

Do We Want to Measure the Quality
of Care for Vulnerable Older People?
The ACOVE Approach

Neil S. Wenger

No. 38/2008

Neil S. Wenger, MD, MPH, is Professor of Medicine in the Division of General Internal Medicine at the University of California at Los Angeles (UCLA); Director of the UCLA Healthcare Ethics Center; and Director of the Assessing Care of Vulnerable Elders (ACOVE) Project at RAND Health. He is an active general internist and carries out research in the empirical study of clinical ethics, care of and decision making for the older patient, and quality of health care. He earned his medical degrees at UCLA.

This publication and the lecture on which it is based are funded by the Finger Lakes Geriatric Education Center of Upstate New York, the Syracuse University Gerontology Center, and the Center for Policy Research.

The Policy Brief series is a collection of essays on current public policy issues in aging, health, income security, metropolitan studies, and related research done by or on behalf of the Center for Policy Research (CPR) at the Maxwell School of Syracuse University.

Single copies of this publication may be obtained at no cost from the CPR website at <http://www-cpr.maxwell.syr.edu> or from the Center for Policy Research, 426 Eggers Hall, Syracuse, NY 13244-1020.

© 2008, Syracuse University. This publication may be distributed freely for educational and research uses as long as this copyright notice is attached. No commercial use of this material may be made without express written permission.

Policy Brief

Do We Want to Measure the Quality
of Care for Vulnerable Older People?
The ACOVE Approach

Neil S. Wenger

Do We Want to Measure the Quality of Care for Vulnerable Older People? The ACOVE* Approach

A man loses the keys to his car. A passerby comes across the man looking for his keys under a streetlamp. "Where did you lose your keys?" asks the passerby. "Over there," replies the man, pointing a ways off. "Then why are you looking here?" "Because this is where the light is."

Introduction

There's limited information available about measuring the quality of medical care that is targeted to the needs of older patients. And there's very limited pressure on the system to provide high quality geriatric care. Why is that? Because the quality measures haven't been adequately developed and implemented, and it's more difficult to measure care for an older sample. Measuring medical care for ill older adults is complex, because they tend to have multiple medical conditions, and they demonstrate substantial variation in goals for care (Wenger and colleagues 2007).

Let us start with a hypothetical patient, whom we will revisit later in this brief: a 79-year-old woman with osteoporosis, osteoarthritis, type 2 diabetes, hypertension, and chronic obstructive pulmonary disease (COPD), all moderately severe. All these conditions are commonly treated by a primary care physician, and often together in the same patient. This patient is caring for her husband, who has mild to moderate dementia. Her daughter drives her to appointments. She has a tight household budget. She respects her doctor's opinion but doesn't always adhere to the doctor's recommendations or take medications exactly as prescribed. Her medical care is largely paid for by a Medicare Advantage health plan.

*Assessing Care of Vulnerable Elders

Syracuse Seminar Series on Aging

How do we measure the quality of care this patient receives? Do we have the tools needed to evaluate it? And if we have the capability, are we *willing* to go to the effort to measure this patient's care, even if it requires an extra effort to venture out from under the streetlamp, into "darker" and less explored sources of information?

Why Measure Quality of Care for Older People?

There are four really good reasons.

1. **Older people need a lot of care.** They visit their doctor's office at a higher rate than any other age group except infants, far more care than the rest of the population, and they are hospitalized more often (Bernstein and colleagues 2004, Charts 11A, 15A). Persons 65 years and older have more than twice the number of office visits compared to adults 18-44 years of age, and they have more than three times as many hospitalizations.
2. **Older people have complex medical needs.** A nationally representative sample of Medicare fee-for-service beneficiaries in 1999 found that 82% had 1 or more chronic conditions, and 65% had multiple chronic conditions, and the probability of having multiple chronic conditions increased with age (Wolff and colleagues 2002). A study from 2004 showed that about 20% of Medicare beneficiaries have five or more chronic conditions, and these patients account for two-thirds of the Medicare program spending. There is no simple algorithmic approach to how one would care for a typical older patient with multiple medical problems.
3. **Older people are vulnerable.** As people age, they are at far greater risk of suffering adverse effects of medical care. Compared to the national average, people 75 years and older have substantially higher rates of emergency department visits and hospitalizations due to adverse effects of medical care, and this appears to dramatically increase as the complexity of medical care increases (Bernstein and colleagues 2004, Charts 36A, B).
4. **Older people's medical care costs a lot.** The Centers for Disease Control say that by 2030 we'll have 70 million older

Neil S. Wenger

Americans, accounting for about 20% of the US population (CDC and Merck Company Foundation 2007). This demographic shift alone will account for a 25% increase in health care costs. While cost is not the reason to focus on quality—wanting to provide older patients high quality care should be reason enough—cost is driving us to examine the care that older patients receive.

Thus, there is a clear need to evaluate the care provided to older patients.

Measuring Quality of Medical Care

The widely recognized definition of quality of care is found in an Institute of Medicine report: “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge” (Lohr 1990). There are a plethora of efforts to measure quality of medical care in the U.S., but few of these focus on the precise healthcare needs of older, vulnerable adults. I will discuss a few of the efforts.

