

### INTRODUCTION AND BACKGROUND

- Hepatorenal syndrome (HRS) is a complication of end-stage renal failure.
- Liver transplantation (LT) remains the only definitive treatment for hepatorenal syndrome.
- The initiation of renal replacement therapy (RRT) in patients with HRS has extremely high mortality rates and has been utilized as a bridge to LT.

### STUDY AIM

- We aimed to analyze temporal trends and outcomes of RRT in HRS patients

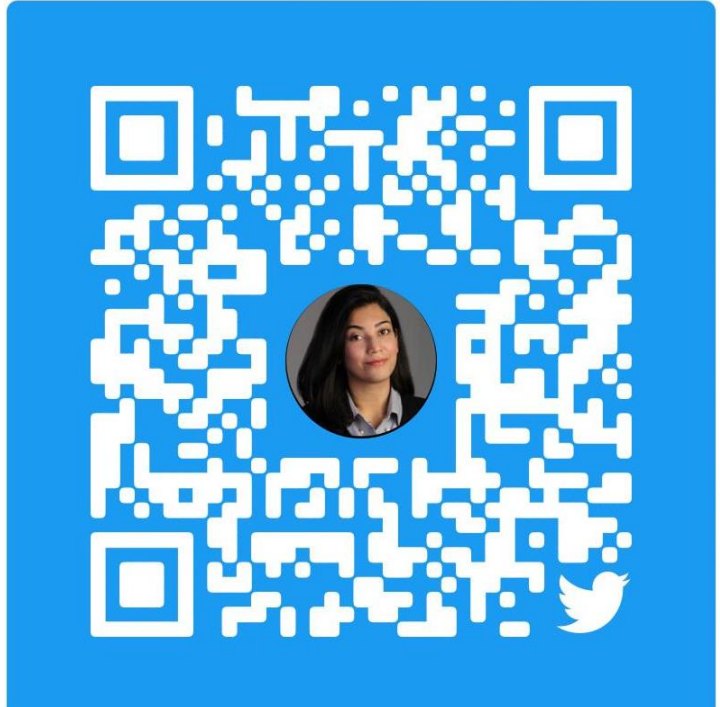
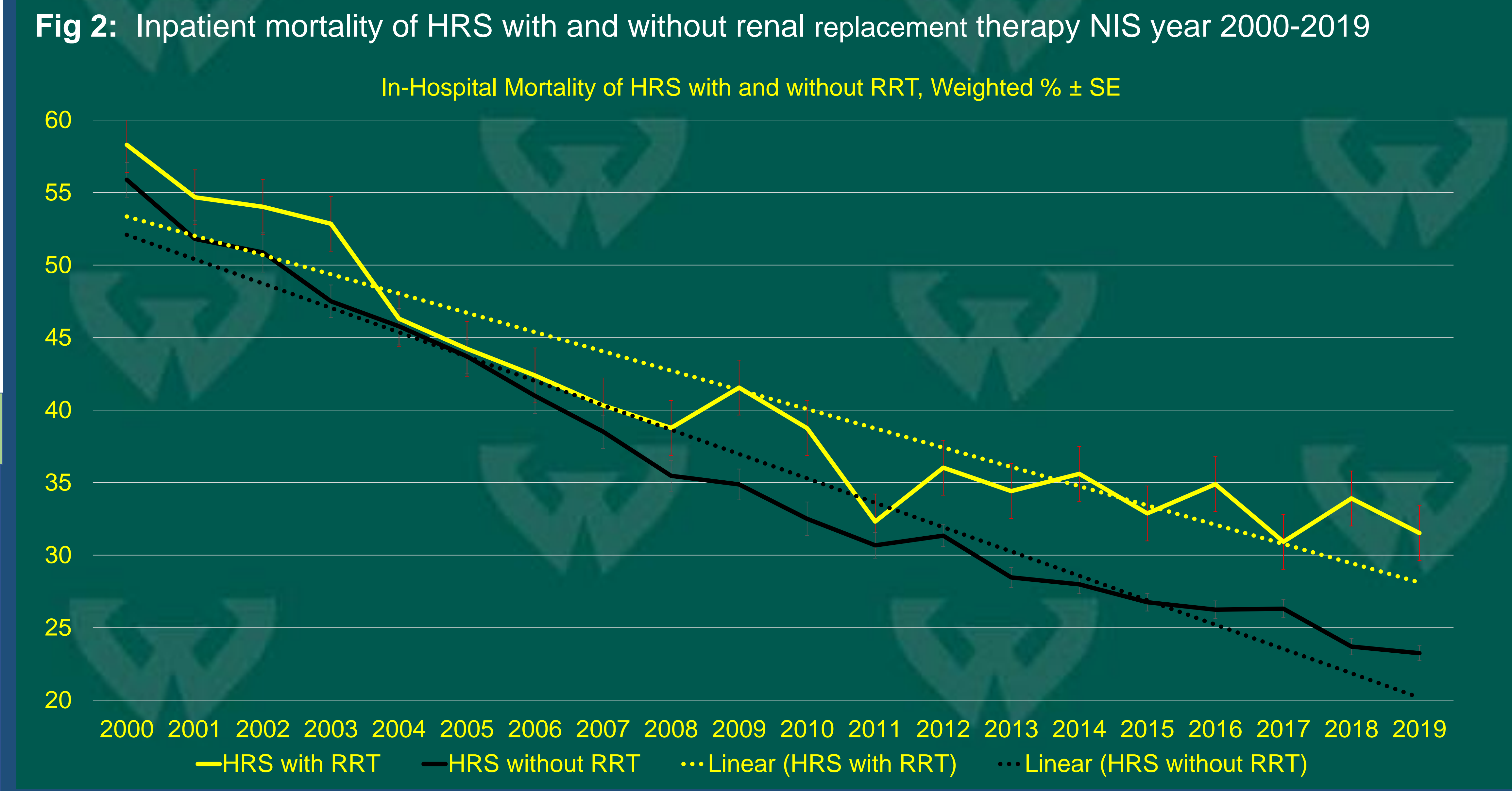
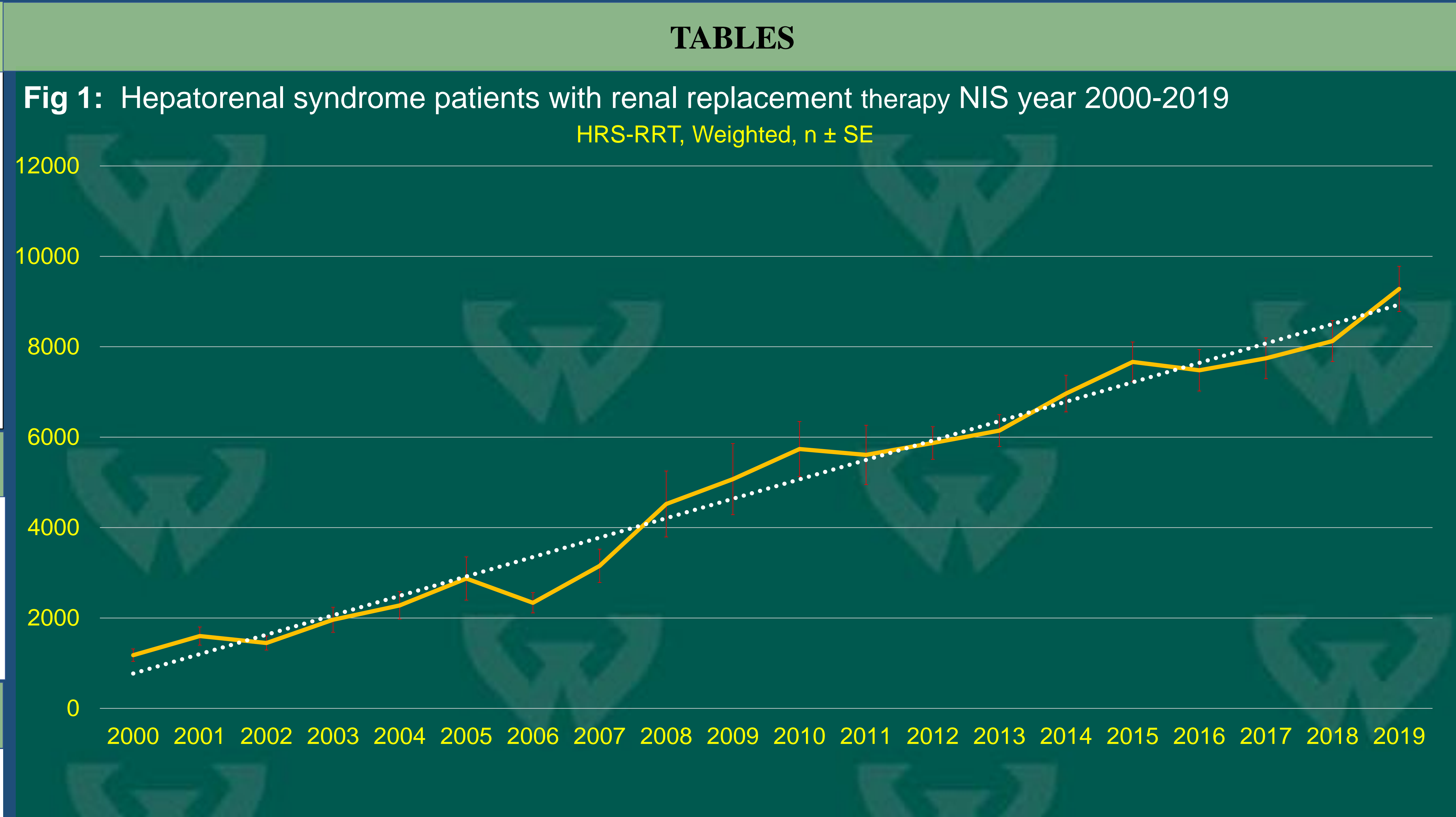
### METHODS

