tary disease, cerebrovascular disease, heart failure, or chronic obstructive pulmonary disease, which were found to be different between groups in 2000), or the Charlson comorbidity index reduced but did not abolish the significance in physical function ($P = .01$ when diseases were included; $P = .02$ when the Charlson comorbidity index was included).

Comment. Leisure-time physical activity in midlife predicted better physical function in old age but was not significantly associated with mental or social dimensions of the HRQoL in this socioeconomically homogeneous male cohort. Moreover, the relationship was not explained, albeit attenuated, by diseases associated with less physical activity. Because the physical function score of the SF-36 has been shown to be a valid measure of mobility-disability, more physical activity in healthy individuals in midlife may thus have an independent and specific impact for the prevention of disability in old age.

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INVITED COMMENTARY

Physical Activity Benefits Various Aspects of Healthy Aging

Physical activity is an effective approach to preventing chronic diseases. We and others have also found that physical activity in midlife is related to healthy aging.1-3 In this issue of the Archives, Savela and colleagues report a significant positive association between higher midlife physical activity and greater physical function in older men; activity was not associated with other components of health-related quality of life. A major strength of this study is its long follow-up and detailed measures of quality of life in older age. However, 2 limitations are notable. Assessment of physical activity was limited, with 3 broad categories; thus, measurement errors might have attenuated associations. Second, the sample was relatively small with 552 participants.

In our previous study,4 as Savela et al note, we did not consider individual quality of life components; our interest was in understanding overall successful survival—a clear public health priority. Nonetheless, for comparison, in our data, midlife physical activity was related to the SF-36 mental health index and to physical function (2 components in our definition of successful survival, along with chronic diseases and cognition). Adjusted odds ratios (95% confidence intervals) for the fifth vs first quintile of physical activity were 0.43 (0.38-0.49) ($P$ value for trend, <.001) for physical function and 0.80 (0.72-0.90) ($P$ value for trend, <.001) for mental health. Overall, however, despite relatively low power, the study by Savela et al adds to the growing evidence that greater physical activity in midlife contributes to aspects of healthy aging.

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A lesson to take away from these findings is not simply that costs and quality of care vary, or even that the use of guidelines may be beneficial, but that patients benefit when caregivers truly operate in an open and multidisciplinary manner. Pilots are neither expected nor permitted to perform their complex duties on their own. They are required to be skillful and knowledgeable but not to “know it all” or have every piece of data at their fingertips at all times. For too long this has been the expectation of physicians.

The explicit expectation of clinicians should be that they will use guidelines that are evidence based to guide care when available and that the various reminders built into the system, from case managers to preoperative time outs, are part of the modern practice of medicine.

No one is suggesting that they become drones or blindly follow any and all suggestions. Clinician education, training, and experience are necessary for proper diagnosis and patient management. Moreover, the development of the infrastructure and computer systems to make use of guidelines and receipt of reminders as seamless as possible is critical. However, just as pilots have help and systems in place to maximize their effectiveness and to assure the safety of their passengers, a physician needs the resources, systems, and partners at hand to help make patient care as safe, effective, and efficient as possible. Certainly, we should demand no less of medical care than we do of commercial air travel.

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EVIDENCE-BASED GUIDELINES CAN IMPROVE QUALITY OF CARE AND REDUCE COSTS

The analysis by Chen et al found that costs of care for patients with pneumonia and heart failure and measures of quality of care were not tightly correlated, and they concluded that concerns about shorter lengths of stay translating to patient harm were not well founded. Of particular interest to clinicians and policy makers is to identify the “active ingredients” to safe and efficient care.

The literature describes the use of clinical care guidelines as a means to achieve safe and efficient care. Looking specifically at pneumonia, studies have found that implementation of and care concordant with care guidelines is associated with reduced length of stay, lower costs, and most importantly, improved clinical outcomes including reduced mortality.2-5 One of these studies found that case management combined with guideline-based care was associated with further reductions in length of stay and improved markers of quality of care such as administration of recommended vaccinations.5

An Analysis of Television Viewing and Physical Activity Using Time Substitution Models

Television (TV) watching time poses unique challenges in analysis. Recently, Otten at al described the effects of reducing TV viewing time on energy intake and expenditure in overweight and obese adults in a randomized controlled trial. Although a reduction in TV viewing produced a significant increase in total daily energy expenditure among those random-