1. Health Care Financing Administration (HCFA)

Stephen Jencks and colleagues (2000, 2003) reported data on the delivery of services to Medicare beneficiaries in 1998-1999, and again in 2000-2001. Each clinical topic was chosen in part because “the disease is prevalent and a major source of morbidity or mortality in the Medicare population.” This evaluation focused on:

- acute myocardial infarction (AMI, or heart attack)
- heart failure
- stroke
- pneumonia (both treatment and prevention)
- breast cancer
- diabetes

The group measured 24 specific processes of care in treating these six conditions. They include aspirin, beta blockers, and smoking cessation counseling after AMI; two treatments for heart failure; flu and pneumococcal immunizations; a mammogram every two years for

Syracuse Seminar Series on Aging

women aged 52-69; and monitoring blood sugar, cholesterol, and vision for patients with diabetes.

These are all important conditions for older people. But they're not the only things that older people need to be concerned about; in fact they're not the majority of the conditions that contribute to the decline in function of older individuals. These measures don't include consideration of cognitive impairment or difficulty with mobility. They do not answer the questions: Does this older person function OK? Is medical care positively affecting the function of this older person?

2. National Report Card on Healthy Aging

In 2007, the Centers for Disease Control released the *National Report Card on Healthy Aging: How Healthy Are Older Adults in the United States?* (CDC and Merck Company Foundation 2007, pp. 8-19). It contains 15 measurements, chosen "because they are each modifiable and present a comprehensive picture of older adult health." Five of them are process of care measures similar to those found in the HCFA report: a mammogram within the past two years, flu and pneumococcal immunizations, colorectal cancer screening, and a cholesterol check.

Reconsider the 79-year-old woman with diabetes, lung disease and three other conditions presented at the outset. While flu vaccine and the pneumovax are important, I'd posit that whether she had a mammogram and colon cancer screening (both of which I hope she receives) is the wrong place to be focusing prevention in order to enhance her health.

3. Medicare's Physician Quality Reporting Initiative (PQRI)

In July 2007, the Centers for Medicare and Medicaid Services (CMS) launched a voluntary quality reporting program, in which eligible health care professionals who treat Medicare patients are encouraged to report whether they provided certain recommended care practices to their patients, through the Medicare claims system. It's worth noting that the vast majority of the 119 measures for the 2008 version of this reporting initiative, which is aimed at people 65 and older, are not oriented toward the care that arguably is most important for older people. The list looks much more like a group of measures constructed by groups of medical specialists. And it is! A few measures focus directly on the aspects of care associated with functional decline in the elderly: screening for falls, osteoporosis management, medicine

Neil S. Wenger

reconciliation and advance care planning, urinary incontinence. It will be very interesting to see how often these measures—which apply to large proportions of the older population—are used by physicians in reporting in this initiative. The core measures that CMS is looking at focus on generic medical concerns of adults, and not on the older population.

4. Other National Initiatives

The Healthcare Effectiveness Data and Information Set (HEDIS), administered by the National Committee for Quality Assurance (NCQA), includes 71 measures across 8 domains of care. Forty-eight of the measures are identified as applicable to Medicare beneficiaries. However, of these 48 measures, most have very unclear applicability to the older population.

As has been pointed out elsewhere, some of the current measures fit poorly with the older population. Prior work by others has emphasized that some of the care processes suggested by measures might actually be counterproductive for the older patient and others with end-stage disease, where the goal of care is not maximization of a lab test result (Hayward 2007). For example, a 2007 measure from the HEDIS set evaluates whether a diabetic patient's hemoglobin A1C level (a measure of diabetic control) is less than 7. Less than 7 is quite good, it's something we often shoot for. However, in older people, especially in those with limited longevity to be expected, one would very rarely target getting these measures this finely tuned, because the effect on the patient might be to get their blood sugar too low. Such measures can also misdirect priorities in practice.

I recently saw a patient with a resident in an internal medicine clinic. This woman in her eighties was having increasing difficulty with gait and had fallen. She had poorly controlled hypertension and her cholesterol level was elevated. The resident was concerned that her cholesterol lowering medication needed to be raised, because her cholesterol was not at “goal” given her heart disease. This is indeed a quality measure for which this patient might be eligible. However, the critical issue was that she was not taking any medications reliably any longer, because she was not thinking very well. Why had she suffered cognitive decline? Was she stable to walk without assistance? Could she safely remain alone in her home? These are the critical issues to tackle for this patient and none of them are measured.

Syracuse Seminar Series on Aging

The reason that these topics are not measured is that, by and large, measurement must be easily available using readily available data. Measures approved by the National Quality Forum and other groups choosing measures for broad application search for measures that will be relatively inexpensive to collect. And that means that most of the areas of central importance for ill older patients are missed. More detail on this later.

5. Surgical Care Improvement Project (SCIP)

The SCIP project is a collaboration of 10 national organizations of surgical care providers, with the goal of reducing avoidable post-operative complications of surgery—surgical site infections, adverse cardiac events, blood clots, and post-operative pneumonia—by 25% by the year 2010. Their measurements focus on prophylactic pre-operative antibiotic selection and timing, post-operative glucose control for cardiac surgery patients, appropriate hair removal for surgery patients, peri-operative beta blockers for patients with coronary artery disease, deep vein thrombosis prophylaxis, and ventilator management. Implementing the SCIP measures in hospitals has already, in a very brief time period, demonstrated improvements in care.

