



## Dementia Screening: Saying No to the USPSTF and Yes to Brief Cognitive Evaluation

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### Editorial Comment

Recently, the U.S. Preventive Services Task Force [1] released a widely-publicized review advocating against screening for dementia in older adults. After their review of the literature, they concluded that dementia screening did no harm, but likely did little good. Their position was not based on evidence demonstrating negative outcomes for screening, as they were unable to find any particularly relevant studies that addressed the outcomes question directly. Nor was it based on significant medical risks arising from dementia treatments. They cited the common side effects of cholinesterase inhibitors and memantine, which have been known for decades and are surprisingly minimal for an old and often infirm patient population. Instead, they argued that presently available dementia treatments were not very effective. In other words, if we do not yet have good treatments, why identify the disease state?

In our opinion, the USPSTF's reasoning is flawed and their conclusion is potentially harmful to patients suffering from or developing dementia. We believe that the USPSTF position leaves the public and many physicians confused about what to do and the patients with cognitive loss disenfranchised.

The USPSTF's position is not shared by all experts and researchers in this field. The Alzheimer's Association of America and the Alzheimer's Foundation have embraced the concept of screening older patients for dementia, with AF sponsoring an annual memory screening day [2]. Medicare guidelines specifically promote identification of cognitive loss as part of the Annual Wellness Visit [3,4] and task forces of the Alzheimer's Association [5] and the Alzheimer's Foundation/Alzheimer's Drug Discovery Foundation [6] have published detailed approaches to operationalize dementia identification within the Annual Wellness Visit. These organizations and experts recognize the value of identifying cognitive loss within the primary care setting.

### We Concur, and Here is Why

First, and in rebuttal to the USPSTF assertion, the treatment picture for dementia is not as dismal as their position suggests. A contemporaneous review of the same literature [7] makes a convincing case that cholinesterase inhibitors and memantine slow cognitive and functional decline and delay nursing home placement. It also finds that combined treatment is superior to monotherapy. A previous large scale investigation [8] found that patients on continuous anti-dementia treatment lived three years longer, on average, than those who had no treatment or interrupted medication. Add to this a finding from residential care settings [9] documenting better function in patients taking anti-dementia medication, including a reduced need for anti-psychotic medications that carry an FDA "black-box" warning. There are a number of single studies with similar findings which became the basis for FDA approval of dementia drugs. We can add to the clinical findings the economic benefit that treatment of dementia with donepezil reduces costs of other medical services [10].

But, as noted before, treatment outcome should not be the primary or the governing reason for screening of cognition. In fact, we will argue

that screening should be reframed or re-conceptualized in broader terms. We propose to replace the limited concept of screening with a more robust and useful concept called "Brief Cognitive Evaluation" or BCE.

### Brief Cognitive Evaluation

Brief Cognitive Evaluation would employ an economical, easily administered, validated, performance-based tool to produce a metric that is reliable, sensitive to change over time, and useful in broader contexts. In our view, BCE would occur during primary care visits for older patients to measure each patient's global cognitive level as it exists today, just as we measure other important health variables such as height, weight, temperature, blood pressure, and oxygen saturation. In the same way that a thermometer yields a metric of temperature for use in many settings, the BCE tool would produce a score that could be applied to a variety of medical purposes. First, comparing an individual patient's BCE score with statistically validated cutting points would identify patients who need further dementia assessment using neuropsychological tests, imaging and other biomarkers. But, more importantly, the BCE score would become an integral part of the patient's record, to be used across a variety of medical settings to inform providers of that patient's related health risks and abilities for self-directed care. With or without more effective treatments for dementia, a BCE measure makes sense.

### Here are Five Reasons

#### Prevalence, morbidity and mortality

Cognition is the leading indicator of dementia. And dementia is one of the leading causes of death in the U.S. among the elderly [11]. It is extremely costly, in time, manpower and money, and will probably increase government health spending by a factor of six and private spending up to five times by the year 2050 if no progress in treatment is made [11]. We are hampered, in our understanding of dementia inception and trajectory, currently, by the lack of routinely gathered data, as many studies must rely on Medicare diagnosis reporting, prospective studies of specific occupational groups, or surveys of particular geographical regions. Measuring cognition routinely will provide us with much greater knowledge of its natural course over time, and its presentation within the primary care setting. We cannot afford to wait until patients or their families complain or until their doctors notice an obvious

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change. Despite publicized “warning signs” for Alzheimer’s and other dementias, we have found that patients and family are notably poor at judging their level of cognitive functioning [12] and doctors frequently fail to identify dementia until patients are undeniably impaired [13-17]. It is often far too little and too late by that time.

