

Appendix Table. Quality Indicators Using Medical Records as the Information Source, Eligible Patients, and Pass Rates*

Text of Quality Indicators	Patients Triggered, n†	Pass Rates, %‡
Continuity and coordination of care		
IF an outpatient vulnerable elder is started on a new prescription medication, and he or she has a follow-up visit with the prescribing physician, THEN the medical record at the follow-up visit should document 1 of the following: 1) The medication is being taken, 2) the physician asked about the medication (e.g., side effects or adherence or availability), or 3) the medication was not started because it was not needed or because it was changed.	189	66
IF a vulnerable elder is discharged from a hospital to home or to a nursing home, and the hospital medical record specifies a follow-up appointment for a physician visit or a treatment (e.g., physical therapy or radiation oncology), THEN the medical record should document that the visit or treatment took place or that it was postponed or was not needed.	62	90
IF a vulnerable elder is discharged from a hospital to home or to a nursing home, THEN there should be a discharge summary in the outpatient physician or nursing home medical record within 6 weeks.	52	41
IF a vulnerable elder is discharged from a hospital to home or to a nursing home, and the transfer form or discharge summary indicates that a test result is pending, THEN the outpatient or nursing home medical record should include the test result within 6 weeks of hospital discharge.	14	71
IF a vulnerable elder is discharged from a hospital to home, and he or she received a new prescription medication or a change in medication before discharge, THEN the outpatient medical record should document or acknowledge the medication change within 6 weeks of discharge.	11	55
IF a vulnerable elder is under the outpatient care of ≥ 2 physicians, and 1 physician prescribed a new prescription medication or a change in medication, THEN subsequent medical record entries by the nonprescribing physician should acknowledge the medication change.	6	42
Dementia		
IF a vulnerable elder is admitted to a hospital or is new to a physician practice, THEN there should be documentation of a multidimensional assessment of cognitive ability.	130	52
IF a vulnerable elder is admitted to a hospital or is new to a physician practice, THEN there should be an assessment of functional status.	130	18
IF a vulnerable elder with dementia has a caregiver (and, if capable, the patient assents), THEN the physician should discuss or refer the patient and caregiver for discussion about patient safety, provide education on how to deal with conflicts at home, and inform them about community resources for dementia.	28	26
IF a vulnerable elder receives a new diagnosis of dementia, THEN the diagnosing physician should advise the patient not to drive a motor vehicle, request that the Department of Motor Vehicles (or equivalent) retests the patient's ability to drive, or refer the patient to a drivers' safety or education course that includes assessment of driving ability consistent with state laws.	6	50
IF a vulnerable elder has dementia, THEN he or she should be screened for depression during the initial evaluation period.	5	60
IF a vulnerable elder receives a new diagnosis of dementia, THEN a serum vitamin B ₁₂ and TSH test should be performed.	5	20
IF a vulnerable elder with dementia has cerebrovascular disease, THEN he or she should be offered appropriate stroke prophylaxis.	2	100
Depression		
IF a vulnerable elder presents with new onset of 1 of the following symptoms: sad mood, feeling down, insomnia or difficulties with sleep, apathy or loss of interest in pleasurable activities, reports of memory loss, unexplained weight loss greater than 5% in the past month or 10% over 1 year, or unexplained fatigue or low energy; THEN the patient should be asked about or treated for depression or should be referred to a mental health professional within 2 weeks of presentation.	34	26
IF a vulnerable elder receives a diagnosis of a new depression episode, THEN the medical record should document at least 3 of the 9 DSM-IV target symptoms for major depression within the first month of diagnosis.	13	0
IF a vulnerable elder receives a diagnosis of a new depression episode, THEN the medical record should document on the day of diagnosis the presence or absence of suicidal ideation and psychosis (consisting of, at a minimum, auditory hallucinations or delusions).	13	0