But again, for older people, one would think about additional—and perhaps more fitting—aspects of surgical care. These include delirium assessment, fall prevention, and early mobilization. None of these concerns for the older surgical patient appears among the more general concerns that apply to generic surgical patients.

Developing Quality Indicators Aimed at Vulnerable Older Adults

Donabedian Quality Model

The most commonly described framework within which quality of health care is discussed is the Donabedian Model, which includes three aspects of quality to be measured (Donabedian 1966 [reprinted in 2005], 1988):

- **Structure:** which relates to the facilities and personnel that provide the services and the way in which they are organized.
- **Process:** which reflects what was actually done during the course of care of a patient.

Neil S. Wenger

- **Outcome:** which reflects the net change that occurs in health status as a result of health care, including whether the patient survived.

This model says that quality is based on structural characteristics that facilitate the provision of care processes that permit optimal outcomes. Structural characteristics tend to be quite important. There is considerable assessment of the structure of care by the Joint Commission on Accreditation of Health Care Organizations (JHACO, now called simply the Joint Commission) and a variety of other assessors.

However, in order to evaluate the quality of medical care, one would like to measure outcomes. That's what's most important to patients and it's what we most frequently aim at. It is what clinicians are trained to attempt to achieve. However, it's clear that different populations will achieve different outcomes despite the medical care that they get. We are not yet able to case mix adjust adequately to know whether the care is different, given the different outcomes.

The Assessing Care of Vulnerable Elders (ACOVE) quality indicators focus upon process: what the doctor, the hospital, the nurse practitioner does that is then linked to the outcomes valued by patients. Because these care processes are what is important to do for patients, these also show us how to improve. Evaluation of process of care can tell us which health care systems are doing the right things, which ones are not, and where we need to improve.

Assessing Care of Vulnerable Elders (ACOVE)

The Assessing Care of Vulnerable Elders (ACOVE) project began in 1998 as a collaboration between RAND Health and Pfizer Inc to develop and apply quality indicators (QIs) for assessment and treatment targeted at vulnerable older persons (ACOVE website 2008). The project involved defining and identifying the target population, identifying health conditions that cover much of the medical care provided to this population, developing quality-of-care indicators to measure how well those conditions are being addressed, and applying those indicators to determine the actual quality of care received by older adults. The first 236 QIs, published in 2000, covered 22 clinical conditions; these were later expanded to 26 conditions and 392 QIs. A national panel of clinical geriatrics experts guides the project.

Syracuse Seminar Series on Aging

This panel of experts in geriatric care, the ACOVE Clinical Committee, identified 22 conditions —diseases, syndromes, physiological impairments, and clinical situations—that account for the majority of health care received by older adults, including some that affect primarily the elderly.

When we started thinking about developing quality measures for older patients, we realized some underpinnings concerning ill, older people:

- that vulnerable older patients have a substantial burden of disease
- that preventive care and preference specification is particularly relevant to this group
- that patient and family preferences for this group may aim at care that focuses on function, or perhaps palliation and comfort, so that not everyone would have the same sets of measures.

Defining Vulnerable Elders

ACOVE focuses on a particular group of patients we call *vulnerable elders*, defined as the 20% to 40% of community-dwelling older people who are at moderate to high risk of death or decline in instrumental activities of daily living (IADLs) or activities of daily living (ADLs) over 2 years (Saliba and colleagues 2001).

- They are not the *stable aged*, who are playing tennis three times a week and continuing to work.
- And they're not the *frail elders*, who are frequently thought of as those that require institutionalization because of functional decline.
- The *vulnerable elders* are that group in between.

We hypothesize that good medical care can help keep these vulnerable elders from becoming frail, and maybe even move them back into the stable aged group.

To identify the vulnerable elder population, the ACOVE expert clinical panel recommended that:

Neil S. Wenger

1. a survey be developed to make the identification scheme easily transportable across organizations
2. the survey not be dependent on prior utilization as a predictor (because undertreatment would mask vulnerability)
3. the ability to perform IADLs be considered as a predictor
4. the survey use an abbreviated list of items with simple scoring rules to minimize respondent burden and enhance provider willingness to adopt the strategy (Saliba and colleagues 2001).

Using a patient-based survey obviates concerns about risk stratification based on health care utilization: undiagnosed conditions get lost, and patients who are not within the system get lost. So we call patients on the telephone and ask them, or their proxies if they can't talk with us, 13 questions. If we can get patients to tell us their function, their quality of life, and their current health status, we think that we can more accurately identify a vulnerable group of patients that we can then target for measurement of quality and quality improvement.

Vulnerable Elders Survey	
Self-rated health: fair or poor	+1
Limitations in physical functioning: carrying 10 pounds, grasping, reaching, stooping, or walking ¼ mile	+1 - +2
Any functional disability: bathing, shopping, walking, money management, light housework	+4
Age 75 – 84 years	+1
Age 85+ years	+3
If you score 3 or more points, you are at four times the risk of functional decline or death compared to the lower scoring group.	

