Press Release

SIMPLE MODEL PREDICTS PROGRESSION OF KIDNEY DISEASE AMONG SOCIALLY DISADVANTAGED PATIENTS

Model may help improve kidney care and reduce socioeconomic disparities

Highlight

- A simple model using 5 commonly available variables from electronic health records adequately discriminates between socially disadvantaged individuals with chronic kidney disease who will and will not progress to kidney failure.

Nearly than 26 million people in the United States have chronic kidney disease.

Washington, DC (December 4, 2014) — Among socially disadvantaged patients with moderate or advanced chronic kidney disease, a simple 5-variable model accurately predicts most cases of kidney failure that develop within 5 years. The model, which is described in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN), can help predict who will and will not progress to kidney failure and may help guide approaches to reduce socioeconomic disparities in kidney disease.

In the United States, CKD affects nearly 26 million Americans. While most patients will not progress to kidney failure, or end stage renal disease (ESRD)., a disproportionate number of ESRD cases occur among socially disadvantaged groups. Relatively little progress has been made in reducing socioeconomic disparities in the incidence and treatment of ESRD, and relatively little is known about processes and outcomes of care for underserved patients with earlier stages of CKD.

To look for ways to help municipal health systems identify socially disadvantaged patients at high risk for progression of CKD to ESRD, Marlena Maziarz, MSc, Yoshio Hall, MD, MS (University of Washington, Seattle), and their colleagues conducted a retrospective study of 28,779 adults with CKD who received health care in 2 large safety net health systems from 1996 to 2009 and were followed through September 2011.

Overall, 1730 individuals progressed to ESRD during a median follow-up of 6.6 years. ESRD risk for time frames up to 5 years was highly concentrated among relatively few individuals. Using a predictive model that included 5 common variables—age, sex, race, kidney function, and dipstick urinary protein level—80% of individuals who eventually

developed ESRD were among the 5% of individuals at the highest estimated risk for ESRD at 1 year. Similarly, a program that followed 8% and 13% of individuals at the highest ESRD risk would have included 80% of those who eventually progressed to ESRD at 3 and 5 years, respectively.

Therefore, in this underserved health setting, a simple 5-variable model accurately predicted most cases of ESRD that developed within 5 years. "Our study approach may help to guide public health systems in identifying a sub-cohort of patients who are at high risk for progressing to ESRD to provide, for example, more intensive surveillance, risk factor management, and, when necessary, preparation for ESRD care," said Dr. Hall.

Study co-authors include R. Anthony Black, MA, Christine Fong, MS, Jonathan Himmelfarb, MD, and Glenn Chertow, MD, MPH.

Disclosures: Dr. Hall previously received research funding from Satellite HealthCare's Norman S. Coplon Extramural Grant Program. Dr.Himmelfarb reports serving as a consultant for Biogen Idec and has ownership interest in Thrasos Innovations, Inc. Dr. Chertow serves on the Board of Directors of Satellite HealthCare and PuraCath; reports serving as a consultant for Amgen, Astra Zeneca, Gilead, Otsuka, and ZS; and has ownership interest in Ardelyx, Allocure, HD+, PuraCath, and Thrasos.

The article, entitled "Evaluating Risk of ESRD in the Urban Poor," will appear online at http://jasn.asnjournals.org/ on December 4, 2014.

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Founded in 1966, and with more than 15,000 members, the American Society of Nephrology (ASN) leads the fight against kidney disease by educating health professionals, sharing new knowledge, advancing research, and advocating the highest quality care for patients.

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Facebook: Among socially disadvantaged patients with chronic kidney disease, a simple 5-variable model accurately predicts most cases of kidney failure that develop within 5 years. The

model, which is described in a study published in the *Journal of the American Society of Nephrology*, may help reduce socioeconomic disparities in kidney disease incidence and related care.

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