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Appendix Table—Continued

Text of Quality Indicators	Patients Triggered, n†	Pass Rates, %‡
IF a vulnerable elder receives a diagnosis of depression, THEN antidepressant treatment, psychotherapy, or electroconvulsive therapy should be offered within 2 weeks after diagnosis unless there is documentation within that period that the patient has improved or unless the patient has substance abuse or dependence, in which case treatment may wait until 8 weeks after the patient is in a drug- or alcohol-free state.	13	69
IF a vulnerable elder is started on an antidepressant medication, THEN the following medications should not be used as first- or second-line therapy: tertiary amine tricyclics (amitriptyline, imipramine, doxepin, clomipramine, or trimipramine), monoamine oxidase inhibitors (unless atypical depression is present), benzodiazepines, or stimulants (except methylphenidate).	10	90
IF a vulnerable elder has no meaningful symptom response after 6 weeks of treatment, THEN 1 of the following treatment options should be initiated by the 8th week of treatment: Medication dose should be optimized or the patient should be referred to a psychiatrist (if initial treatment was medication) or medication should be initiated or referral to a psychiatrist should be offered (if initial treatment was psychotherapy alone).	9	22
IF a vulnerable elder responds only partially after 12 weeks of treatment, THEN 1 of the following treatment options should be instituted by the 16th week of treatment: Switch to a different medication class or add a second medication to the first (if initial treatment includes medication), add psychotherapy (if the initial treatment was medication), try medication (if initial treatment was psychotherapy without medication), consider electroconvulsive therapy, or refer to a psychiatrist.	8	25
IF a vulnerable elder with a history of cardiac disease is started on a tricyclic antidepressant, THEN baseline electrocardiography should be performed before initiation of or within 3 months before treatment.	1	0
Diabetes mellitus		
IF a vulnerable elder has diabetes, THEN his or her blood pressure should be checked at each outpatient visit.	85	59
IF a vulnerable elder has diabetes, THEN his or her glycated hemoglobin level should be measured at least every 12 months.	84	80
IF a diabetic vulnerable elder is not blind, THEN he or she should receive an annual dilated eye examination performed by an ophthalmologist, optometrist, or diabetes specialist.	84	48
ALL diabetic vulnerable elders should be offered daily aspirin therapy.	59	41
IF a diabetic vulnerable elder has elevated blood pressure, THEN he or she should be offered a therapeutic intervention to lower blood pressure within 3 months if blood pressure is 150–160/90–100 mm Hg and within 1 month if blood pressure is greater than 160/100 mm Hg.	44	79
IF a diabetic vulnerable elder does not have established renal disease and is not receiving an ACE inhibitor or ACE receptor blocker, THEN he or she should receive an annual test for proteinuria.	43	19
IF a diabetic vulnerable elder has a fasting total cholesterol level ≥ 6.2 mmol/L (≥ 240 g/dL), THEN he or she should be offered an intervention to lower cholesterol.	12	92
IF a vulnerable elder has an elevated glycated hemoglobin level, THEN he or she should be offered a therapeutic intervention aimed at improving glycemic control within 3 months if the glycated hemoglobin level is 9.0% to 10.9%, and within 1 month if the glycated hemoglobin level is $\geq 11\%$.	9	61
IF a diabetic vulnerable elder has proteinuria, THEN he or she should be offered therapy with an ACE inhibitor or ACE receptor blocker.	5	20
End-of-life care		
ALL vulnerable elders should have in their outpatient charts 1) an advance directive indicating the patient's surrogate decision maker, or 2) documentation of a discussion about who would be a surrogate decision maker or a search for a surrogate, or 3) indication that there is no identified surrogate.	370	4
IF a vulnerable elder with dementia, coma, or altered mental status is admitted to the hospital, THEN within 48 hours of admission, the medical record should 1) contain an advance directive indicating the patient's surrogate decision maker, 2) document a discussion about who would be a surrogate decision maker or a search for a surrogate, or 3) indicate that there is no identified surrogate.	20	25

