

Background:

- ❖ Kidney transplantation (KTx) is considered the treatment of choice for patients with end-stage renal disease (ESRD). Proven benefits of KTx consist of improved patient quality of life (QoL), survival outcomes, and substantial cost savings across the life-span.
- ❖ Of patients with ESRD initiating dialysis in the Southeastern, United States (U.S.), 33.7% are referred for transplant within a year of starting dialysis, and of these, roughly 17% begin the actual evaluation process, indicating important barriers between referral and evaluation (2).
- ❖ Disparities impacting the early steps to accessing the KTx waitlist (i.e., referral, and waitlist evaluation) have not been well characterized within the Southeastern, U.S., (particularly North Carolina (NC) and South Carolina (SC)), a region with the highest prevalence of ESRD, and the lowest rates of KTx in the nation (3).
- ❖ Identifying the potential patient, provider, and systemic-level factors contributing to disparities impacting KTx waitlist access is needed to promote awareness and improve equity in accessing the waitlist.

United States Patient Trends:

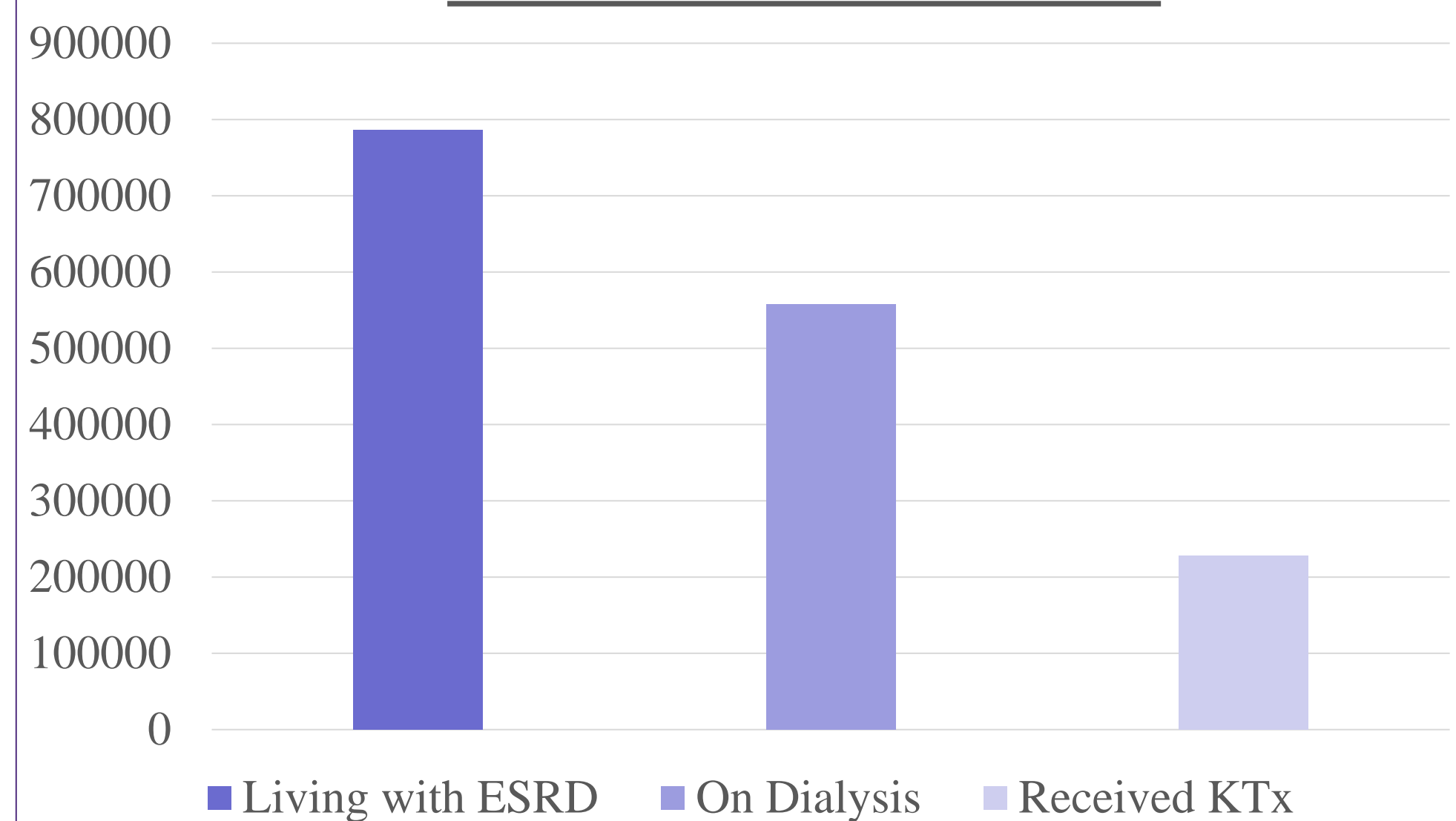
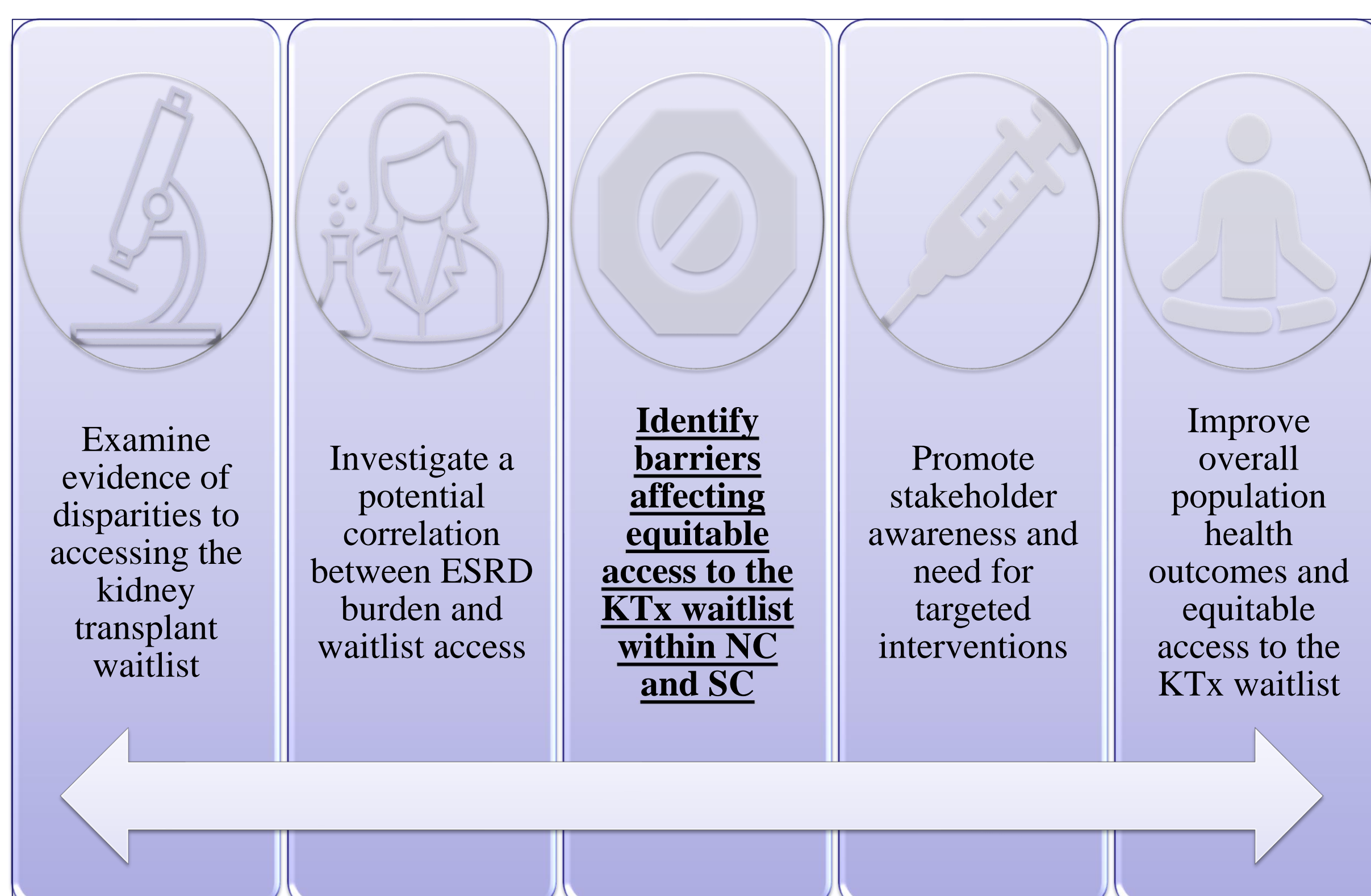


