

## POLICY FORUM

### Competence not Age Determines Ability to Practice: Ethical Considerations about Sensorimotor Agility, Dexterity, and Cognitive Capacity

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#### Abstract

Consideration of the effects of aging on physicians' practice is crucial to addressing aging clinicians' competence, that is, their ability to practice with reasonable skill and safety. Given physician workforce shortages even in resource abundant countries, the establishment of a compulsory retirement age in the US is impractical and unlikely. Several US hospitals and institutions have sought to address concerns about competence by establishing mandatory age-linked testing and evaluation for physicians. However, these procedures have raised questions regarding age discrimination and test validity.

#### Introduction

As the US population ages, the physician population is also aging. Recent data show that more than one-quarter of physicians in the United States are age 60 or older [1], and more than 20 percent are over the age of 65 [2]. Although 65 is considered by many to be the traditional retirement age, it's clear from these data that a substantial proportion of physicians continue to practice beyond this point. The challenges of ensuring the competence of aging physicians can better be appreciated by examining the effects of aging on physicians, mandatory retirement ages, and regulatory efforts to ensure that physician ability is maintained and validated.

#### Aging-Associated Changes in Sensorimotor and Cognitive Skills

For physicians, *competence* is the ability to practice with reasonable skill and safety, which involves both cognitive and physical considerations. Although clinicians' responsibility and commitment to practice competently does not change throughout their professional careers, age-related changes can influence their ability to do so. Beginning at age 40-50, vision and hearing begin to diminish [3]. Visual-spatial ability, inductive reasoning, verbal memory, and other cognitive functions also begin to deteriorate with age, with the steepest declines occurring after age 65 [4, 5]. However, the rate and extent of these changes vary significantly from person to person [6-8], as do declines in stamina, cognition, and fine-motor skills [9]. Sustained attention and ability to perform among distractions and in the presence of multiple visual, auditory, or other stimuli can also deteriorate with age [10].

Overall, these effects of aging can negatively influence physicians' performance. A systematic review of 62 studies found that physician performance (measured by adherence to clinical guidelines) generally decreased with years in practice, contravening the hypothesis that experience is associated with high-quality care [11]. Further complicating normal age-related decline is increasing incidence of dementia with age, estimated to be 5-10 percent in people age 65 or older [12]. Although higher educational levels are thought to be somewhat protective against dementia [13, 14], based on the foregoing estimate, approximately 8,000 physicians in the US were suffering from dementia in 2006 [12].

However, not all abilities decline with age and older physicians have some advantages. According to one source, although "fluid intelligence" (reasoning and cognitive flexibility) tends to decline with age, "crystallized knowledge" (accumulated knowledge) is generally maintained [15]. This source also suggests that though older clinicians might be more influenced by information acquired early in a patient's case, they also tend to demonstrate better ability to come to an early diagnosis, possibly by virtue of their accumulated knowledge. Moreover, several studies have demonstrated that older physicians experience less psychological distress and burnout than younger physicians [16].

The ability to assess the effect of age-related changes on physicians' performance is complicated by the fact that—as discussed above—these changes can vary widely, with some practitioners showing little alteration in function even at advanced ages [17]. Factors such as heredity and personal health status clearly contribute to job-related performance but are difficult to quantify. Physical fitness, for example, has been shown to be associated with maintenance of both cognitive and physical well-being [18]. Moreover, individual practitioners might be unable to accurately assess their own functioning. In a study of surgeons, for instance, self-perceived cognitive changes were not related to objective measures of cognitive deterioration in formal neuropsychological testing [6]. And it appears that people with mild cognitive impairment demonstrate a lack of insight about their impairments [19]. Adding further complexity to the discussion are varying physical and intellectual demands among and even within specialties and practice settings. The demands placed on a physician with a primarily office-based practice differ from those of a [physician doing surgery](#), for example, with the latter experiencing prolonged work hours and physical demands and the need for rapid assessment and judgment. Although age-related changes are inevitable, variability among these changes makes establishing age-specific criteria for retirement challenging at best.

### **Mandatory Retirement and Workforce Shortages**

The Age Discrimination in Employment Act (ADEA) of 1967 protects people who are 40 years or older from age discrimination in employment, including mandatory retirement ages. However, the courts have generally concluded that, for certain occupations, particularly those in which public safety is involved, age is a bona fide occupational qualification (i.e., employment qualifications that employers are allowed to consider while making decisions about hiring and retention of employees, e.g., fitness requirements) [20]. Some of these professions include commercial airline pilots (mandatory retirement at age 65), FBI agents (age 57), and air-traffic controllers (generally age 56) [20].