### As an indicator of other possible medical problems

Early identification of cognitive change promotes investigation of potential underlying medical causes. We now recognize that there is more to Alzheimer’s disease than beta amyloid [18] and that declines in cognition may be triggered by a variety of vascular [19], traumatic [20], and metabolic factors. When a patient shows decline from an established personal cognition baseline, it would trigger an investigation of potential contributing causes such as hypoxia or obstructive sleep apnea [21,22] thyroid abnormality [23], hyper homocysteinemia [24], or elevated hemoglobin A1C [25], or a medication review for contributing agents such as benzodiazepines [26,27] or anti-cholinergics [28]. Any and all of these conditions can impair cognition and hasten cognitive decline. And a number of these factors may be corrected or modified in order to improve cognition or delay decline, beginning with an understanding of the patient’s cognitive trajectory.

### Risk stratification

Knowing that a patient’s cognition is declining permits awareness of potential complications in treating other conditions that this patient is experiencing. Many cognitively impaired patients are in an age group with a disproportionately high number of chronic medical conditions [29]. With dementia as a comorbidity, the cost of managing diabetes, kidney disease, and cardiovascular illness increases by 30% to nearly 100% [29-31]. Cognitively impaired persons have significantly higher risk for falls with injury [32,33]. Their risk for delirium following orthopedic or cardiovascular surgery is significantly higher [34-38], resulting in ICU care, extended post-hospital rehabilitation, and “bounce back” to hospitals and rehabilitation services. As government payers refuse to pay for preventable complications, health systems can avoid costly penalties by identifying and differentially managing patients at risk for these complications.

### Adherence improvement

Patients with poor memory and executive abilities forget to fill prescriptions, attend follow-up appointments, report side effects, or take medications correctly [39,40]. They need to have an intact family member accompany them to medical visits and provide medication oversight in many cases. Without this, they increase their risk of failing medical treatments and they become poor candidates for home-based Coumadin monitoring and complex COPD and CHF treatments. Understanding their cognitive level could lead to fewer treatment failures and more specific tailoring of medical interventions to patient competence levels.

### Life management

Periodic cognitive monitoring allows for proactive life management (family supervision, in-home aides, assisted living, long term care) and legal planning (powers of attorney, guardians) rather than emergency response after the crisis occurs. It gives families and patients time to put into place reasonable plans for caregiving, potentially mitigating against the currently huge cost for paid and unpaid care giving [11].

### Summary

For these five reasons and more, Brief Cognitive Evaluation should

be performed routinely and periodically in medical settings. BCE should transcend our traditional view of screening, which is focused on pass/fail decisions and, instead, should measure cognition as a critical health measure which changes over time and needs to be followed as closely as blood pressure, weight, and temperature. Providers will need to do more than ask about cognition or make subjective in-office observations. They will need to employ well-constructed tests with interval scales and sufficient range to accurately follow cognition over time. The tests will need to be brief and economical, but also sensitive, reliable, and well-validated in order to yield accurate scores that reflect underlying health changes. In an ideal setting, the test would also provide direction for further investigation or treatment.

By moving away from dichotomous screening to dynamic Brief Cognitive Evaluation, we can shift the debate away from a decision about the efficacy of current dementia treatments to the possibilities for improving the lives and health of older patients. Whether we say yes or no to dementia screening, we must say yes to routinely measuring cognition in every older adult.

### Disclosure

Mitchell Clionsky and Emily Clionsky are co-developers of the Memory Orientation Screening Test (MOST®) and hold a copyright on the test and a registered trademark on that name. They also own the Memory Orientation Screening Test (MOST®), MOST®-96120, and md MOST® iPad apps.

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