Supplementary Appendix: Methods

Patients in this study were eligible for Medicare or were dually eligible for Medicare and Medicaid. Medicare is a federally-funded program which provides insurance coverage for the vast majority of adults with ESRD. Medicaid, a public insurer funded jointly by federal and state governments, provides ancillary coverage for low-income patients. The data sources and strategy used for linking Medicare and Medicaid patients have been previously described, as referenced in the manuscript text.

To create the study cohorts, we received from the USRDS standard patient records that included demographics, comorbidites, functional status, and dialysis modality (from the Medical Evidence Form, known as "CMS 2728") at the time of dialysis commencement. The USRDS also incorporates data on inpatient and outpatient medical claims paid by Medicare, which provides insurance coverage for the vast majority of dialysis patients. The Medicare claims files contain International Classification of Diseases – 9th Revision (ICD-9) codes for each date of service.

A variety of covariates were considered as potential risk factors for hemorrhagic stroke, including age, sex, race by ethnicity, body mass index, employment status, smoking, substance abuse (alcohol or illicit drugs), ability to ambulate and to transfer, cause of ESRD, and dialysis modality. Comorbidities consisted of diabetes, congestive heart failure, coronary artery disease, cerebrovascular disease, and peripheral vascular disease. Ethnicity was categorized into one of four mutually-exclusive groups: non-Hispanic Caucasians, non-Hispanic African-Americans, Hispanics, and Others. Body mass index (BMI) was classified into 4 categories: < 20 kg/ m^2, 20-24.99 kg/m^2, 25-29.99 kg/m^2, ≥ 30 kg/m^2. Cause of ESRD was categorized as diabetes, hypertension, glomerulonephritis, or other. Because the CMS 2728 form is structured such that

diabetes and hypertension may be considered as both a cause of ESRD and/or a “freestanding” comorbidity, for the purposes of the present analysis, these two covariates were considered a comorbidity if they were listed as either the cause of ESRD or as a “freestanding” comorbidity on the CMS 2728 form. Dialysis modality at time of dialysis initiation was categorized as in-center hemodialysis or self-care dialysis (home hemodialysis or peritoneal dialysis).

Patients enrolled in any form of managed care plan (e.g., those in Arizona or Tennessee Medicaid) or in the Department of Veterans Affairs health system were also excluded since complete claims data were not available. Of note, persons on chronic dialysis were generally not enrolled in Medicare managed care plans prior to 2006.