Appendix Table—Continued

Text of Quality Indicators	Patients Triggered, n†	Pass Rates, %‡
IF a vulnerable elder with decision-making capacity has orders written in the hospital or the nursing home to withhold or withdraw a particular treatment modality (e.g., DNR order or an order not to initiate dialysis), THEN the medical record should document 1) patient participation in the decision or 2) why the patient chose not to participate in the decision.	10	70
IF a vulnerable elder has an advance directive in the outpatient, inpatient, or nursing home medical record or the patient reports the existence of an advance directive in an interview, and the patient receives care in a second venue, THEN 1) the advance directive should be present in the medical record at the second venue or 2) documentation should acknowledge its existence, its contents, and the reason that it is not in the medical record.	8	25
IF a vulnerable elder is admitted directly to the intensive care unit (from the outpatient setting or emergency department) and survives 48 hours, THEN within 48 hours of admission, the medical record should document consideration of the patient's preferences for care or that these could not be elicited or are unknown.	6	17
IF a vulnerable elder carries a diagnosis of severe dementia, is admitted to the hospital, and survives 48 hours, THEN within 48 hours of admission, the medical record should document consideration of the patient's previous preferences for care or that these could not be elicited or are unknown.	2	100
IF a vulnerable elder requires mechanical ventilation during a hospitalization (except short-term and postoperative mechanical ventilation), THEN the medical record should document within 48 hours of the initiation of mechanical ventilation the goals of care and the patient's preference for mechanical ventilation or why this information is unavailable.	2	100
Fall or illness problem		
ALL vulnerable elders should have documentation that they were asked at least annually about the occurrence of recent falls.	372	25
IF a vulnerable elder reported ≥ 2 falls in the past year or 1 fall with injury requiring treatment, THEN there should be documentation of a basic fall history.	57	49
IF a vulnerable elder reported ≥ 2 falls in the past year or 1 fall with injury requiring treatment, THEN there should be documentation of a basic fall examination.	57	3
IF a vulnerable elder reported ≥ 2 falls in the past year or 1 fall with injury requiring treatment, THEN there should be an examination with documented recommendations.	57	30
IF a vulnerable elder reports or is found to have new or worsening difficulty with ambulation, balance, and/or mobility, THEN there should be documentation that a basic gait, mobility, and balance evaluation was performed within 6 months that resulted in specific diagnostic and therapeutic recommendations.	22	23
IF a vulnerable elder is found to have problems with gait, strength (e.g., $\leq 4/5$ on manual muscle testing or needs arms to rise from a chair), or endurance (e.g., dyspnea on mild exertion), THEN an exercise program should be offered.	14	71
IF a vulnerable elder demonstrates decreased balance or proprioception or increased postural sway, THEN an appropriate exercise program should be offered and an evaluation for an assistive device performed.	13	62
Hearing loss		
IF a vulnerable elder fails a hearing screening, THEN he or she should be offered a formal audiologic evaluation within 3 months.	18	94
IF a vulnerable elder has a hearing problem or fails an audiologic screening, THEN he or she should have an ear examination within 3 months.	15	83
ALL vulnerable elders should have a hearing screening examination as part of the initial evaluation.	4	0
IF a vulnerable elder is a hearing aid candidate, THEN he or she should be offered hearing rehabilitation.	4	50
Heart failure		
IF a vulnerable elder has heart failure and LV ejection fraction ≤ 0.4 (or unknown), THEN he or she should be offered an ACE inhibitor or receptor blocker.	23	65