- The National Inpatient Sample (NIS) database from the year 2000 to 2019 was queried for patients to identify HRS patients using ICD codes.
- We used linear regression for continuous variables, the Cochran-Armitage Trend Test for categorical variables with two levels, and the Cochran-Mantel Haenszel Test for categorical variables with more than two levels.
- The p-values of < 0.01 were considered significant.
- Statistical analysis is performed in R (Studio 1.4).

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### RESULTS

- We identified 518,464 patients with HRS, of which 97,037 (18.7%) underwent RRT.
- During 2000 to 2019, HRS-RRT prevalence increased from 11.2% to 19.9% with P < .0001.
- The mortality of HRS without RRT decreased from 55.9% to 23.2% P < .0001, and with RRT decreased from 58.3% to 31.5% P < .0001.
- The mortality of HRS-RRT female patients decreased from 50.5% to 29.1%, males from 62.4% to 33.1%, Caucasians (CAU) from 60.0% to 30.7%, African Americans (AA) from 65.1% to 33.9%, Hispanics (H) from 58.0% to 26.6%, and Asians from 60.1% to 36.2%, all with P < .0001.
- The multivariate analysis showed that older age (aOR:1.89; 99% CI, 1.18 – 3.03; P < .0001) for 85+, compared to 18-44, AA (aOR: 1.19; 99% CI, 1.03 – 1.37; P < .0001), compared to CAU. Metastatic cancer, cerebrovascular disease, CHF, hypertension, seizures, and neurological disorders were significantly correlated with higher in-hospital mortality of HRS-RRT patients.

### LIMITATIONS

- The NIS does not identify individual patients, and recurrent hospitalizations appear as distinct observations.
- Inherent design flaws of administrative databases.
- Coding errors when combining ICD 9 with ICD 10
- No information on outpatient population.

### LEARNING POINTS

- The mortality of HRS patients decreased over the last two decades. This could be because of availability of newer therapies.
- HRS patients with RRT have higher mortality than those without RRT, possibly due to the severity of the disease in HRS-the RRT cohort.
- RRT does not favor older age, male gender, black and Hispanic race.