

ACOVE-2 Quality Indicators

CONTINUITY AND COORDINATION OF CARE

Identify source of care

1. **ALL** persons age 75 or older should be able to identify a physician or a clinic that they would call when in need of medical care or should know the phone number or other mechanism by which they can reach this source of care.

Medication follow-up

2. **IF** an outpatient, person age 75 or older 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 one of the following: the medication is being taken, the physician asked about the medication (e.g., side effects or adherence or availability), or the medication was not started because it was not needed or because it was changed.

Medication continuity between physicians

3. **IF** a person age 75 or older is under the outpatient care of ≥ 2 physicians, and one physician prescribed a new prescription medication or a change in medication, **THEN** subsequent medical record entries by the non-prescribing physician should acknowledge the medication change.

Reason for consultation

4. **IF** an outpatient, person age 75 or older is referred to a consultant physician, **THEN** the reason for consultation should be documented in the consultant's note.

Document consultant recommendations

5. **IF** an outpatient, person age 75 or older was referred to a consultant and subsequently visited the referring physician after the visit with the

consultant, **THEN** the referring physician's follow-up note should document the consultant's recommendations, or the medical record should include the consultant's note within 6 weeks or at the time of the follow-up visit, whichever is later.

Diagnostic test follow-up

6. **IF** the outpatient medical record documents that a diagnostic test was ordered for a person age 75 or older, **THEN** the medical record at the follow-up visit should document 1 of the following: result of the test, test was not needed or reason why it will not be performed, or test is still pending.

Medication continuity after hospitalization

7. **IF** a person age 75 or older is discharged from a hospital to home, and he or she received a new prescription medication or a change in medication prior to discharge, **THEN** the outpatient medical record should document or acknowledge the medication change within 6 weeks of discharge.

Pending test result

8. **IF** a person age 75 or older 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.

Post hospitalization follow-up appointment

9. **IF** a person age 75 or older 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 not needed.

Hospital follow-up within 6 weeks

10. **IF** a person age 75 or older is discharged from a hospital to home and survives at least 4 weeks after discharge, **THEN** he or she should have a follow-up visit or documented telephone contact within 6 weeks of discharge; and the physician's medical record documentation should acknowledge the recent hospitalization.

Medical record transfer

11. **IF** a person age 75 or older is transferred between emergency rooms or between acute care facilities, **THEN** the medical record at the receiving facility should include medical records from the transferring facility, or should acknowledge transfer of such medical records.

Discharge summary in chart

12. **IF** a person age 75 or older 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.

Interpreter

13. **IF** a person age 75 or older is deaf or does not speak English, **THEN** an interpreter or translated materials should be employed to facilitate communication between the person age 75 or older and the health care provider.

Related Quality Indicators for CONTINUITY AND COORDINATION OF CARE

Follow-up suicidal thoughts
(**Depression #13**)

Follow up of depression treatment
(**Depression #15, 16, 17**)

Continuity of care preferences
(**End of life #1, 3, 4, 6, 8, 9**)

Continuity of surrogate specification
(**End of life #2**)

Contact next of kin after death
(**End of life #14**)

Hearing aid in hospital
(**Hearing #7**)

Discharge planning in the hospital
(**Hospital #2**)

Cardiac rehabilitation after MI or CABG
(**Ischemic heart disease #12**)

Up-to-date medication list across providers
(**Medication #3**)

Follow-up response to medication
(**Medication #4**)

INR every 6 weeks for warfarin therapy
(**Medication #6**)

Lab tests after starting diuretic
(**Medication #7**)

Lab tests after starting ACE inhibitor
(**Medication #12**)

Follow-up response to pain treatment
(**Pain #7**)

Continuity of eye medications and glasses in the hospital
(**Vision #13, 15**)

DEMENTIA**Cognitive and functional screening**

1-CH IF a person age 75 or older is admitted to a hospital, **THEN** there should be documentation of a multidimensional assessment of cognitive ability.

1-CO IF a person age 75 or older is new to a physician practice, **THEN** there should be documentation of an assessment of memory.

1-F. IF a person age 75 or older is admitted to a hospital or is new to a physician practice, **THEN** there should be an assessment of functional status.

Medication review

2. IF a person age 75 or older presents with dementia symptoms, **THEN** the physician should review the patient's medication list for initiation of medications that might correspond chronologically to the onset of dementia symptoms.

3. IF a person age 75 or older presents with dementia symptoms that correspond in time with the initiation of new medication(s), **THEN** the physician should discontinue or justify the necessity of continuing these medications.

Laboratory testing

4. IF a person age 75 or older is newly diagnosed with dementia, **THEN** a serum vitamin B₁₂ and TSH should be performed.

Neuroimaging

5. IF a person age 75 or older has signs of dementia and focal neurologic findings suggestive of an intracranial process, **THEN** the patient should be offered neuroimaging (brain CT or MRI).

Cholinesterase inhibitors

6. IF a person age 75 or older is in a mild-to-moderate stage of Alzheimer's

disease, **THEN** the treating physician should discuss treatment with a cholinesterase inhibitor with the patient and the primary caregiver (if available).

Caregiver support and patient safety

7. IF a person age 75 or older 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 about community resources for dementia.

Screening for depression

9. IF a person age 75 or older has dementia, **THEN** he or she should be screened for depression during the initial evaluation period.

Depression treatment

10. IF a person age 75 or older with dementia has depression, **THEN** he or she should be treated for the depression.

Driving privileges

11. IF a person age 75 or older is newly diagnosed with dementia, **THEN** the diagnosing physician should advise the patient not to drive a motor vehicle and/or request that the Department of Motor Vehicles (or equivalent) re-test the patient's ability to drive, or refer the patient to a drivers' safety/education course that includes assessment of driving ability consistent with state laws.