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Appendix Table—Continued

Text of Quality Indicators	Patients Triggered, n†	Pass Rates, %‡
IF a vulnerable elder has heart failure, has LV ejection fraction ≤ 0.4 , and is NYHA class I–III, THEN he or she should be offered a β -blocker unless a contraindication (e.g, uncompensated heart failure) has been documented.	21	48
IF a vulnerable elder has heart failure, has LV ejection fraction ≤ 0.4 , and does not have AF, THEN from among the 3 generations of calcium-channel blocker medications, he or she should not be treated with a first- or second-generation calcium-channel blocker.	9	100
IF a vulnerable elder is hospitalized with heart failure, THEN he or she should have serum electrolytes, creatinine, and blood urea nitrogen levels measured within 1 day of hospitalization.	8	100
IF a vulnerable elder has heart failure and AF, THEN he or she should be offered anticoagulation to achieve an INR of 2.0 to 3.0.	7	71
IF a vulnerable elder receives a new diagnosis of heart failure, THEN he or she should have a history taken at the time of diagnosis and hospitalization that documents the presence or absence of previous MI, documented coronary artery disease, revascularization, current symptoms of chest pain or angina, history of hypertension, history of diabetes, history of hypercholesterolemia, history of valvular heart disease, history of thyroid disease, smoking, current medications, and a description of functional capacity (e.g., NYHA functional status).	6	83
IF a vulnerable elder receives a new diagnosis of heart failure, THEN he or she should be offered an evaluation of LV ejection fraction within 1 month.	6	67
IF a vulnerable elder receives a new diagnosis of heart failure, THEN he or she should have the following elements of the physical examination documented at the time of presentation: weight, blood pressure and heart rate, lung examination, cardiac examination, and abdominal or lower-extremity examination.	6	100
IF a vulnerable elder receives a new diagnosis of heart failure, THEN he or she should undergo the following studies within 1 month of the diagnosis (unless they have already been performed within the previous 3 months): chest radiography, electrocardiography, CBC, serum sodium and potassium levels, serum creatinine level, and TSH level in patients with AF or heart failure with no obvious cause.	6	67
IF a vulnerable elder has heart failure and AF and he or she has documented contraindications to anticoagulation, THEN he or she should be offered aspirin.	3	33
IF a vulnerable elder has heart failure and LV ejection fraction ≤ 0.4 , THEN he or she should not be treated with a type I antiarrhythmic agent unless an implantable cardioverter defibrillator is in place.	1	100
Hospital care		
IF a vulnerable elder is admitted to the hospital for any acute or chronic illness or any surgical procedure, THEN the evaluation should include within 24 hours: 1) diagnoses and 2) prehospital and current medications.	57	97
IF a vulnerable elder is admitted to the hospital for any acute or chronic illness or any surgical procedure, THEN documentation of cognitive status should be performed within 24 hours.	57	20
IF a vulnerable elder enters the hospital, THEN discharge planning should begin within 48 hours.	57	67
IF a hospitalized vulnerable elder has peptic stress ulcer risk factors, THEN the patient should receive prophylaxis with either an H ₂ -blocker, sucralfate, or a proton-pump inhibitor.	10	45
IF a hospitalized vulnerable elder has a definite or suspected diagnosis of delirium, THEN an evaluation for potentially precipitating factors must be undertaken and identified causes treated.	10	60
IF a hospitalized vulnerable elder has a definite or suspected diagnosis of delirium, THEN identified potential causes should be treated.	9	44
IF a hospitalized vulnerable elder is at very high risk for venous thrombosis, THEN the patient should have venous thromboembolism prophylaxis.	4	100
Hypertension		
IF a vulnerable elder requires pharmacotherapy for treatment of hypertension in the outpatient setting, THEN a once- or twice-daily medication should be used unless there is documentation about the need for agents that require more frequent dosing.	59	93

