

Putting Prevention into Practice

An Evidence-Based Approach

Screening for Chronic Kidney Disease

TINA FAN, MD, MPH, *Medical Officer, U.S. Preventive Services Task Force Program, Agency for Healthcare Research and Quality*

DARLENE P. SMALLMAN, COL, USAF, MC, *General Preventive Medicine Residency, Uniformed Services University of the Health Sciences*

► See related U.S. Preventive Services Task Force Recommendation Statement at <http://www.aafp.org/aafp/2014/0215/od1.html>.

CME This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz Questions on page 251.

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The case study and answers to the following questions are based on the recommendations of the U.S. Preventive Services Task Force (USPSTF), an independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness and develops recommendations for clinical preventive services. More detailed information on this subject is available in the USPSTF Recommendation Statement and the evidence report on the USPSTF website (<http://www.uspreventiveservicestaskforce.org>). The practice recommendations in this activity are available at <http://www.uspreventiveservicestaskforce.org/uspstf/uspstkcd.htm>.

A collection of Putting Prevention into Practice quizzes published in *AFP* is available at <http://www.aafp.org/aafp/ppip>.

Case Study

A 55-year-old woman with no history of diabetes mellitus or hypertension asks to be screened for chronic kidney disease (CKD). Her 88-year-old mother has end-stage renal disease and is currently undergoing renal dialysis. The patient says she wants to take all necessary precautions to prevent this from happening to her.

Case Study Questions

1. According to the U.S. Preventive Services Task Force (USPSTF), which one of the following statements about screening for CKD is correct?

- ☐ A. Routine screening for CKD in asymptomatic adults improves clinical outcomes and should be implemented on a national scale.
- ☐ B. There is insufficient evidence to assess the benefits and harms of routine screening for CKD in asymptomatic adults.
- ☐ C. Routine CKD screening has no net benefit, and the harms of routine screening outweigh the benefits.
- ☐ D. There is convincing evidence that one-time screening with tests for estimated glomerular filtration rate, microalbuminuria, or macroalbuminuria has high sensitivity and specificity for diagnosing CKD.

2. Which of the following statements about the risk of CKD are correct?

- ☐ A. CKD is rare in the United States, and is found in less than 1% of the general U.S. population.
- ☐ B. Most patients with CKD have no risk factors for the disease.
- ☐ C. Older age, obesity, and family history of CKD are risk factors for the disease.
- ☐ D. There is no accepted risk assessment tool for CKD.

3. Based on the findings of the USPSTF, which one of the following statements should be used to counsel the patient on the potential benefits or harms of screening for CKD?

- ☐ A. There is no benefit to screening for CKD because most patients with the disease develop symptoms early and are easily identified.
- ☐ B. There is a well-demonstrated benefit to early treatment of CKD in patients without diabetes or hypertension.
- ☐ C. There are no treatments available for patients with diabetes to reduce their risk of advanced CKD.
- ☐ D. There are no harms associated with the medications used to treat early CKD.
- ☐ E. Persons who have positive results on a screening test but do not have CKD may experience the harms associated with interventions and treatments without the potential for benefit.

Answers appear on the following page.

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Answers

1. The correct answer is B. The USPSTF found insufficient evidence to assess the balance of benefits and harms of routine screening for CKD in asymptomatic adults. Evidence that routine screening improves clinical outcomes for asymptomatic adults is inadequate. Although the USPSTF found convincing evidence that medications used to treat early CKD may have adverse effects, it found that the evidence on the overall harms of screening is inadequate. No studies were found that evaluated the sensitivity and specificity of one-time testing for CKD with tests for estimated glomerular filtration rate, microalbuminuria, or macroalbuminuria. The number of persons with a positive screening test result and confirmed CKD (decreased kidney function or kidney damage that persists for at least three months) is unknown.

2. The correct answers are C and D. CKD is common in the United States. In 2011, 11% of the general U.S. population had the condition. However, most affected persons have risk factors for CKD. Diabetes and hypertension are well-established risk factors with strong links to CKD. Other risk factors include older age, cardiovascular disease, obesity, and family history. There is no generally accepted risk assessment tool for CKD. The USPSTF recommendation applies only to asymptomatic adults without a diagnosis of CKD and does not cover testing and monitoring for chronic disease management.

3. The correct answer is E. Given that CKD is usually asymptomatic until its advanced stages and that the prevalence of CKD in the general U.S. population is high, evaluating the effectiveness of CKD screening is important. However, no studies were found on the benefits of early treatment in persons without diabetes or hypertension. The USPSTF found convincing evidence that specific treatments for patients with diabetes reduce the risk of advanced CKD; however, it also found convincing evidence that the medications used to treat early CKD may have adverse effects. Thus, persons who have positive screening results but do not have CKD may experience the harms associated with interventions and treatments without the potential for benefit.

The views expressed in this work are those of the authors, and do not reflect the official policy or position of the Department of the Navy, Department of the Army, Department of the Air Force, Department of Veterans Affairs, Department of Defense, or the U.S. government.

SOURCES

U.S. Preventive Services Task Force. Screening for chronic kidney disease: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med.* 2012;157(8):567-570.

Fink HA, Ishani A, Taylor BC, et al. Screening for, monitoring, and treatment of chronic kidney disease stages 1 to 3: a systematic review for the U.S. Preventive Services Task Force and for an American College of Physicians Clinical Practice Guideline. *Ann Intern Med.* 2012;156(8):570-581. ■

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