Some countries, however, have policies and have implemented policy changes about age-based restrictions on physicians' practices, some of which have been modified in response to workforce needs. In the United Kingdom, health professionals can switch to part-time work while preserving their pension entitlements [21]. In other countries, compulsory retirement ages for physicians have been abolished in response to significant [physician workforce shortages](#) [22]. Physicians in Spain, for example, have a retirement age of 70 compared to age 65 for other professionals [23]. And in Germany, the retirement age of 68 for general practitioners and primary care specialists was lifted in 2009 [24].

The US faces workforce challenges, too. By 2025, the US will have a shortfall of 61,700-94,700 physicians [25], attributable to both a growing population and a rising proportion of elderly people within that population who are anticipated to have increasingly complex health care needs [25]. Since 20 percent of physicians are currently over the age of 65 [2], and since an increase in that proportion is expected, instituting a mandatory retirement age would further exacerbate physician shortages.

### **Licensing, Certification, and Credentialing**

Although imposing a mandatory retirement age for physicians in the US seems both impractical and unlikely, questions about aging physicians' competence still persist. In my experience, in most states, periodic relicensing for physicians—most often at two-year intervals—requires only an attestation of participation in continuing medical education and fee payment, and relicensing procedures tend to include no evidence of competency such as might be provided by a formal clinical evaluation, for example. However, because of the importance of evaluating and demonstrating physician competence, board-certification and credentialing by health care organizations also include requirements for regular clinical assessments.

*Certification.* The American Board of Medical Specialties and its 24 member boards have adopted a maintenance of certification requirement whereby, in order to maintain [board certification](#), a physician must provide evidence of participation in [continuing professional development](#). The requirements vary between boards but generally include

ongoing education and, for some, regular formal written examinations as well to test whether physicians' knowledge base for practicing the specialty is up-to-date [26]. These requirements have been met with active backlash by some specialty professional organizations and individual practitioners, mainly due to considerable fees, time demands to meet the requirements, and a lack of evidence demonstrating that maintenance of certification requirements protect patients or improve care [27].

*Credentialing.* Age-based testing can have legal benefits, particularly when appraised from a patient safety standpoint. In recognition of the need to ensure public safety, commercial airline pilots, beginning at age 40, undergo routine physical examinations at six-month intervals as well as flight simulator-based evaluations [28]. These assessment opportunities are conditions of employment. Public safety concerns are recognized; in many states, specific age-related stipulations are included for obtaining a driver's license (e.g., yearly testing after age 85) [29].

At present, only an estimated 5 percent of US medical centers have developed age-related screening policies [30]. Among these few institutions, the University of Virginia and the Stanford Health system are well-known examples. In 2011, the University of Virginia Health System implemented a system of mandatory physical and cognitive examinations every two years for physicians and some other members of the clinical staff, beginning at age 70 [31]. And in 2012, Stanford Hospital and Clinics instituted a late-career practitioner policy, including a peer evaluation of clinical performance, a cognitive examination, and a comprehensive history and physical examination every two years for physicians aged 75 and older [32].

However, [assessment](#) of older physicians is problematic for a number of reasons. In 2015, senior faculty members at Stanford Hospital and Clinics voted to reject the late-career practitioner policy on the grounds that it constituted age discrimination [33]. Among the difficulties with mandating these assessments is the lack of practical screening tools that are specific and easily utilized. Comprehensive neurocognitive and functional testing, which is currently available in only a few sites, incurs travel expenses and requires time away from practice for multiday, multispecialty testing. Variability in how age-associated cognitive changes manifest, uncertainty in interpreting psychomotor tests in physicians and in using the test results to predict care quality and patient outcomes are other concerns that have been raised [34].

A possible adjunct to clinical assessment is a system of [self-regulation](#), wherein an individual physician is responsible for monitoring his or her own cognitive and physical functioning. Some professional organizations (e.g., the Royal Australasian College of Surgeons–The College of Surgeons of Australia and New Zealand) have developed tools for this kind of self- and peer-assessments of competence throughout surgeons' careers [35]. In 2015, the American Medical Association (AMA) [36] announced its intention to

address the need for guidelines and appropriate plans for screening senior physicians and assessing their competence. One important limitation of self-assessment, however, is the need for a high degree of self-awareness and honesty [37]. As noted above, individuals with cognitive decline or those in denial, because of concerns over loss of professional identity or livelihood, perhaps, might fail to recognize and act on critical signs of deteriorating functioning.

### Conclusion

As age-related changes in physicians' performance are evaluated, it is not simply chronological age that should be considered, but a physician's overall mental and physical abilities to provide safe and skillful care to a patient. Age cannot reliably be used as a proxy for competence or procedural skill. Implementing mandatory retirement ages or restricting privileges for physicians of specified ages could negatively influence individual practitioners in the ways discussed here without enhancing patient safety. Such action would also likely exacerbate some patients' access to health care, particularly in areas with physician shortages. However, developing realistic and practical methods to evaluate and demonstrate clinicians' abilities to practice safely poses challenges for health care organizations accreditation and licensure, certification, or credentialing bodies.

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