Appendix Table—Continued

Text of Quality Indicators	Patients Triggered, n†	Pass Rates, %‡
IF a vulnerable elder has hypertension and has renal parenchymal disease with a serum creatinine level >133 μmol/L (>1.5 mg/dL) or > 1 g of protein/24 hours of collected urine, THEN therapy with an ACE inhibitor should be offered.	19	63
IF a vulnerable elder has hypertension and asthma, THEN β-blocker therapy for hypertension should not be used.	15	100
IF a vulnerable elder remains hypertensive after nonpharmacologic intervention, THEN pharmacologic antihypertensive treatment should be initiated.	11	64
IF a vulnerable elder receives a new diagnosis of hypertension, THEN within 4 weeks of the diagnosis, electrocardiography should be performed.	6	33
IF a vulnerable elder receives a new diagnosis of hypertension, THEN there should be documentation about the presence or absence of other cardiovascular risk factors.	6	33
IF a vulnerable elder receives a new diagnosis of hypertension, THEN nonpharmacologic therapy with lifestyle modification for treatment of hypertension should be recommended, including dietary sodium restriction and weight loss if patient is > 10% more than ideal body weight.	6	33
IF a vulnerable elder receives a new diagnosis of hypertension and the blood pressure is below 170/90 mm Hg, THEN there should be evidence that 3 or more blood pressure measures ≥ 140/90 mm Hg were obtained before the diagnosis.	3	33
Ischemic heart disease		
IF a vulnerable elder has established CHD and is not receiving warfarin, THEN he or she should be offered antiplatelet therapy.	73	66
IF a vulnerable elder has had a MI, THEN he or she should be offered a β-blocker.	53	53
IF a vulnerable elder has established CHD and LDL cholesterol level >3.36 mmol/L (> 130 mg/dL) and a trial of step II diet therapy was not offered or was ineffective, THEN he or she should be offered cholesterol-lowering medication.	16	47
IF a vulnerable elder with established CHD smokes, THEN he or she should be offered counseling for smoking cessation at least annually and have this documented in the medical record.	8	50
IF a vulnerable elder has established CAD and his or her cholesterol level is not known, THEN he or she should undergo a fasting cholesterol evaluation, including total LDL and HDL cholesterol.	3	33
IF a vulnerable elder has an acute MI or unstable angina, did not undergo angiography, and does not have contraindications to revascularization, THEN he or she should be offered noninvasive stress testing 4–21 days after the infarction or anginal event.	3	0
IF a vulnerable elder is hospitalized with an acute MI, THEN he or she should be offered assessment of LV function before discharge or within 3 days after hospital discharge.	2	50
IF a vulnerable elder has an acute MI or unstable angina, THEN he or she should be given aspirin therapy within 1 hour of presentation.	2	0
IF a vulnerable elder has unstable angina or an acute MI, THEN he or she should be offered β-blocker therapy within 12 hours of presentation.	2	50
IF a vulnerable elder has had a recent MI or recent coronary bypass graft surgery, THEN he or she should be offered cardiac rehabilitation.	2	0
IF a vulnerable elder has clinically significant left main or clinically significant 3-vessel coronary artery disease with LV ejection fraction < 0.5, THEN he or she should be offered coronary artery bypass graft surgery.	1	0
Malnutrition		
ALL vulnerable elders should be weighed at each physician office visit and these weights should be documented in the medical record.	355	42
IF a vulnerable elder is hospitalized, THEN his or her nutritional status should be documented during the hospitalization by evaluation of oral intake or serum biochemical testing (e.g., albumin, prealbumin, or cholesterol levels).	57	47
IF a vulnerable elder has documented involuntary weight loss or hypoalbuminemia (<35 g/L), THEN she or he should receive an evaluation for potentially reversible causes of poor nutritional intake.	33	52

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Appendix Table—Continued

Text of Quality Indicators	Patients Triggered, n†	Pass Rates, %‡
IF a vulnerable elder has documented involuntary weight loss or hypoalbuminemia (<35 g/L), THEN he or she should receive an evaluation for potentially relevant comorbid conditions, including medications that might be associated with decreased appetite (e.g., digoxin, fluoxetine, anticholinergics), depressive symptoms, and cognitive impairment.	33	76
IF a vulnerable elder has involuntary weight loss > 10% of body weight over ≤1 year, THEN weight loss (or a related disorder) should be documented in the medical record as an indication that the physician recognized malnutrition as a potential problem.	13	77
Medication use		
IF a vulnerable elder does not need control of seizures, THEN barbiturates should not be used.	372	99
IF a vulnerable elder requires analgesia, THEN meperidine should not be used.	369	99
ALL vulnerable elders should not be prescribed a medication with strong anticholinergic effects if alternatives are available.	366	98
IF a vulnerable elder is prescribed a new drug, THEN the patient (or, if incapable, a caregiver) should receive education about the purpose of the drug, how to take it, and expected side effects or important adverse reactions.	259	18
IF a vulnerable elder is prescribed a new drug, THEN the prescribed drug should have a clearly defined indication documented in the record.	258	98
EVERY new drug that is prescribed to a vulnerable elder on an ongoing basis for a chronic medical condition should have a documentation of response to therapy within 6 months.	180	65
IF a vulnerable elder is prescribed a thiazide or loop diuretic, THEN he or she should have electrolyte levels checked at least yearly.	127	80
IF a vulnerable elder is prescribed an oral hypoglycemic drug, THEN chlorpropamide should not be used.	89	99
IF a vulnerable elder is prescribed warfarin, THEN an INR should be determined at least every 6 weeks.	44	53
IF a vulnerable elder is newly started on a diuretic, THEN serum potassium and creatinine levels should be checked within 1 month of the initiation of therapy.	25	34
IF a vulnerable elder is newly started on an ACE inhibitor, THEN serum potassium and creatinine levels should be checked within 1 month of the initiation of therapy.	23	37
IF a vulnerable elder is prescribed warfarin, THEN an INR should be determined within 4 days after initiation of therapy and at least every 6 weeks.	11	45
Osteoarthritis		
IF a vulnerable elder is treated with COX-2 nonselective NSAIDs, THEN there should be evidence that the patient was advised of the risks associated with these drugs.	50	4
IF a vulnerable elder is older than 75 years of age and/or has a history of peptic ulcer disease, gastrointestinal bleeding, or current warfarin use and the patient is being treated with a COX-2 nonselective NSAID, THEN he or she should be offered concomitant treatment with either misoprostol or a proton-pump inhibitor.	38	11
IF oral pharmacologic therapy is initiated to treat osteoarthritis, THEN acetaminophen should be the first drug used, unless there is a documented contraindication to use.	37	43
IF an ambulatory vulnerable elder receives a new diagnosis of symptomatic osteoarthritis of the knee and has no contraindications to exercise and is physically and mentally able to exercise, THEN a directed or supervised strengthening or aerobic exercise program should be prescribed within 3 months of diagnosis.	19	16
IF a vulnerable elder with severe symptomatic osteoarthritis of the knee or hip has not responded to nonpharmacologic and pharmacologic therapy, THEN the patient should be offered referral to an orthopedic surgeon to be evaluated for total joint replacement within 6 months unless a contraindication to surgery is documented.	10	90
IF oral pharmacologic therapy for osteoarthritis is changed from acetaminophen to a different oral agent, THEN there should be evidence that the patient has had a trial of maximum-dose acetaminophen (suitable for age and comorbid conditions).	3	33