Restraints

12. IF a person age 75 or older with dementia is to be physically restrained in the hospital, **THEN** the target behavioral disturbance or safety issue justifying use of restraints must be identified to the consenting person (patient or legal guardian) and documented in the chart.

13. IF a person age 75 or older is physically restrained and the target behavioral disturbance requiring restraint is identified, **THEN** the health care team should include methods other than physical restraints in the care plan.

14. IF a person age 75 or older is placed in physical restraints, **THEN** each of the following measures should be enacted:

- Consistent release from the restraints at least every 2 hours,
- Face-to-face reassessment by a physician or nurse at least every 4 hours and before renewal of the restraint order,
- Observation at least every 15 minutes, and more frequently if indicated by the patient's condition, while the patient is in restraints,
- Interventions every 2 hours (or as indicated by patient's condition or needs) related to nutrition, hydration, personal hygiene, toileting, and range-of-motion exercises.

Memory loss

15. IF a person age 75 or over without a previous diagnosis of dementia fails a memory screen or presents with memory loss or forgetfulness, **THEN** the physician should document an assessment of memory, OR a diagnosis of or treatment for dementia (or cognitive dysfunction or forgetfulness), OR an explanation for the memory loss, OR a referral to neurology, psychiatry, geriatrics, or a psychologist.

Related Quality Indicators for DEMENTIA

Evaluate patients with cognitive impairment for depression (**Depression #1, 2**)

Evaluate patients for suicidal ideation and follow-up (**Depression #4, 5, 13**)

Decision making for patients with dementia (**End of life #2, 3**)

Evaluate cognition at hospital admission (**Hospital #1**)

Check capacity before consent for surgery (**Hospital #6**)

Delirium evaluation and treatment (**Hospital #9**)

Cognitive evaluation for weight loss (**Malnutrition #4**)

Avoid anticholinergic medication (**Medication #9**)

DEPRESSION

Recognizing depression

1. **IF** a person age 75 or older presents with new onset of one of the following symptoms: sad mood, feeling down, insomnia or difficulties with sleep, apathy or loss of interest in pleasurable activities, complaints of memory loss, unexplained weight loss of 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 referred to a mental health professional within 2 weeks of presentation.

Depression and co-morbid disease

2. **IF** a person age 75 or older presents with onset or discovery of one of the following conditions: stroke, myocardial infarction, dementia, malignancy (excluding skin cancer), chronic pain, alcohol or substance abuse or dependence, anxiety disorder, or personality disorder, **THEN** the patient should be asked about or treated for depression, or referred to a mental health professional within 2 months of diagnosis of the condition.

Documenting depression symptoms

3. **IF** a person age 75 or older receives a diagnosis of a new depression episode, **THEN** the medical record should document at least 3 of the 9 Diagnostic and Statistical Manual IV target symptoms for major depression within the first month of diagnosis.

Suicidality

4. **IF** a person age 75 or older 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).
5. **IF** a person age 75 or older has thoughts of suicide, **THEN** the medical record should document, on the same date, that the patient either has no immediate plan for suicide, or that the patient was referred for evaluation for psychiatric hospitalization.

Depression treatment

6. **IF** a person age 75 or older is diagnosed with 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.

Choice of antidepressant

7. **IF** a person age 75 or older 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, trimipramine); monoamine oxidase inhibitors (unless atypical depression is present); benzodiazepines; or stimulants (except methylphenidate).

Psychotic or vegetative depression

8. **IF** a person age 75 or older has depression with psychotic features (e.g., auditory hallucinations, delusions), or has melancholic or vegetative depression with pervasive anhedonia, unreactive mood, psychomotor disturbances, severe terminal insomnia, and weight and appetite loss, **THEN** he or she should not be treated with psychotherapy alone, unless he or she is unable or unwilling to take medication.

Referral for psychotic depression

9. **IF** a person age 75 or older has depression with psychotic features, **THEN** he or she should be referred to a psychiatrist and should receive treatment with a combination of an antidepressant and an antipsychotic, or with electroconvulsive therapy.

Electrocardiogram with tricyclic use

10. **IF** a person age 75 or older with a history of cardiac disease is started on a tricyclic antidepressant, **THEN** a baseline electrocardiogram should be performed prior to initiation of or within 3 months prior to treatment.

Interactions with MAOI

11. **IF** a person age 75 or older is taking a serotonin reuptake inhibitor (SRI), **THEN** a monoamine oxidase inhibitor (MAOI) should not be used for at least 2 weeks after termination of paroxetine, sertraline, fluvoxamine and citalopram, and for at least 5 weeks after termination of fluoxetine.

12. **IF** a person age 75 or older is taking a MAOI, **THEN** he or she should not receive medications that interact with MAOI for at least 2 weeks after termination of the MAOI.

Monitoring suicide risk

13. **IF** a person age 75 or older is being treated for depression, **THEN** at each treatment visit suicide risk should be documented, if he or she had suicidal ideation during a previous visit.

Follow up of depression treatment

14. **IF** a person age 75 or older is being treated for depression with antidepressants, **THEN** the antidepressants should be prescribed at appropriate starting doses, and they should have an appropriate titration schedule to a therapeutic dose, therapeutic blood level, or remission of symptoms by 12 weeks.
15. **IF** a person age 75 or older has no meaningful symptom response after 6 weeks of treatment, **THEN** one of the following treatment options should be initiated by the 8th week of treatment: medication dose should be optimized or changed, 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).
16. **IF** a person age 75 or older responds only partially after 12 weeks of treatment, **THEN** one 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.

Continuing antidepressant therapy

17. **IF** a person age 75 or older has responded to antidepressant medication, **THEN** he or she should be continued on the drug at the same dose for at least 6 months, and should make at least 1 clinician contact (office visit or phone) during that time period.