Subsequent work has shown that the Vulnerable Elders Survey screening tool estimates the combined risk of death and decline within a short follow-up period (11 months). The Vulnerable Elders Survey score is a useful screening tool to detect vulnerable elders (Min and colleagues 2006). You might want to try it on a parent or loved one.

Syracuse Seminar Series on Aging

Choosing Conditions to Measure

Our measurement system attempts to be comprehensive, to cover the spectrum of care, to focus on the needs of vulnerable older individuals, and also to be in the public domain so that it can be used broadly by others. We began with a list of 78 conditions common among vulnerable older people and whittled it down, with the help of 12 experts in geriatric care, to 21 conditions (Sloss and colleagues 2000). We revised the list in 2007 to cover 26 medical conditions, geriatric conditions, and cross-cutting care processes, such as coordination and hospital care, medication use, pain management, and prevention, in areas where experts in the field felt that care is not where it should be now and could be improved in the future (Wenger and colleagues 2007).

We think that if we can measure care across all of these domains, we can get a comprehensive measure of care that isn't focused only in one area, that isn't going to be easily "gamed," and from which one could pick and choose measures to evaluate the care given to a population of patients like the one whom I first presented.

Assessing Care of Vulnerable Elders-3 Conditions and Quality Indicators	
Condition	Number of QIs
Benign prostatic hypertrophy	12
Breast cancer	23
Chronic obstructive pulmonary disease	11
Colorectal cancer	21
Continuity and coordination of care	16
Dementia	17
Depression	20
Diabetes	11
End-of-life care	21
Falls and mobility disorders	12
Hearing impairment	7
Heart failure	12
Hospital care and surgery	30
Hypertension	14
Ischemic heart disease	18
Medication use	24
Osteoarthritis	7
Osteoporosis	13
Pain management	8
Pressure ulcers	13

Neil S. Wenger

Screening and prevention	17
Sleep disorders	10
Stroke and atrial fibrillation	21
Undernutrition	9
Urinary incontinence	15
Vision impairment	10
TOTAL	392

Developing Quality Indicators

In developing these measures we attempt to incorporate the processes that occur prior to the development of a condition. Is there screening going on? Is there evaluation of a patient's functional capabilities? We also recognize that caregivers provide a large part of the medical care received by these patients, and are therefore most likely to detect unrecognized conditions, evaluate functional status, avoid inappropriate care, and look at coordination of care.

To develop measures for these 26 conditions, content experts performed systematic literature reviews, which were then given to expert panels with proposed quality indicators. The expert panel process is required because there are inadequate clinical trial data available for vulnerable older people to alone support quality indicators in most areas. For few clinical areas are there clinical trials that say "For these older individuals, these are the exact processes of care that one needs." However, by combining the evidence base with clinical knowledge using a formal system, these expert panels are able to develop quality indicators that reflect the care that must be provided to vulnerable elders. This methodology was developed by Dr. Robert Brook at RAND/UCLA.

What Does a Quality-of-Care Indicator Look Like?
An example of a quality indicator for assessing the reasons for falling:
If a patient reports two or more falls in the past year, or one fall with injury requiring medical care,
Then a fall evaluation should be performed including history and physical exam—
Because some reasons for falling can be treated, which can reduce the risk for future falls.

Syracuse Seminar Series on Aging

These QIs aren't just about medications and surgeries and tests. They involve assistive devices, counseling, diet, taking a medical history, and information continuity across providers and venues of care.

Medications are the largest group of quality measures, of course, because that's where all the randomized clinical trials are. But there are many other types of care processes, including doing a physical exam, making a referral, and performing large and small clinical tests.

An example quality measure is as follows: It begins with specification of the eligible patient population: "IF a patient reports two or more falls in the past year, or one fall with injury requiring medical care." The evidence leads us to use this specification to identify a patient whom we know is at risk of future falls and functional deterioration. The expert panel agreed to apply a falls measure only to a patient like this, not any older patient. It is not that performing a fall assessment on a patient with a lesser level of falling is not indicated or is bad care. It is that the expert panel could only be certain that not assessing falls in a patient with this level of risk would certainly be inadequate care. The rest of the quality indicator explains what care should (or should not) be provided to the eligible patient: "THEN a fall evaluation should be performed including a history and a physical exam." The goal is to identify the process that will be linked to an important outcome, in this case the patient not falling again, or having a decreased risk of falling because of some intervention. If a patient like that doesn't receive this process of care, that's almost always bad.

Applying Quality-of-Care Indicators

To apply these QIs, we collected medical records and we looked for patients who were eligible for these quality indicators to see whether they received the recommended care processes. We attempted to make these quality indicators follow a patient-centered approach by accounting for patient preferences and prognosis, including:

- patients with advanced dementia
- patients with a poor prognosis, which is defined as a chance of survival of six months or less, or being in hospice care
- documentation that the patient refused the care process because the patient didn't want this care, or a verbalized preference not to be hospitalized or not to receive surgery.

Preferences and Prognosis

Failure to consider patient preferences and prognosis to change the measurement of quality is a large part of where our current national quality measurement is failing.

