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Making Prevention Recommendations Relevant for an Aging Population

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With its systematic review of fall prevention interventions (1) and the accompanying article that articulates specific considerations for prevention in geriatric populations (2), the U.S. Preventive Services Task Force (USPSTF) takes a major step toward ensuring that its work remains relevant. Primary care has evolved considerably since the USPSTF was established in 1984, with a focus on encouraging evidenced-based screening for discrete diseases, disease risk, and disease events. Compared with that of 1984, today's typical primary care patient is older, takes more medications, has more chronic conditions, and visits more specialists who perform more tests and procedures and recommend more interventions (3). Preventive recommendations are increasingly being imposed on already overburdened providers and patients (4).

The USPSTF is to be applauded for its willingness to make the changes needed to better address the preventive needs of older adults (2). The timing is excellent. As part of the Affordable Care Act, insurance plans, including Medicare, must cover services rated “A” (strongly recommended) or “B” (recommended) by the USPSTF (5). Medicare will soon cover annual health risk assessment visits and customized prevention plans (5). Evidence generated by the USPSTF will hopefully inform the content of these visits and plans.

Fall prevention is an appropriate place to start. Falling is a common health event associated with substantial morbidity and mortality (6). A wealth of data from randomized, controlled trials (RCTs) are available, as evidenced by the more than 100 RCTs that the authors found in their systematic review, including the 54 that met their criterion of being conducted or feasible in a primary care setting (1). Older patients are beginning to request that their clinicians help them prevent falls as well as control their other health conditions (7). Patient demand, along with the inclusion of falls in quality assurance and pay-for-performance initiatives, is encouraging care providers to incorporate fall prevention into their practices (7). Feasible, evidence-based strategies will help them accomplish this successfully.

The authors of the systematic review (1) that will serve as the basis for the Task Force recommendations concluded that exercise and physical therapy interventions reduce falling by about 13%; vitamin D supplementation, by 17%; and multifactorial risk assessment, by 6%—increasing to 11% when management of identified fall risk factors is ensured (1). The reviewers also found no evidence of harm, an important finding for older adults with multiple health conditions.

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One could quibble with a few of their methods and interpretations. For example, falling is a recurrent event, so fall rate is probably a more appropriate outcome than the number or percentage of persons who fell. The reviewers could have reported the results of the subset of trials that included this outcome. Some of the interventions were also misclassified. For example, Day and colleagues' study (8) was a multifactorial assessment and management intervention, not solely exercise-based. Conversely, Lord and colleagues' 2005 study (9) was an exercise, not a multifactorial, intervention. These misclassifications probably did not drastically affect results. The reviewers did a laudable job, particularly in view of the many complexities.

In an accompanying article, Leipzig and colleagues (2) describe the efforts by the USPSTF to make their reviews and recommendations relevant to older adults and the primary care providers who care for them. The authors articulate well the issues that differentiate geriatric from traditional (disease-specific) prevention, including the multifactorial nature of geriatric conditions; the multiple, often subjective, health outcomes, such as functional disability and quality of life, that are difficult to express in terms of numbers needed to treat; and the lack of RCT evidence in older adults, particularly older adults with multiple chronic diseases.

The adaptations and processes proposed by the USPSTF to address geriatric issues are an excellent start, but the Task Force can go even further with existing evidence than what is proposed. For example, the Task Force appropriately notes that multiple domains of functional status and quality of life cannot easily be expressed as discrete events, the "traditional" outcomes used in its reviews. However, the USPSTF could adopt metrics that fit the outcomes of importance to older adults. For example, measuring the number of activities of daily living that improve (or worsen) per number who receive screening or an intervention is both doable and interpretable with existing methodology. The reviewers also accurately note the lack of uniformity in the specific measures used to assess function, quality of life, and other important health outcome domains. From a pragmatic perspective, however, different measures of the same domain (such as activities of daily living) are highly correlated. It should not be too daunting a task to define similar amounts of change across different, but related, measures. Similarly, although the components studied across multifactorial geriatric intervention trials are heterogeneous, common core elements usually exist and should be reported. The variability in the clinical implementation of these complex interventions is probably greater than that across clinical trials. Randomized, controlled trials typically report average benefit; however, patients will have either more or less benefit (or harm) than published results (10, 11). If the USPSTF acquired the original RCT data, risk stratification of benefit and harm would facilitate tailored recommendations.

The USPSTF plan for bundling related conditions (such as falls, fractures, and function) is a good start toward compressing multiple sets of recommendations into a more manageable number. This compression is important, given the intervention overload experienced by older adults with multiple chronic conditions (5, 12). The USPSTF should also consider methods for determining how to prioritize across conditions on the basis of which interventions for which conditions are likely to have the maximum benefit with the least harm. Universal health outcomes, such as function, quality of life, symptom burden, or mortality, could be used to assess measures of benefit per intervention burden.

In addition, rather than bemoaning the methodological unorthodoxy involved in interpreting clinical trials with multiple outcomes, the USPSTF should take advantage of these multiple outcomes—given the variations in "most important" health outcome among older adults with multiple conditions (13, 14). Determining which interventions have the greatest effect on different health outcomes would allow clinicians to select the interventions that will most likely affect the health outcome of greatest priority to a given patient.

The USPSTF can further advance the science by providing a template for investigators to follow when designing and implementing RCTs of preventive strategies that involve older adults. Elements might include eligibility criteria that encourage the inclusion of persons with multiple comorbid conditions, a priori plans for risk stratification for harms and benefits, standard categories of interventions and health outcomes that should be assessed and reported, and determination of the effect of life expectancy on expected benefits.

As VanLare and colleagues (15) recently noted regarding comparative effectiveness research, increased tolerance for uncertainty about the validity of results is needed as we address more complex clinical issues (15). The alternative is not certainty, which is unattainable, but rather the absence of information. The question is, do clinicians make better decisions by using the best available (albeit imperfect) evidence or no evidence?

The USPSTF has already become more cautious in translating evidence into recommendations after the controversy surrounding its breast cancer screening recommendations (16, 17). As the Task Force progresses toward making the review and recommendation process for older adults with multiple chronic conditions and limited life expectancy more rational and appropriate, it should beware that the ghost of “death panels” may try to block their path.

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