Related Quality Indicators for DEPRESSION

Screen and treat depression in patients with cognitive impairment (**Dementia #9, 10**)

Depression evaluation for weight loss (**Malnutrition #4**)

DIABETES MELLITUS**Glycated hemoglobin measurement**

1. **IF** a person age 75 or older has diabetes, **THEN** his or her glycated hemoglobin level should be measured at least every 12 months.

Improving glycemic control

2. **IF** a person age 75 or older 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.

Proteinuria screening

3. **IF** a diabetic person age 75 or older 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.

Regular blood pressure measurement

5. **IF** a person age 75 or older has diabetes, **THEN** his or her blood pressure should be checked at each outpatient visit.

Diabetic education

6. **IF** a diabetic person age 75 or older has a glycated hemoglobin level \geq 10, **THEN** he or she should be referred for diabetic education at least annually.

Blood pressure control

7. **IF** a diabetic person age 75 or older has elevated blood pressure, **THEN** he or she should be offered a therapeutic intervention to lower blood pressure:
 - within 6 months if systolic blood pressure 140-160 mm
 - within 3 months if systolic blood pressure 161-180 mmHg
 - within 1 month if systolic blood pressure $>$ 180 mmHg

Aspirin therapy

8. **ALL** diabetic persons age 75 or older not receiving other anticoagulation therapy should be offered daily aspirin therapy.

Lipid treatment

9. **IF** a diabetic person age 75 or older has an LDL cholesterol $>$ 130 mg/dl, **THEN** he or she should be offered an intervention to lower cholesterol.

Routine eye examination

10. **IF** a diabetic person age 75 or older is not blind, **THEN** he or she should receive a dilated eye examination performed by an ophthalmologist, optometrist, or diabetes specialist every 2 years.

Treatment of high risk

11. **IF** a diabetic person age 75 or older has one additional cardiac risk factor (i.e., smoker, hypertension, hypercholesterolemia, or renal insufficiency/microalbuminuria), **THEN** he/she should be offered an ACE inhibitor or receptor blocker.

Foot examination

12. **IF** a person aged 75 or over has diabetes, **THEN** he or she should have an annual examination of his or her feet.

Related Quality Indicators for DIABETES MELLITUSChlorpropramide use (**Medication #8**)Retinal examination (**Vision #7, 8**)

END-OF-LIFE CARE**Advance directives, surrogates, and preferences**

1. **ALL** persons age 75 or older should have in their outpatient charts (1) an advance directive indicating the patient's surrogate decision maker/life-sustaining treatment preferences, or (2) documentation of a discussion about who would be a surrogate decision maker or a search for a surrogate/preferences, or (3) indication that there is no identified surrogate/preference.
2. **IF** a person age 75 or older 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, or (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.

Documentation of care preferences

3. **IF** a person age 75 or older carries a diagnosis of severe dementia, and 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 prior preferences for care or that these could not be elicited or are unknown.
4. **IF** a person age 75 or older is admitted directly to the intensive care unit (from the outpatient setting or emergency room) 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.

Advance directive continuity

6. **IF** a person age 75 or older 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.

Mechanical ventilation preferences

7. **IF** a person age 75 or older requires mechanical ventilation during a hospitalization (except short-term and post-operative 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.

Life-sustaining care decisions

8. **IF** a person age 75 or older 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.

Care consistency with preferences

9. **IF** a person age 75 or older has specific treatment preferences (e.g., DNR, no tube feeding, no hospital transfer) documented in a medical record, **THEN** these treatment preferences should be followed.

Mechanical ventilator withdrawal

10. **IF** a noncomatose person age 75 or older is not expected to survive and a mechanical ventilator is withdrawn or intubation is withheld, **THEN** the patient should receive (or have orders available for) an opiate or benzodiazepine or barbiturate infusion to reduce dyspnea and the chart should document whether the patient has dyspnea.

Care of the Dying Patient**Dyspnea treatment**

11. **IF** a person age 75 or older who was having difficulty with dyspnea in the last 7 days of life died an expected death, **THEN** there should be chart documentation of how the dyspnea was treated and there should be follow-up documentation about the dyspnea.

Pain treatment

12. **IF** a person age 75 or older who was conscious during the last 3 days of life died an expected death, **THEN** the medical record should contain documentation about pain or lack of pain during the last 3 days of life.

Search for next of kin

14. **IF** a person age 75 or older without nown family or next of kin died in the hospital, **THEN** the chart should document a search for next of kin.

Related Quality Indicators for END-OF-LIFE CARECaregiver support (**Dementia #7**)Permanent urinary catheter (**UI #10**)

FALLS AND MOBILITY PROBLEMS

Asking about falls

- 1. **ALL** persons age 75 or older should have documentation that they were asked at least annually about the occurrence of recent falls.

Detecting balance and gait disturbances

- 2. **ALL** persons age 75 or older should have documentation that they were asked about or examined for the presence of balance and/or gait disturbances at least once.

Basic fall history

- 3-H. **IF** a person age 75 or older reported 2 or more falls in the past year, or a single fall with injury requiring treatment, **THEN** there should be documentation of a basic fall history.

Basic fall examination

- 3-E. **IF** a person age 75 or older reported 2 or more falls in the past year, or a single fall with injury requiring treatment, **THEN** there should be documentation of a basic fall examination that resulted in specific diagnostic and therapeutic recommendations.

Gait/mobility and balance evaluation

- 4. **IF** a person age 75 or older 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 3 months that resulted in specific diagnostic and therapeutic recommendations.

Exercise and assistive device prescription

- 5. **IF** a person age 75 or older demonstrates decreased balance and/or proprioception or increased postural sway, **THEN** an appropriate exercise program should be offered and an evaluation for an assistive device performed.
- 6. **IF** a person age 75 or older is found to have problems with strength (e.g., 4/5 or less on manual muscle testing or needs arms to rise from a chair) or endurance (e.g., dyspnea on mild exertion), **THEN** an exercise program or physical therapy should be offered.