This is the method that ACOVE used. We broke down each of the 392 care processes into

- the *aim* of the process:
 - improvement in condition, short-term and intermediate term;
 - continuity of care; short-term, intermediate term
 - and long-term prevention
- and the *burden* of the process:
 - light
 - moderate
 - heavy

For example:

- Something that would achieve short-term improvement but is of heavy burden would be surgery for a hip fracture.
- Something that would be of light burden for an intermediate improvement would be to use a beta blocker for heart failure.
- On the other hand, in the prevention category, a moderate burden intervention with a short-term prevention might be a stress test after a myocardial infarction (MI).
- And a long-term preventive aim with heavy burden might be adjuvant chemotherapy for breast cancer.

This system was developed based on qualitative evaluation of experts' evaluations of these care processes. The clinical experts evaluated all the care processes in terms of their aims and burdens, and we ended up with exclusion of quality indicators for certain groups of patients based on their prognosis. These are very narrowly defined groups of patients.

So, for instance, the QI that a female vulnerable elder who's diagnosed with breast cancer, early stage, should be offered breast conserving surgery would be excluded for a patient with dementia, poor prognosis, or who doesn't want to be hospitalized or have surgery. It wouldn't mean that it would be bad to offer the care to such a patient, but that it wouldn't be required of a doctor to do so. One could imagine circumstances that such a treatment, if patient-centered care were being

Syracuse Seminar Series on Aging

provided, would not be offered. This process was performed for all 392 quality indicators, so that we could begin to at least think about prognosis and preferences in the application of these quality measures.

Thus, “heavy burden” indicators were excluded for every patient with advanced dementia. Measures were excluded from application to virtually every patient with advanced dementia if intermediate term prevention or improvement, or long term prevention was the aim, and most of them were excluded even for short-term prevention. “Light burden” quality indicators were felt to be applicable for virtually all short-term goals. But when the improvement or the prevention was intermediate or long-term, even light burden quality indicators were felt to be inapplicable.

Examples of Excluded QIs				
	Advanced dementia	Poor prognosis	Patient Preference	
			Don't hospitalize	No surgery
IF a female VE is diagnosed with ductal carcinoma in-situ or early stage invasive breast cancer, THEN breast-conserving surgery should be offered.	X	X	X	X
IF a VE is newly treated for depression, THEN at a follow-up visit within 4 weeks of treatment initiation document response to \geq DSM-IV target symptoms and medication side effects	X	X		

This means that about 40% of the quality measures are excluded for patients who have dementia or who have a poor prognosis. But ACOVE still provides some quality measures applicable to this group, who currently otherwise have almost no measures available whatsoever.

How Does Care for Vulnerable Adults Measure Up?

Let’s begin by summarizing the quality of health care in the United States for all adults. The Community Quality Index Study assessed the extent to which recommended care was provided to a representative sample of the U.S. population for a broad range of conditions in 12

Neil S. Wenger

metropolitan areas and concluded that overall, adults received about half of recommended care (McGlynn and colleagues 2003).

Next, let's look at a sample of 372 vulnerable elders in two senior managed care plans in two different parts of the country, one in the Northeast and one in the Southwest. These patients are two-thirds female, their average age is 81 years, and they have a significant amount of disability, but they're still living in the community. They did relatively well on treatments, mostly having medications prescribed, but abysmally bad on prevention and diagnosis, where you really would want the care to be stellar for vulnerable older individuals. And for the geriatric conditions—mobility disorders, falls, incontinence, cognitive impairment—these individuals received less than a third of the care processes that the experts recommended (Wenger and colleagues 2003). Most of us would think this is pretty inadequate.

Example: Falls

I recall a particular case that we evaluated: an elderly woman had fallen on a Saturday afternoon and fractured her elbow. We could tell the doctor was well aware that the patient had fallen by reading the medical record. She was taken to the emergency room, where she was splinted and asked to follow up with her primary care doctor and an orthopedist on the following Monday.

On the following Monday she was seen by her primary care doctor, and her many medical conditions were very well attended to. She had diabetes: her doctor recorded that he noticed that her glycosated hemoglobin (blood sugar) was well controlled. She had heart disease; the record shows she had no chest pain. She had heart failure, and the doctor noted that she didn't have any swelling in her legs. Her blood tests were excellent, and she was being adherent to all of her medicines. The doctor referred her to an orthopedic surgeon and asked her to return for a follow-up visit in two months.

But there was no attention whatsoever paid to the thing that's most likely to cause her functional decline and demise, the fact that she falls.

We found that for patients who fell and were injured:

- only 6% of the time did their health care provider measure their blood pressure lying and standing, even though orthostatic

Syracuse Seminar Series on Aging

hypotension, a sudden lowering of blood pressure upon standing, is a very common cause of falls among older individuals

- only a quarter of the time was their vision evaluated
- only 7% of the time was there any evaluation of gait or balance
- and only 28% of the time was there a neurological examination.

So the areas of care that currently have national measures attached to them may be fairly well attended to, although our data show that there are still lapses, but the areas that are so important for this older group, where we don't have the measures available, are very poorly performed.

