Contents

Foreword: An Ounce of Prevention? xv
Bimal H. Ashar

Preface: Update on Key Clinical Preventive Services for Adults xvii
Michael P. Pignone and Kirsten Bibbins-Domingo

Cardiovascular Risk Assessment 673
Mark J. Pletcher and Andrew E. Moran

Cardiovascular risk assessment is fundamental to prevention of cardiovascular disease, because it helps determine the size of the potential benefits that might accrue to individual patients from use of statins, aspirin, and other preventive interventions. Current guidelines recommend specific algorithms for cardiovascular risk assessment that combine information from traditional risk factors including blood pressure, lipids, and smoking, along with age and sex and other factors. These algorithms are the subject of active research and controversy. This article addresses the rationale, current guidelines and use, and potential future directions of cardiovascular risk assessment.

Statins for Primary Prevention of Cardiovascular Disease: Review of Evidence and Recommendations for Clinical Practice 689
Dhruv S. Kazi, Joanne M. Penko, and Kirsten Bibbins-Domingo

Numerous large randomized clinical trials have shown that statin therapy is effective and safe for primary prevention of atherosclerotic cardiovascular disease (CVD) for adults aged 40 to 75 years and support the use of 10-year CVD risk as a means to identify individuals for treatment. Uncertainty exists in those older than 75 years who may be more likely to benefit because of their underlying CVD risk, but also face uncertain harms. Several high-quality mathematical simulation models have shown that statin therapy is cost-effective for primary prevention of atherosclerotic CVD. Despite effectiveness and safety, statins are underutilized for primary prevention.

Screening for Hypertension and Lowering Blood Pressure for Prevention of Cardiovascular Disease Events 701
Anthony J. Viera

Hypertension affects 1 in 3 American adults. Blood pressure (BP)-lowering therapy reduces the risk of cardiovascular disease. The United States Preventive Services Task Force recommends all adults be screened for hypertension. Most patients whose office BP is elevated should have out-of-office monitoring to confirm the diagnosis. Ambulatory BP monitoring is preferred for out-of-office measurement, but home BP monitoring is a reasonable alternative. Guidelines for treatment are stratified by age (≤60
vs >60 years) and include cutoffs for recommended treatment BPs and target BP goals. Quality of hypertension care is improved by incorporating population health management using registries and medication titration.

**Aspirin for Primary Prevention**

Ilana B. Richman and Douglas K. Owens

Aspirin reduces the risk of nonfatal myocardial infarction and stroke, and the risk of colorectal cancer. Aspirin increases the risk of gastrointestinal and intracranial bleeding. The best available evidence supports initiating aspirin in select populations. In 2016, the US Preventive Services Task Force recommended initiating aspirin for the primary prevention of both cardiovascular disease and colorectal cancer among adults ages 50 to 59 who are at increased risk for cardiovascular disease. Adults 60 to 69 who are at increased cardiovascular disease risk may also benefit. There remains considerable uncertainty about whether younger and older patients may benefit.

**Risk-based Breast Cancer Screening: Implications of Breast Density**

Christoph I. Lee, Linda E. Chen, and Joann G. Elmore

The approach to breast cancer screening has changed over time from a general approach to a more personalized, risk-based approach. Women with dense breasts, one of the most prevalent risk factors, are now being informed that they are at increased risk of developing breast cancer and should consider supplemental screening beyond mammography. This article reviews the current evidence regarding the impact of breast density relative to other known risk factors, the evidence regarding supplemental screening for women with dense breasts, supplemental screening options, and recommendations for physicians having shared decision-making discussions with women who have dense breasts.

**Cervical Cancer Screening**

George F. Sawaya and Megan J. Huchko

Cervical cancer screening in the United States has accompanied profound decreases in cancer incidence and mortality over the last half century. Two screening strategies are currently endorsed by US-based guideline groups: (1) triennial cytology for women aged 21 to 65 years, and (2) triennial cytology for women aged 21 to 29 years followed by cytology plus testing for high-risk human papillomavirus types every 5 years for women aged 30 years and older. Providing women with affordable, easily accessible screening, follow-up of abnormal tests, and timely treatment will result in the greatest impact of screening on cervical cancer incidence and mortality.

**Colorectal Cancer Screening in Average Risk Patients**

Alison T. Brenner, Michael Dougherty, and Daniel S. Reuland

Colorectal cancer (CRC) contributes a major burden of cancer mortality in the United States. There are multiple effective screening approaches that can reduce CRC mortality. These approaches are supported by different levels of evidence, and each has its own advantages and disadvantages.
Implementing a systematic approach to screening that addresses the multiple steps involved in the screening process is essential to improving population-level CRC screening. Offering patients stool-based screening is important for increasing screening uptake. However, programs that offer stool testing must support the population health infrastructure needed to promote adherence to repeat testing and follow-up of abnormal tests.

Lung Cancer Screening
Richard M. Hoffman and Rolando Sanchez
Lung cancer is the leading cause of cancer death in the United States. More than 80% of these deaths are attributed to tobacco use, and primary prevention can effectively reduce the cancer burden. The National Lung Screening Trial showed that low-dose computed tomography (LDCT) screening could reduce lung cancer mortality in high-risk patients by 20% compared with chest radiography. The US Preventive Services Task Force recommends annual LDCT screening for persons aged 55 to 80 years with a 30-pack-year smoking history, either currently smoking or having quit within 15 years.

Prevention of Prostate Cancer Morbidity and Mortality: Primary Prevention and Early Detection
Michael J. Barry and Leigh H. Simmons
More than any other cancer, prostate cancer screening with the prostate-specific antigen (PSA) tests increases the risk a man will have to face a diagnosis of prostate cancer. The best evidence from screening trials suggests a small but finite benefit from prostate cancer screening in terms of prostate cancer–specific mortality, about 1 fewer prostate cancer death per 1000 men screened over 10 years. The more serious harms of prostate cancer screening, such as erectile dysfunction and incontinence, result from cancer treatment with surgery or radiation, particularly for men whose PSA-detected cancers were never destined to cause morbidity or mortality.

Screening Adults for Depression in Primary Care
Sarah Smithson and Michael P. Pignone
The burden of depression in the United States is substantial. Evidence supports the benefits of screening for depression in all adults, including older patients and pregnant and postpartum women, when coupled with appropriate resources for management of disease. Developing, implementing, and sustaining a high-fidelity screening process is an important first step for improving the care of patients with depression in primary care. Initial treatment for depression should include psychotherapy, pharmacotherapy, or a combination of both. Collaborative care models are evidence-based approaches to depression treatment and follow-up that can be feasibly initiated in the primary care setting.

Screening and Counseling for Unhealthy Alcohol Use in Primary Care Settings
Daniel E. Jonas and James C. Garbutt
Unhealthy alcohol use is a leading causes of preventable death in the United States. Reducing unhealthy alcohol use should be a high priority
for health care providers. Well-validated screening instruments are available, and behavioral counseling interventions delivered in primary care can reduce risky drinking. For people with alcohol use disorder, treatment programs with or without medication can reduce consumption and promote abstinence. To overcome barriers to implementation of screening for alcohol use and subsequent delivery of appropriate interventions in primary care settings, support systems, changes in staffing or roles, formal protocols, and additional provider and staff training may be required.