

A Comparison of ESRD Care, Prevention and Satisfaction in States With and Without Kidney Programs

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Goals and Cost Containment Implications of the Proposal

The proposal examined how four states bordering Missouri with either state kidney programs or without in terms of quality medical care for patients with end-stage renal disease, provision of professional education for physicians and health providers, provision of education for patients and families, emphasis of transplantation as a treatment option and promotion of cost containment measures. The study will utilize the Medicaid/Medicare data set for ESRD, data from the USRDS and other public data sets such as UNOS, the educational offerings by all states for professional and lay audiences and statistics on transplantation candidacy, donation, and cost containment measures enacted as data sources. The cost containment implications of the study have great relevance for the State of Missouri as it will provide comparison data of our kidney program with other state programs and with states without state kidney programs. The data addressed how adequately these objectives are met in the State of Missouri. The project addressed the most central question for the existence of state kidney programs, that is, do states with kidney programs carry out their mission of integrated, high quality care with cost containment procedures, while providing public and professional education about renal disease.

Results

Missouri was compared to Illinois, Iowa, Kansas and Nebraska which border the State of Missouri. Illinois had the largest ESRD population with 2,534 in 2003 and Missouri second with 1,257 patients followed by Iowa (676), Kansas (613) and Nebraska (423).

Though the states differed in absolute numbers of population, the average or mean data for all the states was quite similar.

Age

The mean age for starting ESRD treatment was 63 in Illinois, Kansas and Missouri, while the mean age in Iowa and Nebraska was age 65 (15 s.d.).

Sex

Sex distribution was remarkably similar with males representing 55% of the ESRD population in Illinois, Iowa and Nebraska. Males were 54% in Kansas and 53% in Missouri.

Race/Ethnicity

This was quite divergent with Illinois and Missouri with the largest Black patient population at 32% and 28% respectively. Blacks accounted for 20% in Kansas, 12% in Nebraska and 6% in Iowa.

Laboratory Values

Estimated GFR values were all less than 15 mL/min/1.73m². All states had eGFR values of about 10 with Nebraska having mean values of 12. States with state kidney programs had values of 10.3 while states without renal programs had 9.9 eGFR values (p = .003). BUN values were 86.7 for Illinois, 85.8 (Iowa), 82.4 (Kansas), 81.8 (Missouri) and 76.6 (Nebraska). Serum creatinine was 7.2 for Illinois, 6.6 (Iowa), 6.8 (Kansas) 6.8 (Missouri) and 6.1 (Nebraska).

Primary Disease Groups

Diabetes was highest in Nebraska (46%) followed by Missouri (43%), Kansas (44%), Illinois (42%) and Iowa (41%). Hypertension led in Illinois (32%) and Missouri (29%). Iowa and Nebraska were 24% with Kansas at 23%. Polycystic disease was from 2-3% in the states studied (Missouri 2%).

Treatment Modality

Most patients were treated in dialysis centers: 89% in Illinois and Missouri, 87% in Iowa, 85% in Kansas and 83% in Nebraska. Nebraska and Kansas had the highest proportion of CAPD patients with 14% and 11% respectively. Iowa had 7% and Missouri/Illinois had 6%. Iowa had the largest proportion of transplant patients at 13%, followed by Nebraska (10%) and Illinois, Kansas and Missouri (8%).

Findings

The demographic and medical characteristics of the ESRD populations in the states surrounding Missouri are quite similar. The proportion of Whites and Blacks differs in some states, but characteristics at entry into ESRD treatment are remarkably similar. All patients enter ESRD treatment clearly in renal failure, with Nebraska with eGFR which are significantly better than other states (10 vs. 12). It may be the case that patients in Nebraska are beginning in treatment a year or more earlier than in other states. Differences between states may be due less to disease characteristics or medical management but related to race/ethnicity and rural versus urban issues. Finally, usefulness of state kidney programs may not be reflected in the present data as these data are the common data from Form 2827 collected at the initiation of ESRD replacement therapy. Thus, measurable effects of state kidney programs need other measures and outcomes. Missouri resembles its neighboring states in terms of patient demographics and medical characterization and looks more like Illinois in multiple comparisons. Differences in Midwestern states are minimal.