Related Quality Indicators for FALLS AND MOBILITY PROBLEMS

Avoid tricyclic antidepressants
(**Depression #7**)

New medications should have clearly defined indications (**Medication #1**)

Educate concerning side effects of new medications (**Medication #2**)

Annual medication review (**Medication #5**)

Avoid anticholinergic medication
(**Medication #9**)

Annual evaluation of function and pain for osteoarthritis (**Osteoarthritis #1**)

Strengthening program for patients with osteoarthritis (**Osteoarthritis #3**)

Vision evaluation every 2 years (**Vision #1**)

Corrective lenses for correctable refractive error (**Vision #14**)

Corrective lenses in the hospital (**Vision #15**)

HEARING LOSS**Screening for hearing loss**

1. **ALL** persons age 75 or older should have a hearing screen as part of the initial evaluation.

Formal audiologic evaluation

2. **IF** a person age 75 or older fails a hearing screening, **THEN** he or she should be offered a formal audiologic evaluation within 3 months.

Ear examination

3. **IF** a person age 75 or older has a hearing problem or fails an audiologic screening, **THEN** he or she should have an ear examination within 3 months.

Referral to audiologist

4. **IF** a person age 75 or older is a hearing aid candidate, **THEN** he or she should be offered referral to an audiologist within 3 months after audiologic exam.

Hearing rehabilitation

5. **IF** a person age 75 or older is a hearing aid candidate, **THEN** he or she should be offered hearing rehabilitation.

Conductive hearing loss

6. **IF** a person age 75 or older has conductive hearing loss, **THEN** he or she should be offered a referral to an otolaryngologist.

Inpatient access to hearing aid

7. **IF** a person age 75 or older who uses a hearing aid for any activities of daily living is hospitalized (or is in a nursing home), **THEN** the hearing impairment should be recognized and accommodated.

Related Quality Indicators for HEARING LOSS

Interpreter for hearing impaired patient
(Continuity #13)

HEART FAILURE

ACE Inhibitor use

- 1. **IF** a person age 75 or older has heart failure with a left ventricular ejection fraction $\leq 40\%$, **THEN** he or she should be offered an ACE inhibitor.

Medical history

- 3. **IF** a person age 75 or older is newly diagnosed with 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 prior myocardial infarction, 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., New York Heart Association functional status).

Physical examination

- 4. **IF** a person age 75 or older is newly diagnosed with 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 and/or lower extremity examination.

Diagnostic testing

- 5. **IF** a person age 75 or older is newly diagnosed with 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 prior 3 months): chest x-ray, electrocardiogram, CBC, serum sodium and potassium, serum creatinine, and TSH in patients with atrial fibrillation or heart failure with no obvious etiology.

Patient education

- 6. **IF** a person age 75 or older is newly diagnosed with heart failure, **THEN** education about disease management should be provided and documented.

Evaluation of ejection fraction

- 7. **IF** a person age 75 or older is newly diagnosed with heart failure, **THEN** he or she should be offered an evaluation of left ventricular ejection fraction within 1 month.

Biochemical monitoring

- 8. **IF** a person age 75 or older is hospitalized with heart failure, **THEN** he or she should have serum electrolytes, creatinine, and blood urea nitrogen performed within 1 day of hospitalization.

Beta blocker use

- 9. **IF** a person age 75 or older has heart failure, has left ventricular ejection fraction $\leq 40\%$, and is New York Heart Association Class I to III, **THEN** he or she should be offered a beta blocker, unless a contraindication (e.g., uncompensated heart failure) has been documented.

Calcium channel blocker use

- 10. **IF** a person age 75 or older has heart failure, has left ventricular ejection fraction $\leq 40\%$, and does not have atrial fibrillation, **THEN** from among the three generations of calcium channel blocker medications, he or she should not be treated with a first or second generation calcium channel blocker.

Antiarrhythmic agents

- 11. **IF** a person age 75 or older has heart failure and left ventricular ejection fraction $\leq 40\%$, **THEN** he or she should not be treated with a type I antiarrhythmic agent unless an implantable cardioverter defibrillator is in place.

Digoxin monitoring

- 12. **IF** a person age 75 or older with heart failure has been treated with digoxin, **THEN** a digoxin level should be checked within 1 week if signs of toxicity develop.

Related Quality Indicators for HEART FAILURE

Hospital follow-up (**Continuity #7**)

INR check for warfarin use (**Medication #6**)

Electrolyte check for diuretic (**Medication #7**)

Electrolyte and renal check after starting ACEI (**Medication #12**)

Beta blocker after myocardial infarction (**IHD #13**)

HOSPITAL CARE

Admission evaluation

1-H. IF a person age 75 or older 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) pre-hospital and current medications.

1-C. IF a person age 75 or older 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.

Discharge planning

2. IF a person age 75 or older enters the hospital, THEN discharge planning should begin within 48 hours.

Endocarditis prevention

3. IF a person age 75 or older 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.

Deep vein thrombosis prevention

4. IF a hospitalized person age 75 or older is at very high risk for venous thrombosis, THEN the patient should have venous thromboembolism prophylaxis.

Stress ulcer prevention

5. IF a hospitalized person age 75 or older has peptic stress ulcer risk factors, THEN the patient should receive prophylaxis with either an H₂-blocker, sucralfate, or a proton pump inhibitor.

Capacity for informed consent

6. IF a person age 75 or older is to have an inpatient or outpatient elective surgery, THEN there should be medical record documentation of the patient's ability to understand risks, benefits and consequences of the proposed surgical operation before the operative consent form is presented for signature.