Quality of Care Affects Survival in Vulnerable Elders

Overall, this set of patients received only 55% of their recommended care, but the percentage of care processes prescribed to individuals ranged from 27% for the worst case up to 88% for the best case (Higashi and colleagues 2005). By linking these patients with national death index data, we were able to see a graded positive relationship between the QI scores (grouped into deciles) and 3-year survival, which shows that if you comprehensively measure care you can get at a really important construct for older people that directly translates into relatively short-term mortality.

We also looked at the alternative hypothesis, that doctors provide less care to their sicker patients because they presumed these patients are likely to die anyway. We studied the relationship between patient vulnerability (the score obtained from the Vulnerable Elder Survey) and the quality of care they received—taking into account preferences and prognosis, and excluding the indicators that shouldn't be applied to the really sick patients—and discovered that quality, measured by the ACOVE QIs was basically flat over the entire prognostic spectrum of these patients. And while we would like the overall quality to be closer to 90% of the recommended care processes, the fact is that it's around 55% both for the patients who are less sick and those who are more sick. What doctors do seems to matter and we can measure it.

Care Guidelines versus Quality Indicators

Should Single Disease Guidelines Be Applied to Patients with Multiple Chronic Diseases?

As I mentioned at the beginning, most elderly patients have more than one chronic health condition. Østbye and colleagues (2005) surveyed national care guidelines to determine how much time it would take doctors if they actually applied all guideline care for 10 common chronic diseases among their patients. They found that if those 10 conditions were stable, just to do the guideline care would take physicians 3½ hours a day, and if the conditions were unstable, it would take 10½ hours a day, on top of anything else that the doctor did in the office that day. Clearly this is an implausible set of circumstances.

So let's revisit the patient we began with, the 79-year-old woman with several medical problems, a pretty complicated family situation, and on managed Medicare insurance (Boyd and colleagues 2005). Researchers applied clinical practice guidelines for each of her five chronic conditions to develop a treatment plan using a "conservative regimen." Under the plan, this patient needed 19 doses of 12 different medications, taken at five different times a day, with multiple potential interactions, and costing \$406.45 per month (before Part D Medicare). The plan included 10 patient tasks, some of them complicated or contradictory (e.g., non-weight bearing exercise in the presence of severe foot disease, but weight-bearing exercise for osteoporosis), and 18 physician tasks. At the same time, few of the guidelines offered specific recommendations for patients with more than one chronic condition.

Tinetti and her colleagues (2004) weigh in:

Evidence is emerging that patients, particularly elderly patients and those with multiple conditions, vary in regard to the amount of importance they place on health outcomes such as longer survival, the prevention of specific disease events, and physical cognitive functioning, as well as the amount of inconvenience and risk of adverse events that they are willing to tolerate.

Perhaps guidelines shouldn't apply to older people because they create impossible demands on both the doctor and the patient. Should single

Syracuse Seminar Series on Aging

disease guidelines be applied to complex patients at all? Is what is good for the disease always best for the patient? Tinetti concluded that we shouldn't be measuring care using guidelines such as these for complex older patients.

However, we need to distinguish between quality indicators and care guidelines.

Care guidelines are tools to help providers and patients set individualized goals; they should not be considered a maximum or minimum level of care.

Quality indicators are a measurement tool that specifies patient eligibility, and care (or outcome) that if not met nearly always indicates that the patient received inadequate quality care.

However, we also found that doctors are capable of providing complex care to complex patients (Higashi and colleagues 2007). We thought maybe this happened because complex patients have much more contact with doctors, or their characteristics are such that they have more opportunities for higher quality of care. But even when you take into account utilization and patient characteristics, the quality of care, measured according to whether patients were offered recommended services, increases as a patient's number of chronic conditions increases.

Quality Measures for Older People: Medical Records, Not Administrative Data

Administrative data are traditionally used to determine performance in publicly accessible reports such as health plan "report cards" and accreditation status reports. So why is it so difficult to measure the quality of medical care for older people using this data source?

To answer that question, we compared the applicability, eligibility, and performance of ACOVE indicators using medical records and administrative data over a 13-month period for a random sample of vulnerable older patients enrolled in managed care (MacLean et al. 2006). We found that 80% of the QIs were applicable only to medical records, and 20% to either medical records or administrative data. However, among the QIs specific to geriatric conditions, all were measurable by medical records, while only two could be measured

Neil S. Wenger

using administrative data. Conditions for which there were no administrative data QIs included many geriatric conditions: end-of-life care, falls, hearing, hospital care, malnutrition, pain management, pneumonia, pressure ulcers, and urinary incontinence.

You can't measure anything about geriatric care using administrative data. And you can't measure very many of the medical quality indicators with administrative data either. Furthermore, if you compare the summary performance scores for QIs that are applicable to both administrative data and medical records, you get a happy result of 83% of recommended care received. But if you compare the summary performance scores for all QIs, by source of data, the score based on medical records for the same patients is actually 55%.

Administrative data is abysmal for measuring care for older people. But this is the direction that quality measurement has moved—we have to be able to measure using administrative data, because it's cheap. Which gets us back to the man looking for his car keys under the streetlamp. Are we going to search under the streetlamp because that's where it's light, or are we going to move to where it's a little bit darker, expend more energy, and measure the things that are most important to this older population?

