
  - Has 2,422,433 unique patients and is linked with the Illinois Death Registry
  - Incorporates the de-identified electronic medical records from all liver transplant centers in Chicago:
    - Northwestern Medicine
    - University of Chicago Hospitals and Clinic
    - University of Illinois at Chicago Medical Center
    - Loyola University Medical Center
    - Cook County Health and Hospitals System

Research Objectives

To determine the burden of liver-related mortality on patients with persistently low MELD.

Methods

Inclusion:
- Adult patients seen at one of the above institutions with a diagnosis code of cirrhosis during data collection (January 1, 2006, and December 31, 2012)
- Died during the study period
- At least one lab collection to calculate MELD-Na during the study period

Exclusion
- Use of Coumadin during the period
- Manual review of "immediate cause of death" as listed on death certificates by two hepatologists and a transplant surgeon
- Classified into "Liver related", "non-liver related", and "non-descriptive"
- "Liver related" further sub-classified

Results

- 20,122 patients with cirrhosis were captured, of whom 9,502 met inclusion
- 4,309 patients had a MELD-Na < 15 for the entire time period.
- Of this low-MELD-Na subgroup there were 607 deaths (14.1% mortality over 6 years)
- Despite low MELD-Na score, a similar proportion of patients died from a liver related cause.
- Low MELD-Na patients had higher rates of HCC related death, however data missingness prevents significance testing

Conclusions

- Select patients are at risk for liver related mortality despite persistently low MELD-Na score.
- Although a lower death rate is observed more than 50% of deaths were liver related in the low MELD-Na group

Future Directions

- Reclassification using secondary and tertiary causes of death to elucidate "non-descriptive" or "Other" cases.
- Analyses to attempt to identify patients at risk of liver related death.
- Early transplantation via high risk donors or living donors to targeted patients at high risk of liver related death.

References