Cardiac evaluation before vascular surgery

7. IF a person age 75 or older enters the hospital for non-emergent peripheral revascularization or aortic abdominal

aneurysm repair, THEN a cardiac stress test should be performed, if not performed in the prior year.

Fever evaluation

8. IF a hospitalized person age 75 or older has a new fever (temperature >38.5°C), THEN there should be documentation that a physician examination was performed within 4 hours (or fever evaluation performed in the last 48 hours or an alternative explanation for the fever documented in the chart).

Delirium evaluation and treatment

9-D. IF a hospitalized person age 75 or older has a definite or suspected diagnosis of delirium, THEN an evaluation for potentially precipitating factors must be undertaken.

9-T. IF a hospitalized person age 75 or older has a definite or suspected diagnosis of delirium, THEN identified potential causes should be treated.

Related Quality Indicators for HOSPITAL CARE

Hospital follow-up (**Continuity #10**)

Follow-up medications, tests and appointments after discharge (**Continuity #7, 8, 9**)

Medical record transfer between hospitals (**Continuity #11**)

Discharge summary in chart (**Continuity #12**)

Admission cognitive and functional assessments (**Dementia #1**)

Use of restraints (**Dementia #12 - 14**)

Advance directive and preference continuity (**End of life #2, 3, 4, 6, 9**)

Mechanical ventilation (**End of life #7, 10**)

Decision making participation (**End of life #8**)

Palliative care (**End of life #10 - 12**)

In-hospital death (**End of life #14**)

Hearing aid in hospital (**Hearing #7**)

Lab tests for hospitalized patients with heart failure (**Heart failure #8**)

Myocardial infarction treatment (**IHD #1-7, 12, 13**)

Alimentation for patient who cannot eat (**Malnutrition #6**)

Nutritional supplementation for malnourished hip fracture patient (**Malnutrition #7**)

Medication list in medical record (**Medication #3**)

Avoid meperidine use (**Medication #11**)

Preventive immunization (**Pneumonia #3**)

Pneumonia care (**Pneumonia #7 - 11**)

Pressure ulcer risk assessment, prevention and treatment (**Pressure ulcers #1 - 11**)

Stroke treatment (**Stroke #5 - 10**)

Eye medications and glasses in the hospital (**Vision #13, 15**)

HYPERTENSION

Electrocardiogram for new hypertension

1. **IF** a person age 75 or older is newly diagnosed with hypertension, **THEN** within 4 weeks of the diagnosis an electrocardiogram should be performed.

Cardiovascular risk documentation

2. **IF** a person age 75 or older is newly diagnosed with hypertension, **THEN** there should be documentation regarding the presence or absence of other cardiovascular risk factors.

Hypertension diagnosis

3. **IF** a person age 75 or older is diagnosed with hypertension and the blood pressure is below 170/90, **THEN** there should be evidence that 3 or more blood pressure measures of $\geq 140/90$ were obtained prior to the diagnosis.

Nonpharmacologic management

4. **IF** a person age 75 or older is diagnosed with hypertension, **THEN** nonpharmacologic therapy with lifestyle modification for treatment of hypertension should be recommended, including: dietary sodium restriction and weight loss if patient is $> 10\%$ over ideal body weight.

Pharmacologic management

5. **IF** a person age 75 or older remains hypertensive after non-pharmacologic intervention, **THEN** pharmacologic antihypertensive treatment should be initiated.
6. **IF** a person age 75 or older requires pharmacotherapy for treatment of hypertension in the outpatient setting, **THEN** a once- or twice-daily medication should be used unless there is documentation regarding the need for agents that require more frequent dosing.

7. **IF** a person age 75 or older has hypertension and has renal parenchymal disease with a serum creatinine >1.5 mg/dL or > 1 gram of protein/24 hours of collected urine, **THEN** therapy with an ACE inhibitor or ACE RB should be offered.
8. **IF** a person age 75 or older has hypertension and asthma, **THEN** beta blocker therapy for hypertension should not be used.
9. **IF** a person age 75 or older remains hypertensive, **THEN** he/she should be offered a therapeutic intervention to lower blood pressure:
 - within 3 months if systolic blood pressure 161-180 mmHg
 - within 1 month if systolic blood pressure >180 mmHg

Related Quality Indicators for HYPERTENSION

Check blood pressure at each outpatient visit for patients with diabetes (**Diabetes #5**)

Control blood pressure for patients with diabetes (**Diabetes #7**)

Orthostatic blood pressure check for fall (**Falls #3**)

Education for initiation of new medication (**Medication #2**)

Follow-up on therapeutic effect of new medication (**Medication #4**)

Electrolyte monitoring for diuretics (**Medication #7**)

Electrolyte and renal check after starting ACEI (**Medication #12**)

ISCHEMIC HEART DISEASE**Assess left ventricular function**

1. **IF** a person age 75 or older is hospitalized with an acute myocardial infarction, **THEN** he or she should be offered assessment of left ventricular function before discharge or within 3 days after hospital discharge.

Non-invasive stress testing

2. **IF** a person age 75 or older has an acute myocardial infarction or unstable angina, did not undergo angiography, and does not have contraindications to revascularization, **THEN** he or she should be offered non-invasive stress testing 4-21 days after the infarction or anginal event.

Early aspirin therapy

3. **IF** a person age 75 or older has an acute myocardial infarction or unstable angina, **THEN** he or she should be given aspirin therapy within 1 hour of presentation.

Early beta blocker therapy

4. **IF** a person age 75 or older has unstable angina or an acute myocardial infarction, **THEN** he or she should be offered beta blocker therapy within 12 hours of presentation.

Reperfusion therapy

5. **IF** a person age 75 or older has an acute myocardial infarction by electrocardiography and does not have contraindications to reperfusion therapy, **THEN** he or she should be offered treatment with reperfusion therapy.

