

Problem Statement Worksheet (Hypothesis Formation)

What opportunities exist for the CRIC Study to investigate the effects of an individual's choice of dialysis center on one's kidney health in the upcoming research year?

Context

The Chronic Renal Insufficiency Cohort (CRIC) Study aims to examine the effects of a broad range of risk factors on the progression of Chronic Kidney Disease (CKD). One factor that has yet to be examined is an individual's choice of dialysis center. Dialysis is a treatment that acts as healthy kidneys and is needed in end stage kidney failure- 85 to 90% loss of kidney function. Kidneys keep the body in balance by removing waste, salt and extra water; keep a safe level of certain chemicals in your blood; and help to control blood pressure. Dialysis can be done in a hospital, in a dialysis center or at home. The Dialysis Facility Compare Star Program is a rating system developed by Medicare that assigns 1 to 5 stars to dialysis facilities by comparing the health of the patients in their clinics to the patients in other dialysis facilities. The rating system is based on nine separate health statistics: mortality ratios (deaths), hospitalizations, blood transfusions, incidents of hypercalcemia (too much calcium in the blood), percentage of waste removed during hemodialysis in adults and children, percentage of waste removed in adults during peritoneal dialysis, percentage of AV fistulas, and percentage of catheters in use over 90 days. Dialysis centers can be for profit or non-profits and some are chains. CRIC is curious to know how an individual's choice in dialysis center affects one's kidney health.

Criteria for success

CRIC will include dialysis center data in patient demographics by 2021

Scope of solution space

Will focus on dialysis centers' star ratings as patient health indicator

Constraints within solution space

- Only considers patients receiving treatment at dialysis centers
- Not all dialysis centers included in dataset
- Health statistics might be skewed due to health factors unrelated to dialysis

Stakeholders to provide key insight

- Centers for Medicare & Medicaid Services – Dataset publisher
- Harold Feldman, MD – PI of Scientific and Data Coordinating Center of the CRIC study
- J. Richards Landis, PhD – Co-PI for the Scientific and Data Coordinating Center for the CRIC Research Network
- Jason Roy, PhD – faculty biostatistician for CRIC

Key data sources

Dialysis Facility Compare Dataset from Data.Medicare.gov