Figure 1: U.S. Renal Data System 2020 Annual Data Report: 786,000 patients living with ESRD, with 71% (558,060) on dialysis and 29% (227,940) with a kidney transplant (KTx).

Objective:

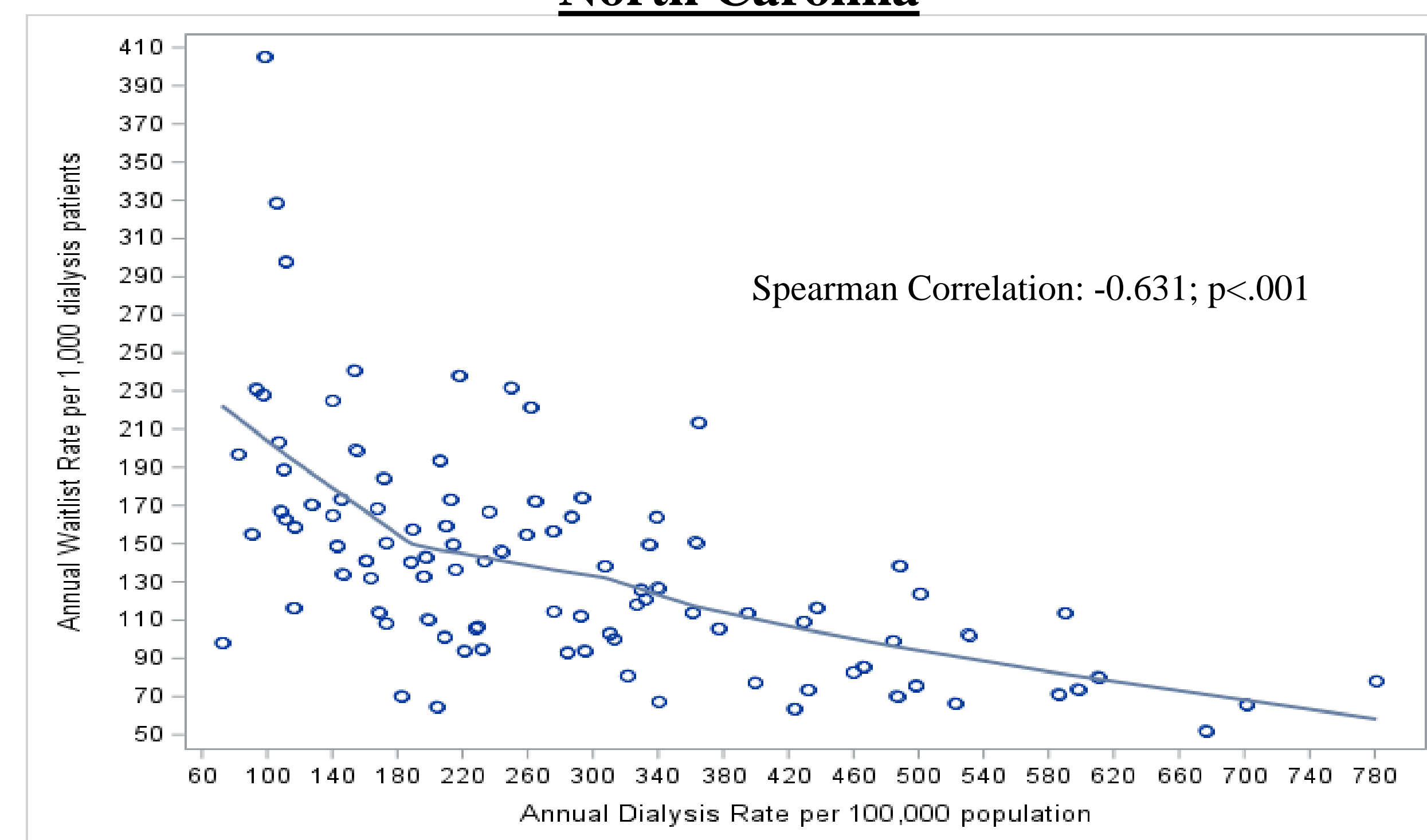


METHODS:

- ❖ PubMed was used to conduct a scoping literature review examining multifactorial disparities to accessing the KTx waitlist, published between 2013 to 2023. A hierarchical cluster analysis is being performed and factors associated with disparities in access to the KTx waitlist within NC and SC are being assessed using the Surgical Equity Index (SEI), a quantitative measure of surgical disparity (4).
- ❖ Data was obtained at the county level from various sources, including the US Renal Data System (USRDS), United Network for Organ Sharing (UNOS), US census, Area Health Resource Files (AHRF), and Robert Wood Johnson County Health Rankings (RWJF). Annual rates of KTx waitlist per 100,000 population was calculated for each county using waitlist count numerators from UNOS and dialysis count denominators from the USRDS. County-level characteristics, including access to care, social factors, and economic factors, were obtained from the AHRF and the RWJF.

RESULTS:

North Carolina



Identification:

Articles identified during initial PubMed search: n=134

Keywords: adults, kidney, transplant, waitlist, disparities, access

Screening:

Peer-reviewed articles screened: n=134

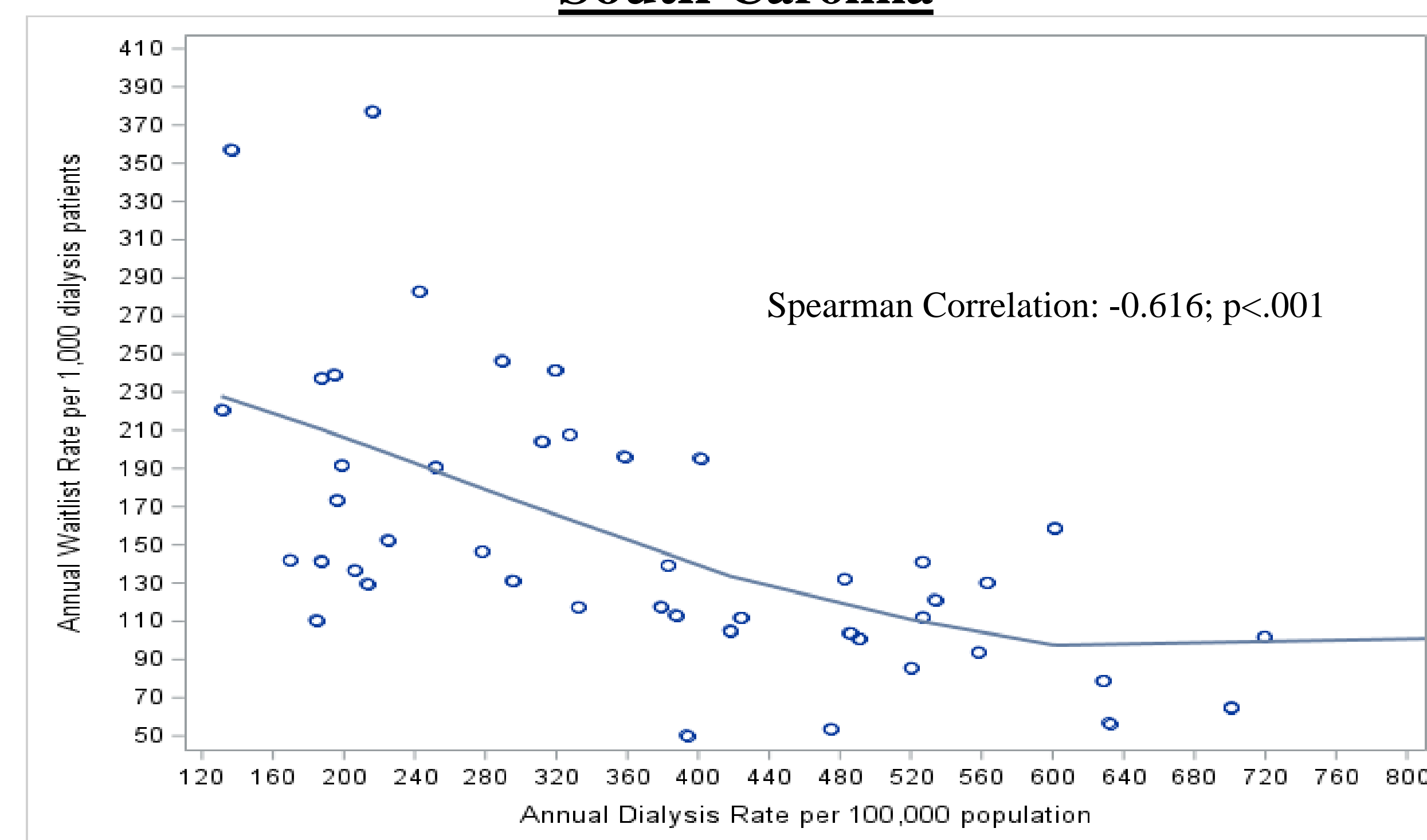
49% were excluded as they did not meet criteria of adults with ESRD, within the U.S.: n=66

Included:

51% met criteria for final review: n=68

54% (n=37) examined patient barriers; 18% (n=12) included provider-level barriers; and 28% (n=19) identified systemic barriers.

South Carolina



- ❖ **A negative correlation was observed** as higher rates of ESRD burden within NC and SC, are associated with lower rates of KTx waitlisting, **indicating large variability in waitlist access**. Our scoping literature review provided important background data that guides our analysis moving forward as specific patient, provider and systemic-level barriers were strongly predictive of reduced access to the KTx waitlist. We hypothesize that NC and SC counties with higher rates of ESRD burden experience reduced rates in access to the KTx waitlist due to disparities impacting equity in waitlist access.

Conclusion:



Patient Factors:

- Female gender, racial & ethnic minorities, advanced age
- Inadequate Social Support
- Medical Mistrust
- Low Education & Health Literacy



Provider Factors:

- Implicit Bias
- Perceived Discrimination
- Low Provider to Patient Ratio
- Lack of Disparity Awareness



Systemic Factors:

- Rural Area/Geospatial Barriers
- High Community Risk
- For-profit Dialysis Facilities
- Variability in Transplant Center Performance

Multiple regression analysis, commonly used in our scoping literature review, may be compromised when variables are highly correlated (multicollinearity). This can lead to inaccurate or possibly incorrect conclusions. We plan to use analytic methods that reduce the complexity of multiple variables into a smaller set of underlying factors that can eliminate unnecessary “noise” or suppressor variables within the data, while maintaining the highest possible prediction in accuracy to understand disparities in KTx waitlist access within NC and SC.

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- Figure 1: <https://www.niddk.nih.gov/health-information/health-statistics/kidney-disease>

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