Early coronary catheterization

6. **IF** a person age 75 or older without contraindications to revascularization has an acute myocardial infarction or unstable angina with one or more of the following:
 - pain refractory to medical therapy (>1 hour on aggressive medical therapy)
 - recurrent angina/ischemia at rest or with low-level activities
 - ischemia accompanied by symptoms of heart failure,**THEN** he or she should be offered urgent catheterization.

Coronary artery bypass surgery

7. **IF** a person age 75 or older has significant left main or significant 3-vessel coronary artery disease with left ventricular ejection fraction < 50%, **THEN** he or she should be offered coronary artery bypass graft surgery.

Cholesterol evaluation

8. **IF** a person age 75 or older 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.

Cholesterol-lowering intervention

9. **IF** a person age 75 or older has established CHD and LDL cholesterol >130 mg/dl, **THEN** he or she should be offered an intervention to lower cholesterol.

Antiplatelet therapy

10. **IF** a person age 75 or older has established CHD and is not on warfarin, **THEN** he or she should be offered antiplatelet therapy.

Smoking cessation

11. **IF** a person age 75 or older 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.

Coronary rehabilitation

12. **IF** a person age 75 or older has had a recent myocardial infarction or recent coronary bypass graft surgery, **THEN** he or she should be offered cardiac rehabilitation.

Beta blocker therapy

13. **IF** a person age 75 or older has had a myocardial infarction, **THEN** he or she should be offered a beta blocker.

Related Quality Indicators for ISCHEMIC HEART DISEASE**Hospital follow-up (Continuity #10)**

Evaluate patients s/p myocardial infarction for depression (**Depression #2**)

ECG before tricyclic antidepressant in patient with cardiac disease (**Depression #10**)

Daily aspirin for patient with diabetes (**Diabetes #8**)

Treat hypercholesterolemia in patient with diabetes (**Diabetes #9**)

Document CAD history for patient with new heart failure (**Heart failure #3**)

Cardiac evaluation before vascular procedure (**Hospital #7**)

Document cardiovascular risk factors for new hypertension (**Hypertension #3**)

Follow-up on therapeutic effect of new medication (**Medication #4**)

MALNUTRITION**Weight measurement**

1. **ALL** persons age 75 or older should be weighed at each physician office visit and these weights should be documented in the medical record.

Document weight loss

2. **IF** a person age 75 or older has involuntary weight loss of > 10% of body weight over 1 year or less, **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.

Evaluate weight loss/hypoalbuminemia

3. **IF** a person age 75 or older has documented involuntary weight loss or hypoalbuminemia (< 3.5 g/dL), **THEN** she or he should receive an evaluation for potentially reversible causes of poor nutritional intake.

Evaluate comorbid conditions

4. **IF** a person age 75 or older has documented involuntary weight loss or hypoalbuminemia (< 3.5 g/dL), **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.

Alternative alimentation

6. **IF** a hospitalized person age 75 or older is unable to take foods orally for more than 72 hours, **THEN** alternative alimentation (e.g., enteral or parenteral) should be offered.

Supplement hip fracture patient

7. **IF** a person age 75 or older who was hospitalized for a hip fracture has evidence of nutritional deficiency (thin body habitus or low serum albumin or prealbumin), **THEN** oral or enteral nutritional protein-energy supplementation should be initiated post-operatively.

Gastrostomy feeding in stroke patient

8. **IF** a stroke patient has persistent dysphagia at 14 days, **THEN** a gastrostomy or jejunostomy tube should be considered for enteral feeding.

Related Quality Indicators for MALNUTRITION

Evaluate patients with weight loss for depression (**Depression #1**)

Nutritional intervention for patient at pressure ulcer risk (**Pressure ulcer #3**)

MEDICATION USE**Drug indication**

- 1.** IF a person age 75 or older is prescribed a new drug, **THEN** the prescribed drug should have a clearly defined indication documented in the record.

Patient education

- 2.** IF a person age 75 or older 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.

Medication list

- 3.** For **ALL** persons age 75 or older there should be an up-to-date medication list in the outpatient medical record of every physician and in the hospital medical record.

Response to therapy

- 4.** **EVERY** new drug that is prescribed to a person age 75 or older on an ongoing basis for a chronic medical condition should have a documentation of response to therapy within 6 months.

Drug regimen review

- 5.** **ALL** persons age 75 or older should have a drug regimen review at least annually.

Monitoring warfarin

- 6-I.** IF a person age 75 or older is prescribed warfarin, **THEN** an international normalized ratio (INR) should be determined within 4 days after initiation of therapy.

- 6-C.** IF a person age 75 or older is prescribed warfarin, **THEN** an internationalized normalized ratio (INR) should be done at least every 6 weeks.

Monitoring electrolytes for diuretic

- 7-I.** IF a person age 75 or older is prescribed a thiazide or loop diuretic, **THEN** electrolytes should be checked within 1 month after initiation of therapy.

- 7-C.** IF a person age 75 or older is prescribed a thiazide or loop diuretic, **THEN** he or she should have electrolytes checked at least yearly.

Oral hypoglycemic medication

- 8.** IF a person age 75 or older is prescribed an oral hypoglycemic drug, **THEN** chlorpropamide should not be used.

Anticholinergic medications

- 9.** **ALL** persons age 75 or older should not be prescribed a medication with strong anticholinergic effects if alternatives are available.

Barbiturates

- 10.** IF a person age 75 or older does not need control of seizures, **THEN** barbiturates should not be used.

Opioid analgesic

- 11.** IF a person age 75 or older requires analgesia, **THEN** meperidine should not be used.

Monitoring for new ACE inhibitor

- 12.** IF a person age 75 or older is newly started on an ACE inhibitor, **THEN** serum potassium and creatinine levels should be checked within 1 month of the initiation of therapy.