Appendix Table—Continued

Text of Quality Indicators	Patients Triggered, n†	Pass Rates, %‡
Osteoporosis		
ALL female vulnerable elders who smoke should be counseled annually about smoking cessation.	25	48
IF a vulnerable elder has a new diagnosis of osteoporosis, THEN during the initial evaluation period, an underlying cause of osteoporosis should be sought by checking medication use and current alcohol use.	12	42
IF a female vulnerable elder receives a new diagnosis of osteoporosis, THEN the patient should be offered treatment with hormone replacement therapy or bisphosphonates or calcitonin within 3 months of diagnosis.	10	60
IF a vulnerable elder is taking corticosteroids for more than 1 month, THEN the patient should be offered calcium and vitamin D.	7	71
IF an ambulatory vulnerable elder has an osteoporotic fracture diagnosed, THEN physical therapy or an exercise program should be offered within 3 months.	7	0
Pain management		
IF a vulnerable elder has a newly reported, chronic painful condition, THEN a targeted history should be performed within 1 month.	123	40
IF a vulnerable elder has a newly reported, chronic painful condition, THEN a physical examination should be performed within 1 month.	123	58
IF a vulnerable elder has a newly reported, chronic painful condition, THEN treatment should be offered.	121	86
IF a vulnerable elder is treated for a chronic painful condition, THEN he or she should be assessed for a response within 6 months.	70	66
IF a vulnerable elder has been prescribed a COX-2 nonselective NSAID for the treatment of chronic pain, THEN the medical record should indicate whether he or she has a history of peptic ulcer disease and, if a history is present, justification of NSAID use should be documented.	50	10
IF a vulnerable elder with chronic pain is treated with opioids, THEN he or she should be offered a bowel regimen or the medical record should document the potential for constipation or explain why bowel treatment is not needed.	46	0
Pneumonia		
IF a vulnerable elder with no history of allergy to the pneumococcal vaccine is not known to have already received a pneumococcal vaccine or if the patient received it more than 5 years ago (if before age 65 years), THEN a pneumococcal vaccine should be offered.	372	29
IF a vulnerable elder has no history of anaphylactic hypersensitivity to eggs or to other components of the influenza vaccine, THEN the patient should be offered an annual influenza vaccination.	372	66
IF a vulnerable elder is admitted to the hospital with pneumonia, THEN antibiotics should be administered within 8 hours of hospital arrival.	8	88
IF a vulnerable elder is admitted to the hospital with community-acquired pneumonia with hypoxia, THEN the patient should receive oxygen therapy.	7	100
IF a vulnerable elder with community-acquired pneumonia is to be discharged home, THEN the patient should not be unstable on the day before or the day of discharge.	7	100
IF a smoker develops pneumonia, THEN the smoker should be advised to quit smoking.	3	33
Prevention and screening		
ALL vulnerable elders newly admitted to a physician practice should receive within 6 months the elements of a comprehensive geriatric assessment.	4	14
ALL vulnerable elders newly admitted to a physician practice should receive within 6 months recommendations from the comprehensive geriatric assessment.	3	44
IF the elements of a comprehensive geriatric assessment are performed, THEN follow-up should assure the implementation of recommendations.	2	100
IF a vulnerable elder has valvular or congenital heart disease, intracardiac valvular prosthesis, hypertrophic cardiomyopathy, mitral valve prolapse with regurgitation, or previous episode of endocarditis and a high-risk procedure is planned, THEN endocarditis prophylaxis should be given.	1	100