What's Next?

- We might be able to develop electronic methods of collecting these data that are relative to older patients. We already have some pilot projects going in which, for disease-specific quality measures or conditions, have incorporated quality measures into electronic health record (EHR) systems within single or multiple-site practices. These will allow us to begin to measure the quality of care that's being provided to these patients, but it's still a rather limited attempt.
- And we can begin to better refine the targeting of measures to patients based on prognosis and preferences. No one has yet tried, even with the measures that are out there, and that are being widely used for diabetes and heart failure and ischemic heart disease, to think about “Which patients should these not apply to?” The degree to which we don't do that means that we exclude those patients from evaluation overall. Then what we

Syracuse Seminar Series on Aging

have is our current state of not evaluating older patients for the quality of the care that they receive.

- Except for a small number of palliative care and hospice measures, we do not evaluate at all the care provided to our sickest and most vulnerable patients: those approaching the end of life. As patients become sicker, whether at home or in the hospital, current nationally available measures become less relevant to them. Developing measures to begin to peek at the care that these patients receive will help to fill an enormous void.

Conclusion

We can measure the quality of care provided to representative samples of patients. We have the technology, we have the capability, we have the tools, and in fact they're widely available. Why don't we measure care that's important for older patients?

- First, the data are not easily available. They don't spring out to you; you have to go get them.
- Second, it's pretty expensive to get these data. But if you have a large health-care system you can get a sample of medical records that represents the population. That isn't so expensive. But we need to want to do it.

So the real question is: Do we *want* to know? Do we *want* to know that, comprehensively, our care for cognitive impairment, for falls, for incontinence, and end-of-life, is really as bad as it is?

Bibliography

Annals of Internal Medicine. 2001. Vol. 135(8, Part 2, October 16).
Quality Indicators for Assessing Care of Vulnerable Elders.

Assessing Care of Vulnerable Elders (ACOVE) Website. 2008.
<http://www.rand.org/health/projects/acove/>.

Bernstein, A. B., E. Hing, A. J. Moss, K. F. Allen, A. B. Siller, and R. B. Tiggle. 2004. "Health Care in America: Trends in Utilization." DHHS Publication No. 2004-1031. Hyattsville, MD: National Center for Health Statistics, CDC. January.

Neil S. Wenger

<http://0-www.cdc.gov.pugwash.lib.warwick.ac.uk/NCHS/data/misc/healthcare.pdf>

- Boyd, Cynthia M., Jonathan Darer, Chad Boulton, Linda P. Fried, Lisa Boulton, and Albert W. Wu. 2005. "Clinical Practice Guidelines and Quality of Care for Older Patients with Multiple Comorbid Diseases: Implications for Pay for Performance." *Journal of the American Medical Association* 294 (6) (August 10): 716-724.
- Centers for Disease Control and Prevention and The Merck Company Foundation. 2007. "The State of Aging and Health in America 2007." Whitehouse Station, NJ: Merck Company Foundation. <http://www.cdc.gov/aging/saha.htm>.
- Centers for Disease Control. 2008. "Self-Reported Falls and Fall-Related Injuries Among Persons Aged ≥ 65 Years—United States, 2006." *Morbidity and Mortality Weekly Review (MMWR)* 57 (9) (March 7): 225-229. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5709a1.htm?s_cid=mm5709a1_e.
- Donabedian, Avedis. 1966 [reprinted in *Milbank Quarterly* 83(4): 691-729]. "Evaluating the Quality of Medical Care." *Milbank Memorial Fund Quarterly* 44 (3, Pt. 2): 166-203.
- Donabedian, Avedis. 1988. "The Quality of Care. How Can It Be Assessed?" *Journal of the American Medical Association* 260 (12): 1743-1748.
- Hayward, Rodney A. 2007. "All-or-Nothing Treatment Targets Make Bad Performance Measures." *American Journal of Managed Care* 13(3) (March 1): 126-128.
- Higashi, Takahiro, Paul G. Shekelle, John L. Adams, Caren J. Kamberg, Carol P. Roth, David H. Solomon, David B. Reuben, Lillian Chiang, Catherine H. MacLean, John T. Chang, Roy T. Young, Debra M. Saliba, and Neil S. Wenger. 2005. "Quality of Care is Associated with Survival in Vulnerable Older Patients." *Annals of Internal Medicine* 143(4) (August 16): 274-281.
- Higashi, Takahiro, Neil S. Wenger, John L. Adams, Constance Fung, Martin Roland, Elizabeth A. McGlynn, David Reeves, Steven M. Asch, Eve A. Kerr, and Paul G. Shekelle. 2007.

Syracuse Seminar Series on Aging

“Relationship Between Number of Medical Conditions and Quality of Care.” *New England Journal of Medicine* 356 (24) (June 14): 2496-2504.

Jencks, Stephen F., Timothy Cuerdon, Dale R. Burwen, Barbara Fleming, Peter M. Houck, Annette E. Kussmaul, David S. Nilasena, Diana L. Ordín, and David R. Arday. 2000. “Quality of Medical Care Delivered to Medicare Beneficiaries: A Profile at State and National Levels.” *Journal of the American Medical Association* 284 (13) (October 4): 1670-1676. <http://jama.ama-assn.org/cgi/reprint/284/13/1670>.

