



PREVENTION OPPORTUNITIES UNDER THE BIG SKY

CHRONIC KIDNEY DISEASE: IMPACT CAN BE REDUCED IF DIAGNOSED EARLY

The rate of chronic kidney disease (CKD) in the US has increased since 1980.¹ The National Kidney Foundation estimates that CKD now affects nearly 27 million US adults.² End-stage renal disease (ESRD), one outcome of CKD, is also increasing in prevalence—104 percent between 1990 and 2001.³ Hypertension and diabetes are the most common underlying causes of ESRD.⁴ The rate of hospital discharge for CKD in Montana increased from 2000 to 2008. (Figure 1) This issue of *Montana Public Health* describes guidelines for identifying CKD, and the frequency of CKD screening in patients with diabetes in Montana.

Recognizing and reducing the impact of chronic kidney disease – clinical testing guidelines CKD is a “silent” disease, often undiagnosed until kidney damage is advanced. Testing is therefore key to initiating treatment. In patients with diabetes, good glycemic control and use of angiotensin converting enzyme inhibitors (ACEI) and angiotensin II receptor blockers (ARB) medications for blood pressure control have been shown to slow the progression of CKD.⁵ For patients with diabetes the American Diabetes Association recommends: 1) annual testing for urine albumin-to-creatinine ratio (UACR) in patients with type 1 diabetes with duration 5 years or more and in all patients with type 2 diabetes, and 2) annual serum creatinine testing to estimate glomerular filtration rate (eGFR) and to stage the level of chronic kidney disease. A UACR value greater than 30 mg/g or an eGFR less than 60 ml/min signals kidney disease, and eGFR less than 15 ml/min, kidney failure. Patients with hypertension should also be tested beginning when blood pressure therapy is initiated, and again every three years after blood pressure is stabilized, or at physician discretion. Patients with a family history of CKD should be tested at similar intervals.⁶

Frequency of testing in Montana In the US testing for CKD probably falls short of these recommendations. Medicare data for Montana suggest UACR and serum creatinine testing among older patients with diabetes is suboptimal. During calendar year 2007, only 29 percent of this group had a microalbumin test. Medicare data also indicated that approximately 80% of patients with diabetes and hypertension received ACEI or ARB medications in both 2007 and 2008.

At least annual urine microalbumin testing for patients with diabetes is assessed regularly at physician offices and clinics that participate in the DQCMS Program. During 2007 to 2009 the number of participating sites

was 31 to 46, and half of the offices screened more than 31% of patients at least annually. (Figure 2.) Some of the offices screened all patients with diabetes each year consistent with the recommended guidelines.

Figure 1. Rate of hospital discharge for chronic kidney disease and all kidney disease, Montana, 2000-2008

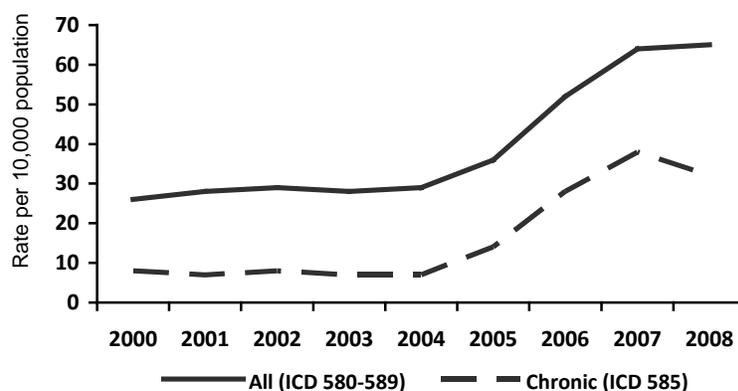
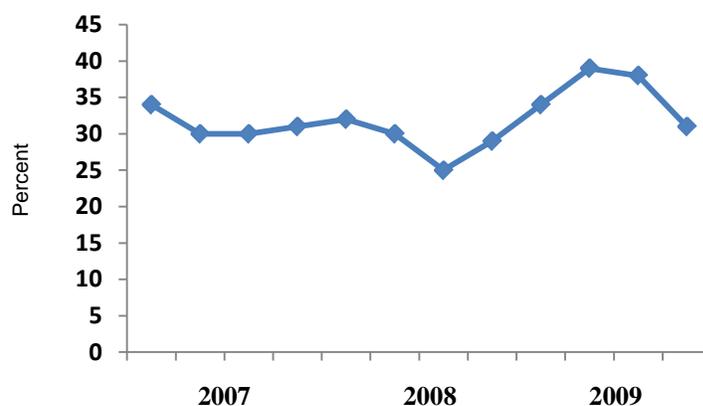


Figure 2. Median percent of patients with diabetes who had at least annual urine microalbumin testing at offices participating in the DQCMS project, Montana, 2007-2009



Activities to increase testing and recognition of CKD Methods to improve case-identification and care-delivery are needed. The prevalence of CKD is high and increasing, laboratory tests are available, and intervention can reduce risk of cardiovascular events or progression to renal failure. The Montana Diabetes Project (DPHHS) is collaborating with the Mountain Pacific Quality Health Foundation in a CKD Care Partnership. This partnership includes a wide variety of

organizations including the Northwest Renal Network, the American Association of Kidney Patients and the Montana Chapter of the American Association of Diabetes Educators. The Partnership is supporting both provider and patient education pertaining to early recognition and guideline-based care for CKD. One goal is to increase the proportion of patients at high risk for CKD who have been screened and advised about steps they can take to decrease risk.

Recommendations to identify and slow progression of CKD⁷

1. Provide screening for CKD: for patients with diabetes, hypertension and some other conditions (e.g., certain autoimmune diseases, family history of CKD) provide screening consistent with clinical guidelines.
2. Provide treatment to reduce risk: controlling blood pressure, especially with ACEI and ARB medications, slows progression of renal disease and reduces risk of cardiovascular disease.
3. Refer patients with CKD for nephrology assessment: timely nephrology assessment can help assure treatment consistent with clinical guidelines.
4. Establish office systems to facilitate high quality care: delivery of care consistent with guidelines can be facilitated by systems such as DQCMS or similar registries established through systematic use of electronic health records.

For more information about the Diabetes and Chronic Kidney Disease Care Partnership, contact Dwight Hiesterman MD at Mountain-Pacific Quality Health Foundation (dhiesterman@mpqhf.org, 406-457-5878/ 800-497-8232, ext. 5878) or Mark Niebylski, PhD, at the Montana Diabetes Project (mniebylski@mt.gov, 406-444-7362).

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