



Kidney Disease

US adults with prior military service are 17% more likely to have chronic kidney disease (CKD) than civilians, with risk varying across service era and demographic subgroups.¹ Social factors also affect outcomes; veterans experiencing homelessness have a 15% higher likelihood of developing end-stage kidney disease.² CKD can also contribute to worse outcomes in other health conditions, such as heart failure (HF) and diabetes mellitus type 2, increasing mortality, compared with those who have normal kidney function.^{3,4}

New VA/DoD clinical practice guidelines emphasize primary care's expanded role in the management of CKD, along with the inclusion of newer treatments in care.⁵ The VA has implemented telenephrology programs, following a hub-and-spoke model to reach veterans in areas without nephrology specialists.⁶

VA Telenephrology Program Outcomes⁶



A study of more than 11,000 veterans with CKD, refractory and resistant hypertension, and electrolyte disorders assessed differences in outcomes of patients treated through telenephrology services versus primary care providers from 2021 to 2024.

Veterans who used telenephrology services...



Were younger: 69 vs 74 years



Had more advanced CKD:
eGFR 47 vs 55 mL/min/1.73m²

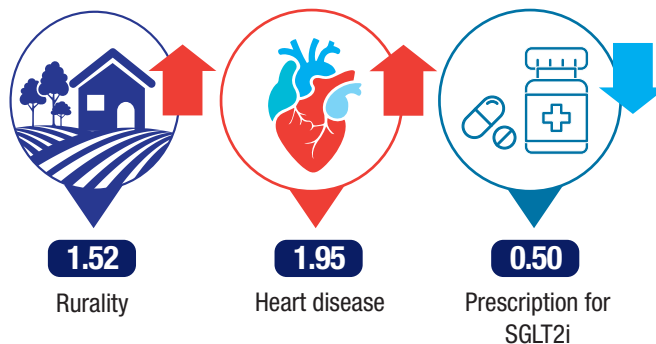


Had lower mortality: 38% lower

...compared with veterans who used primary care providers.

Factors That Affect Mortality in Telenephrology Group

Displayed as hazard ratios (HR)



eGFR, estimated glomerular filtration rate; SGLT2i, sodium glucose transporter 2 inhibitors

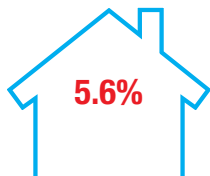


Patients in the telenephrology group were also more likely to start guideline-directed therapies and continue to be receiving them at the end of the study compared to patients in the primary care provider group; for example, this difference was seen for SGLT2i (38% vs 28%) and angiotensin-converting enzyme inhibitors/angiotensin II receptor blockers (71% vs 59%) at the end of the study, as well as for other treatments. Mortality was lower in the telenephrology group even after accounting for medication use and other cofounders (HR = 0.85).

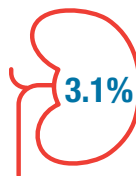
Homelessness and Risk of End-Stage Kidney Disease²



A study of over 830,000 veterans assessed the effect of a history of homelessness on risk for end-stage kidney disease and mortality using retrospective data from 2005 to 2017. The study included veterans with stage 3 to 5 CKD using VHA healthcare. Homelessness status was defined based on a record of housing instability at any point in the 2 years prior to CKD diagnosis. End-stage kidney disease was defined by the initiation of dialysis or kidney transplant.

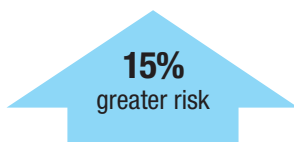


of the sample
had experienced
homelessness.

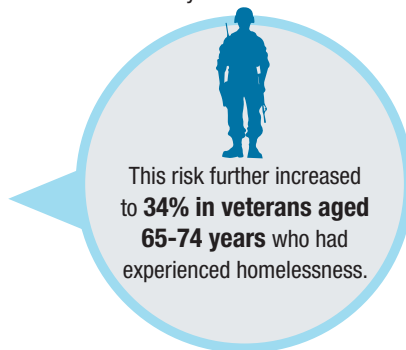


of the sample
developed end-stage
kidney disease.

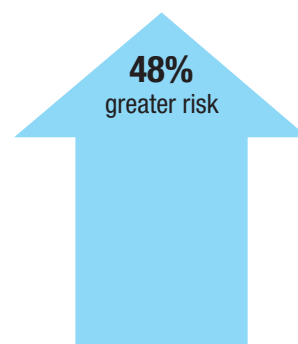
Risk of End-Stage Kidney Disease



Compared with veterans with no
history of homelessness



Risk of All-Cause Death

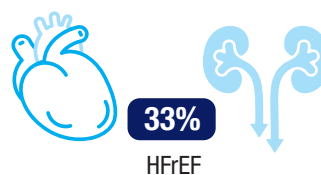
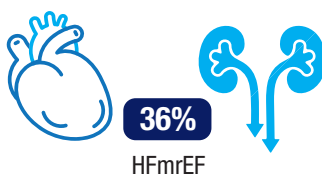
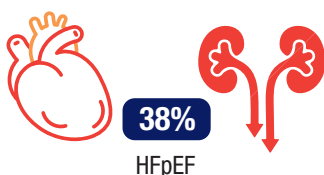


Mortality and Hospitalization in Patients With HF and CKD³

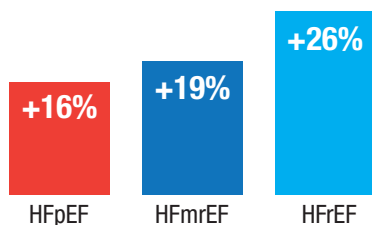


A study of 365,000 veterans assessed the effect of CKD on outcomes in those with preserved, mildly reduced, and reduced ejection fraction HF (HfPEF, HfMrEF, HfFrEF). Normal kidney function was defined as 2 measurements > 90 days apart of eGFR ≥ 60 mL/min/1.73m², without eGFR < 60 mL/min/1.73m² or albuminuria for 3 years before HF. Patients were categorized as having HfPEF by EF $\geq 50\%$, HfMrEF by EF 41%-49%, and HfFrEF by EF $\leq 40\%$.

Percentage with CKD



Mortality in Patients With CKD



Compared with veterans with
normal kidney function



Risk of HF Hospitalization in Patients With CKD