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Appendix Table—Continued

Text of Quality Indicators	Patients Triggered, n†	Pass Rates, %‡
Pressure ulcer		
IF a vulnerable elder is admitted to an intensive care unit or a medical or surgical unit of a hospital and cannot reposition himself or herself or has limited ability to do so, THEN risk assessment for pressure ulcers should be performed on admission.	11	59
IF a vulnerable elder is identified as at risk for pressure ulcer development or a pressure ulcer risk assessment score indicates that the person is at risk, THEN preventive intervention must be instituted within 12 hours, addressing repositioning needs and pressure reduction (or management of tissue loads).	9	0
IF a vulnerable elder presents with a pressure ulcer, THEN the pressure ulcer should be assessed for 1) location, 2) depth and stage, 3) size, and 4) presence of necrotic tissue.	9	33
IF a vulnerable elder is identified as at risk for pressure ulcer development and has malnutrition (involuntary weight loss > 10% over 1 year or low albumin or prealbumin levels), THEN nutritional intervention or dietary consultation should be instituted.	6	83
IF a vulnerable elder presents with a clean full-thickness pressure ulcer and has no improvement at 4 weeks post-treatment, THEN 1) the appropriateness of the treatment plan and 2) the presence of cellulitis or osteomyelitis should be assessed.	2	50
IF a vulnerable elder with a full-thickness pressure ulcer presents with systemic signs and symptoms of infection, such as elevated temperature, leukocytosis, confusion, and agitation, and these signs and symptoms are not due to another identified cause, THEN the ulcer should be debrided of necrotic tissue within 12 hours.	1	0
IF a vulnerable elder presents with a partial-thickness pressure ulcer and has no improvement at 2 weeks post-treatment, THEN the appropriateness of the treatment plan should be assessed.	1	33
Stroke and AF		
IF a vulnerable elder has AF for > 48-hour duration and has any high-risk condition (impaired LV function; women age > 75 years; hypertension or systolic blood pressure > 160 mm Hg; or previous ischemic stroke, TIA, or systemic embolism), THEN he or she should be offered oral anticoagulation, or antiplatelet therapy if the medical record documents a reason not to give anticoagulant therapy.	18	94
IF a vulnerable elder has a TIA or stroke, THEN the medical record should document that smoking status was assessed and that smokers were counseled to stop smoking.	6	100
IF a male vulnerable elder has carotid artery symptoms and receives a diagnosis of TIA or nondisabling stroke, and the medical record does not document that the patient is not a candidate for carotid surgery, THEN a carotid artery imaging study should be performed within 4 weeks.	3	100
IF a vulnerable elder has a presumed stroke, THEN a CT or an MRI of the head should be obtained before initiation or continuation of thrombolytic treatment, anticoagulant therapy, or antiplatelet therapy.	2	100
IF a vulnerable elder receives a diagnosis of acute atherothrombotic ischemic stroke or TIA, THEN antiplatelet treatment should be offered within 48 hours after the stroke or TIA, unless the patient is already receiving anticoagulant treatment.	2	100
IF a vulnerable elder is admitted to the hospital with a diagnosis of acute ischemic or hemorrhagic stroke, THEN he or she should be admitted to a specialized acute or combined acute and rehabilitative stroke unit or transferred to a specialized stroke unit if such a unit is available in the hospital.	2	50
Urinary incontinence		
ALL vulnerable elders should annually have documentation of the presence or absence of urinary incontinence.	363	31
IF a vulnerable elder has new urinary incontinence that persists for more than 1 month or urinary incontinence at the time of a new evaluation, THEN a targeted physical examination should be performed that documents 1) a rectal examination and 2) a genital system examination (including a pelvic examination for women).	32	22
IF a vulnerable elder has new urinary incontinence that persists for more than 1 month or urinary incontinence at the time of a new evaluation, THEN a dipstick urinalysis and postvoid residual should be obtained.	32	13