NSAIDs

- 13A.** IF a person age 75 or over is treated with a non-selective nonsteroidal anti-inflammatory drug (NSAID), **THEN** the patient should be advised of the risks associated with the drug.

- 13B.** IF a person age 75 or over is treated with a COX-2 nonsteroidal, anti-inflammatory drug (NSAID), **THEN** the patient should be advised of the risks associated with the drug.

- 14.** IF a person age 75 or over is treated with a COX non-selective NSAID, **THEN** he or she should be offered concomitant treatment with either misoprostol or a proton pump inhibitor.

Related Quality Indicators for MEDICATION USEMedication follow up (**Continuity #2**)

Continuity between providers

(**Continuity #3**)

Continuity after hospital discharge

(**Continuity #7**)

Causing cognitive impairment

(**Dementia #2, 3**)

Choice of antidepressant medication

(**Depression #7**)ECG before tricyclic antidepressant in patient with cardiac disease (**Depression #10**)MAOI interactions (**Depression #11, 12**)

Dosing and titration of antidepressants

(**Depression #14**)

Calcium channel blocker use in heart failure

(**Heart failure #10**)

Antiarrhythmic use in heart failure

(**Heart failure #11**)

Evaluate medications on hospital admission

(**Hospital #1**)

Assess medications if delirium present

(**Hospital #9**)

Long-acting medications for hypertension

(**Hypertension #6**)Evaluate medications if patient presents with weight loss (**Malnutrition #4**)

Acetaminophen use for osteoarthritis

(**Osteoarthritis #7**)

Calcium and vitamin D if taking steroids

(**Osteoporosis #7**)Bowel regimen for opioid use (**Pain #5**)Follow up therapeutic effect of pain treatment. (**Pain #7**)

Anticoagulation for atrial fibrillation

(**Stroke #4**)Stroke prophylaxis (**Stroke #11**)

OSTEOARTHRITIS**Assess functional status/pain**

1. **IF** a person age 75 or older is diagnosed with symptomatic osteoarthritis, **THEN** functional status and degree of pain should be assessed annually.

Aspirate hot joints

2. **IF** a person age 75 or older has monoarticular joint pain associated with redness, warmth and/or swelling and the patient also has an oral temperature > 38.0°C, and does not have a previously established diagnosis of pseudogout or gout, **THEN** a diagnostic aspiration of the painfully swollen red joint should be performed that day.

Exercise therapy

3. **IF** an ambulatory person age 75 or older has had a diagnosis of symptomatic osteoarthritis of the knee for >3 months 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 have been prescribed at least once

Patient education

5. **IF** an ambulatory person age 75 or older has had a diagnosis of symptomatic osteoarthritis for >6 months **THEN** there should be evidence that education regarding the natural history, treatment and self-management of the disease was offered at least once

First-line pharmacologic therapy

7. **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.

Total joint replacement

11. **IF** a person age 75 or older with severe symptomatic osteoarthritis of the knee or hip has failed to respond to non-pharmacologic 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.

Related Quality Indicators for OSTEOARTHRITIS

Follow up therapeutic effect of pain treatment. (**Pain #7**)

OSTEOPOROSIS

Prevention

- 1A. **ALL** female persons age 75 or older should be counseled at least once regarding intake of dietary calcium and vitamin D.
- 1B. **ALL** female persons age 75 or older should be counseled at least once regarding weight-bearing exercises.

Smoking cessation

- 2. **ALL** female persons age 75 or older who smoke should be counseled annually about smoking cessation.

Pharmacologic preventive therapy

- 3. **EVERY** female person age 75 or older should be counseled about her risk for osteoporosis and the potential need for pharmacologic prevention of osteoporosis at least once.

Identifying secondary osteoporosis

- 4. **IF** a person age 75 or older 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.

Calcium/vitamin D for osteoporosis

- 6. **IF** a person age 75 or older has osteoporosis, **THEN** calcium and vitamin D supplements should be recommended at least once.

Calcium/vitamin D with corticosteroid use

- 7. **IF** a person age 75 or older is taking corticosteroids for more than 1 month, **THEN** the patient should be offered calcium and vitamin D.

Treatment of osteoporosis

- 8. **IF** a person age 75 or older is newly diagnosed with osteoporosis, **THEN** the patient should be offered treatment with hormone replacement therapy, SERMs, bisphosphonates, or calcitonin within 3 months of diagnosis.

Related Quality Indicators for OSTEOPOROSIS

Evaluate for falls or gait imbalance (**Falls #1, 2**)

Alcohol screening (**S&P #3**)

Smoking history and counseling (**S&P #4, 5**)

Exercise counseling (**S&P #6**)

PAIN MANAGEMENT

Screening for pain

1. ALL persons age 75 or older should be screened for chronic pain during the initial evaluation period.
2. ALL persons age 75 or older should be screened for chronic pain every 2 years.

Targeted history/physical

- 3-H. IF a person age 75 or older has a newly reported chronic painful condition, THEN a targeted history should be performed within 1 month.

- 3-E. IF a person age 75 or older has a newly reported chronic painful condition, THEN a physical exam should be performed within 1 month.

Constipation with opioid use

5. IF a person age 75 or older 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.

Treating pain

6. IF a person age 75 or older has a newly reported chronic painful condition, THEN treatment should be offered.

Reassessment of pain control

7. IF a person age 75 or older is treated for a chronic painful condition, THEN he or she should be assessed for a response within 6 months.

