### Methods

#### Aim 1: Comparing ESRD Treatments by Dialysis Center Profit Status

**ESRD-Derived Data:** County-level prevalent ESRD modality (HD, PD, TX) and ESRD mortality data were obtained through The United States Renal Data System (USRDS) for the most recent year. UHDR calculated the ESRD mortality rate, the denominator is the sum of the exposure times of all patients at risk represented as ‘/patient-year at risk’. The data was cleaned and processed via county by jurisdiction, then it was imported into ArcGIS. 115 ESRD patients who were considered ‘unknown’ by USRDS were excluded from the analysis (6).

**Dialysis Center Locations:** The name, address, county, and for-profit status of each dialysis center was obtained through Medicare.gov. After being filtered to the states of interest, latitude and longitude data were geocoded by the Texas A&M Geocoder service. The data exported into Excel, where it was imported into ArcGIS. The ratio of patients per county was calculated. In Excel, the number of patients with each modality (HD, TX, PD) by the number of one-profit and for-profit clinics in the county. Moreover, it is unknown which clinics each patient patronizes, the ratio acts as a proxy for the relationship between the types of ESRD treatments (HD, PD, TX) and the type of clinic (non-profit vs. profit). After the ratio was calculated, the excel sheet was imported into ArcGIS, where a choropleth. The standard deviations of the ratio determined the legend (6).

#### Aim 2: Accessibility to Dialysis Clinics by Social Determinants of Health

**The racial breakdown of the counties and the education status was obtained through the US Census Bureau.** The data was joined with the TIGER lines, in the same manner, the ESRD data in aim 1. Percent of the population that is black is a well established social determined of health due to the structural inequalities. Moreover, this analysis does not show that patients treated in a county with a non-profit clinic had higher hospitalization rates than those who received HD from a non-profit dialysis unit and increase hospitalization due to fluid overload (4) and lower transplant rates (5).

### Results and Discussion

There are a total of 2,241 dialysis clinics in Alabama, Georgia, Louisiana, Mississippi, North Carolina, and South Carolina. Of those, 1,171 of them are for-profit clinics, while only 154 are non-profit. Most non-profit clinics are located in mostly urban counties that are mostly white and highly educated. On the other hand, for-profit clinics are more accessible to people without a college degree, rural counties, and counties with more people of color. Counties with any dialysis clinic had lower rates of mortality. However, many counties are more rural and have more people of color, those counties do not have a non-profit dialysis center.

The weakness of this analysis involves not having access to address level ESRD outcomes and mortality data. It is hard to determine how accessible a clinic is for a person on the county level. Therefore, it was assumed that the patients were getting their dialysis treated in their county. Moreover, this analysis does not show that patients treated in a county with a non-profit clinic had higher hospitalization rates than those who received HD from a non-profit dialysis unit and increase hospitalization due to fluid overload (4) and lower transplant rates (5).