Appendix Table—Continued

Text of Quality Indicators	Patients Triggered, n†	Pass Rates, %†
IF a vulnerable elder has new urinary incontinence or urinary incontinence at the time of a new evaluation, THEN treatment options should be discussed.	32	59
IF a vulnerable elder has new urinary incontinence that persists for more than 1 month or urinary incontinence at the time of a new evaluation, THEN a targeted history should be obtained that documents each of the following: 1) characteristics of voiding, 2) ability to get to the toilet, 3) previous treatment for urinary incontinence, 4) importance of the problem to the patient, and 5) mental status.	32	19
IF a cognitively intact vulnerable elder who is capable of independent toileting has documented stress, urge, or mixed incontinence without evidence of hematuria or high postvoid residual, THEN behavioral treatment should be offered.	31	13
ALL vulnerable elders should have documentation of the presence or absence of urinary incontinence during the initial evaluation.	4	50
IF a female vulnerable elder has documented stress urinary incontinence caused by isolated ISD or ISD with coexistent hypermobility and she undergoes surgical correction, THEN a sling or artificial sphincter procedure should be used.	1	100
IF a vulnerable elder undergoes surgery or periurethral injections for urinary incontinence, THEN subtracted cystometry should be performed before the procedure.	1	0
Vision care		
IF a vulnerable elder receives a diagnosis of a cataract, THEN assessment of visual function with respect to his or her ability to carry out needed or desired activities should be performed every 12 months.	102	31
IF a vulnerable elder with diabetes has a retinal examination, THEN the presence or degree of diabetic retinopathy should be documented.	43	88
IF a vulnerable elder receives a diagnosis of a cataract that limits the patient's ability to carry out needed or desired activities, THEN cataract extraction should be offered.	22	86
IF a vulnerable elder undergoes cataract surgery, THEN a follow-up ocular examination should occur within 48 hours and reexamination should occur within 3 months.	18	100
IF a vulnerable elder has sudden-onset visual changes, eye pain, corneal opacity, or severe purulent discharge, THEN the patient should be examined within 72 hours by an ophthalmologist.	10	80
IF a vulnerable elder who has been prescribed an ocular therapeutic regimen becomes hospitalized, THEN the regimen should be administered in the hospital unless discontinued by an ophthalmologic consultant.	6	83
IF a vulnerable elder develops progression of a chronic visual deficit that now interferes with his or her ability to perform needed or desired activities, THEN he or she should have an ophthalmic examination performed by a person skilled at ophthalmic examination within 2 months.	5	100
IF a vulnerable elder has a new diagnosis of primary open-angle glaucoma, THEN the initial evaluation of each eye should include the essential components of a comprehensive eye examination and documentation of the optic nerve appearance, visual field testing, and determination of an initial target pressure.	3	0
IF a vulnerable elder with diabetes receives a diagnosis of macular edema, THEN a dilated eye examination should be performed at least every 6 months.	2	100

* ACE = angiotensin-converting enzyme; AF = atrial fibrillation; CAD = coronary artery disease; CBC = complete blood count; CHD = coronary heart disease; COX-2 = cyclooxygenase-2; CT = computed tomography; DNR = do not resuscitate; DSM-IV = Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition; HDL = high-density lipoprotein; INR = international normalized ratio; ISD = intrinsic sphincter deficiency; LDL = low-density lipoprotein; LV = left ventricular; MI = myocardial infarction; MRI = magnetic resonance imaging; NSAID = nonsteroidal anti-inflammatory drug; NYHA = New York Heart Association; TIA = transient ischemic attack; TSH = thyroid-stimulating hormone.

† Number of eligible patients × pass rate may not be an integer because partial score was awarded if a patient triggered a quality indicator more than once and received recommended care only some of the time.