Jencks, Stephen F., Edwin D. Huff, and Timothy Cuerdon. 2003. “Change in the Quality of Care Delivered to Medicare Beneficiaries, 1998-1999 to 2000-2001.” *Journal of the American Medical Association* 289 (3) (January 15): 305-312.

Journal of the American Geriatrics Society. 2007. Vol. 55(S2, October). Measuring Medical Care Provided to Vulnerable Elders: The Assessing Care of Vulnerable Elders-3 (ACOVE-3) Quality Indicators.

Lohr, Kathleen M. (editor) 1990. *Medicare: A Strategy for Quality Assurance. A Report of a Study by a Committee of the Institute of Medicine, Division of Health Care Services.*, Volume 1. Washington, DC: National Academy Press.

MacLean, Catherine H., Rachel Louie, Paul G. Shekelle, Carol P. Roth, Debra Saliba, Takahiro Higashi, John Adams, John T. Chang, Caren J. Kamberg, David H. Solomon, Roy T. Young, and Neil S. Wenger. 2006. “Comparison of Administrative Data and Medical Records to Measure the Quality of Medical Care Provided to Vulnerable Older Patients.” *Medical Care* 44 (2) (February): 141-148.

McGlynn, Elizabeth A., Steven M. Asch, John Adams, Joan Keesey, Jennifer Hicks, Alison DeCristofaro, and Eve A. Kerr. 2003. “The Quality of Health Care Delivered to Adults in the United States.” *New England Journal of Medicine* 348 (26) (June 26): 2635-2645.

Min, Lillian C., Marc N. Elliott, Neil S. Wenger, and Debra Saliba. 2006. “Higher Vulnerable Elders Survey Scores Predict Death

Neil S. Wenger

and Functional Decline in Vulnerable Older People.” *Journal of the American Geriatrics Society* 54 (3) (March): 507-511.

Østbye, Truls, Kimberly S. H. Yarnall, Katrina M. Krauser, Kathryn I. Pollak, Margaret Gradison, and J. Lloyd Michener. 2005. “Is There Time for Management of Patients with Chronic Diseases in Primary Care?” *Annals of Family Medicine* 3 (3) (May-June): 209-214.

RAND Health. 2008. “RAND Health Research Briefs.” Santa Monica, CA. Accessed February 25, 2008. Last updated on January 24, 2008. Includes “The Quality of Health Care Received by Older Adults (2004); “Developing Quality of Care Indicators for the Vulnerable Elderly: The ACOVE Project (2004); “The First National Report Card on Quality of Health Care in America (2006); and “Improving the Quality of Health Care for Older Adults” (2008). Available from <http://www.rand.org/health/highlights.html>, click on “Aging and Health.”

Saliba, Debra, M Elliott, Laurence Z. Rubenstein, David H. Solomon, Roy T. Young, Caren J. Kamberg, Carol Roth, Catherine H. MacLean, Paul G. Shekelle, EM Sloss, and Neil S. Wenger. 2001. “The Vulnerable Elders Survey: A Tool for Identifying Vulnerable Older People in the Community.” *Journal of the American Geriatrics Society* 49 (12) (December): 1691-1699.

Sloss, EM., David H. Solomon, Paul G. Shekelle, Roy T. Young, Debra Saliba, Catherine H. MacLean, Laurence Z. Rubenstein, John F. Schnelle, Caren J. Kamberg, and Neil S. Wenger. 2000. “Selecting Target Conditions for Quality of Care Improvement in Vulnerable Older Adults.” *Journal of the American Geriatrics Society* 48 (4) (April): 363-369.

Tinetti, Mary E., Sidney T. Bogardus Jr, and Joseph V. Agostini. 2004. “Potential Pitfalls of Disease-Specific Guidelines for Patients with Multiple Conditions.” *New England Journal of Medicine* 351 (27) (December 30): 2870-2984.

Wenger, Neil S., David H. Solomon, Carol P. Roth, Catherine H. MacLean, Debra Saliba, Caren J. Kamberg, Laurence Z. Rubenstein, Roy T. Young, EM. Sloss, R Louie, John Adams, John T. Chang, PJ. Venus, John F. Schnelle, and Paul G. Shekelle. 2003. “The Quality of Medical Care Provided to

Syracuse Seminar Series on Aging

Vulnerable Community-Dwelling Older Patients.” *Annals of Internal Medicine* 139 (9) (November 4): 740-747.

Wenger, Neil S., Carol P. Roth, Paul Shekelle, and ACOVE Investigators. 2007. “Introduction to the Assessing Care of Vulnerable Elders-3 Quality Indicator Measurement Set.” *Journal of the American Geriatrics Society* 55 (S2) (October): S247-S252.

Wolff, Jennifer L., Barbara Starfield, and Gerard Anderson. 2002. “Prevalence, Expenditures, and Complications of Multiple Chronic Conditions in the Elderly.” *Archives of Internal Medicine* 162 (20) (November 11): 2269-2276.