Quality Indicators for Older Adults
Preventing Unintended Harms

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QUALITY INDICATORS ARE QUANTITATIVE MEASURES used to evaluate the quality of health care. They are often based on clinical practice guidelines and are designed to encourage effective, evidence-based care.[1] Quality indicators are becoming increasingly important, with Medicare, the Department of Veterans Affairs, and commercial managed care plans implementing pay-for-performance programs that tie reimbursement to these indicators. However, for medically complex older patients, there are concerns that closer adherence to current quality indicators may lead to unintended harms.[1-3]

In 2002, adults older than 65 years comprised 13% of the US population and accounted for 36% of health care expenditures.[4] By 2030, adults older than 65 years are projected to comprise 20% of the US population and account for 50% of health care expenditures.[4] Thus, older adults represent the "average" patient in many health care settings and quality indicators must improve care for these patients if they are to improve overall health care quality.

In this Commentary, we highlight 2 ways that current indicators may lead to unintended harms and propose ways to improve quality indicators by minimizing or preventing those harms.

Unbalanced Quality Indicators Encourage More Care, Not More Appropriate Care

Current quality indicators are unbalanced, with many indicators encouraging more appropriate care but few indicators discouraging inappropriate care. For example, the 2011 Healthcare Effectiveness Data and Information Set (HEDIS) quality indicators for blood pressure control reports the percentage of patients with hypertension who have a blood pressure reading of less than 140/90 mm Hg, seeking to encourage more appropriate treatment. However, no quality indicator measures the rates medication-related syncope or orthostatic hypotension that would discourage overly aggressive treatment. The Assessing Care of Vulnerable Elders (ACOVE) project addressed this issue by proposing a quality indicator that would measure the rates of orthostatic blood pressure measurements for patients experiencing dizziness or syncope.[5] The current measure that encourages more aggressive treatment should be balanced with a second measure that discourages overly aggressive treatment to more effectively incentivize clinicians to target treatment to those patients most likely to benefit.

Glycemic control and cancer screening provide additional examples of how balanced quality indicators may incentivize higher quality care. For glycemic control, an indicator reporting the rates of hypoglycemia along with rates of good glycemic control would encourage clinicians to target intensive glycemic control to those patients at low risk for hypoglycemia. For breast cancer screening, an indicator reporting the rates of inappropriate screening mammography (eg, in patients with preexisting advanced cancer or dementia who are unlikely to benefit[6]) would encourage targeting screening to healthier women who are most likely to benefit.

This imbalance in quality indicators is especially problematic for older adults. Older adults are at higher absolute risk for most diseases, increasing the magnitude of benefit with treatment. In addition, older adults are also at higher risk for adverse medication effects and procedural complications. Because the magnitude of risks and benefits vary widely across the spectrum of health status in older adults, it is especially important to target interventions to older patients most likely to benefit. Current unbalanced quality indicators do not encourage such targeting, rather they create an incentive for more care for all older persons within a certain age and ignore patients outside that age range.

Quality Indicators Ignore Life Expectancy and Lagtime to Benefit for Preventive Interventions

Although clinical practice guidelines generally acknowledge the importance of juxtaposing life expectancy and the lagtime to benefit for preventive interventions, quality indicators encourage preventive interventions for all patients within a certain age range. For example, the US Preventive Services Task Force (USPSTF) colorectal cancer

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(CRC) screening guideline recommends discontinuing screening for patients with a limited life expectancy. However, the HEDIS quality indicator encourages screening for all adults aged 50 to 75 years. Thus, the current HEDIS CRC quality indicator would encourage screening for a 70-year-old patient whose oxygen-dependent lung disease limits his life expectancy and makes it unlikely that he would benefit from screening for CRC. Paradoxically, the current HEDIS CRC quality indicator would ignore screening for an 80-year-old woman with only mild hypertension, even though she has an extended life expectancy and is more likely to benefit from screening. Because the heterogeneity of life expectancy increases with increasing age,[7] the problem of age-based indicators is greatest among older adults.

The ACOVE project addressed this issue by identifying quality indicators that would be inappropriate for patients with limited life expectancy.[8] A more nuanced approach would include prevention quality indicators explicitly accounting for life expectancy and encouraging prevention only in those patients whose predicted life expectancy exceeds the intervention's lagtime to benefit. For example, because the lagtime to benefit for CRC screening is estimated to be 7 years,[9] a life expectancy–based CRC screening quality indicator would only consider those patients who have a life expectancy of more than 7 years to be appropriate candidates for screening. Although estimates of life expectancy are imperfect, combining readily available data such as sex and comorbidities with age would allow more accurate predictions of life expectancy. Just as estimated glomerular filtration rate is now routinely calculated and presented to clinicians, age, sex, and comorbidity data could be used to calculate an estimated life expectancy.

Depending on the electronic medical record (EMR) system available in a given clinical setting, life expectancy–based quality indicators would require differing implementation strategies. In settings with robust EMR systems such as the Department of Veterans Affairs, life expectancy could be calculated for every patient using the rich clinical data within the EMR (ie, comorbidities and laboratory values). This life expectancy calculation could be used to determine whether a patient is appropriate for a preventive intervention such as CRC screening, leading to the display or suppression of a clinical reminder. In clinical settings without robust EMR, clinicians could estimate life expectancy explicitly using a variety of published calculators or implicitly using clinical intuition. At the administrative level at which quality indicators are calculated, available data including age, sex, and comorbidities could be used to determine life expectancy. This calculated life expectancy can then be used to determine whether each patient is an appropriate candidate for the quality indicator.

For many patients, the estimated life expectancy and the lagtime to benefit for the intervention may be similar, suggesting that the net benefits are small or uncertain. In these situations, the intervention is discretionary and highly dependent on factors such as patient preference.[10] The 2008 USPSTF CRC guidelines foreshadow this concept of discretionary care by suggesting that screening for patients aged 75 to 85 years is optional, while recommending screening for patients who are younger (50-75 years) and discouraging screening for patients who are older (≥85 years).[9] Quality indicators could omit patients for whom the benefits are small or uncertain, so that neither intervention nor the lack of intervention can be viewed as poor quality care.

Conclusion

Health care quality indicators are powerful tools that can change clinician behavior and improve patient care. However, current indicators are unbalanced, particularly for older adults, and ignore the lagtime to benefit for preventive interventions, leading to unintended harms. Because older adults are the largest consumers of health care, they have the most to gain from improving quality indicators.[1] A first step to realize those gains is to carefully examine how current indicators may lead to unintended harms for older adults, so those indicators can be refined and improved to drive real quality improvement for the entire health care system.

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