Related Quality Indicators for PAIN MANAGEMENT

Evaluate depression in patients with chronic pain (**Depression #2**)

Palliative care (**End of life #12**)

Educate concerning side effects of new medication (**Medication #2**)

Avoid meperidine (**Medication #11**)

Assess pain and function annually for osteoarthritis (**Osteoarthritis #1**)

Acetaminophen use for osteoarthritis (**Osteoarthritis #7**)

NSAID use (**Medication #13, 14**)

PNEUMONIA**Pneumococcal vaccination**

1. **IF** a person age 75 or older 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 prior to age 65), **THEN** a pneumococcal vaccine should be offered.

Influenza vaccination

2. **IF** a person age 75 or older 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.

Vaccination of inpatients

3. **IF** a person age 75 or older is hospitalized and he or she is eligible for vaccination (i.e., is not up-to-date with pneumococcal or influenza vaccination), **THEN** the patient should be offered vaccination against pneumococcus and influenza (during flu season).

Vaccination rates

4. **IF** pneumococcal and/or influenza vaccination rates among patients of a health delivery organization are low (i.e., < 60% of persons at risk for pneumococcal and influenza disease and < 90% of institutionalized elderly), **THEN** methods to increase the rate of vaccination should be employed.

Vaccinate health care workers

5. **IF** a health care organization cares for elderly patients, **THEN** it should have a formal plan to offer and encourage influenza vaccination among its employees.

Smoking cessation

6. **IF** a smoker develops pneumonia, **THEN** the smoker should be advised to quit smoking.

Antibiotics

7. **IF** a person age 75 or older is admitted to the hospital with pneumonia, **THEN** antibiotics should be administered within 8 hours of hospital arrival.

Oxygen therapy

8. **IF** a person age 75 or older is admitted to the hospital with community-acquired pneumonia with hypoxia, **THEN** the patient should receive oxygen therapy.

Empyema

9. **IF** a person age 75 or older has an empyema, **THEN** drainage is required.

Changing parenteral to oral antibiotics

10. **IF** a person age 75 or older with community-acquired pneumonia is to be switched from parenteral to oral antimicrobial therapy, **THEN** the patient must meet all of the following criteria:
 - clinically improving condition
 - hemodynamically stable
 - tolerating oral medication and/or food and fluids.

Stability at discharge

11. **IF** a person age 75 or older with community-acquired pneumonia is to be discharged home, **THEN** the patient should not be unstable on the day prior to or the day of discharge.

Related Quality Indicators for PNEUMONIA

Hospital follow-up (**Continuity #7**)

Mechanical ventilator (**End of life #7, 10**)

PRESSURE ULCERS

Risk assessment

- 1. IF** a person age 75 or older is admitted to an intensive care unit or a medical/surgical unit of a hospital and is unable to reposition himself or herself or has limited ability to do so, **THEN** risk assessment for pressure ulcers should be performed on admission.

Preventive intervention

- 2. IF** a person age 75 or older 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).

Nutritional intervention

- 3. IF** a person age 75 or older is identified as "at risk" for pressure ulcer development and has malnutrition (involuntary weight loss of $\geq 10\%$ over 1 year or low albumin or prealbumin), **THEN** nutritional intervention or dietary consultation should be instituted.

Evaluation

- 4. IF** a person age 75 or older 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.

Management

- 5. IF** a person age 75 or older 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.
- 6. IF** a person age 75 or older 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.

Debridement

- 7. IF** a person age 75 or older presents with a full-thickness sacral or trochanteric pressure ulcer covered with necrotic debris or eschar, **THEN** debridement interventions using sharp, mechanical, enzymatic or autolytic procedures should be instituted within 3 days of diagnosis.

Cleansing

- 8. IF** a person age 75 or older has a stage 2 or greater pressure ulcer, **THEN** a topical antiseptic should not be used on the wound.

Systemic infection

- 9. IF** a person age 75 or older 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.
- 10. IF** a person age 75 or older with a full-thickness pressure ulcer presents with systemic signs and symptoms of infection such as elevated temperature, leukocytosis, or confusion and agitation, and these signs and symptoms are not due to another identified cause, **THEN** a tissue biopsy or a needle aspiration should be obtained and sent for culture and sensitivity within 12 hours.

Topical dressings

- 11. IF** a person age 75 or older presents with a clean full-thickness or a partial-thickness pressure ulcer, **THEN** a moist wound healing environment should be provided with topical dressings.

SCREENING AND PREVENTION**Alcohol screening**

3. **ALL** persons age 75 or older should be screened to detect problem drinking and hazardous drinking with a history of alcohol use or the use of standardized screening questionnaires (e.g., CAGE, AUDIT) at least once.

Tobacco screening and counseling

4. **ALL** persons age 75 or older should receive screening for tobacco use and nicotine dependence.

5. **IF** a person age 75 or older uses tobacco regularly, **THEN** he or she should be offered counseling and/or pharmacologic therapy to stop tobacco use at least once.

Physical activity screening

6. **ALL** persons age 75 or older should receive an assessment of their activity level, and be provided with counseling to promote regular physical activity at least once.

Colorectal cancer screening

7. **ALL** persons age 75 or older should be offered screening for colorectal cancer at least once with fecal occult blood testing or should have had sigmoidoscopy in the last 5 years or colonoscopy in the last 10 years.

Related Quality Indicators for SCREENING AND PREVENTION

Cognitive and functional evaluation
(**Dementia #1**)

Advance directives/preferences
(**End of life #1**)

Screen for falls and imbalance (**Falls #1, 2**)

Hearing screening (**Hearing #1**)

Cognitive evaluation at hospital admission
(**Hospital #1**)

Weigh patient each outpatient visit
(**Malnutrition #1**)

Calcium, vitamin D and exercise counseling
(**Osteoporosis #1**)

Pharmacologic prevention of osteoporosis
(**Osteoporosis #3**)

Calcium/Vitamin D with corticosteroid use
(**Osteoporosis #7**)

Smoking screen and counsel (**IHD #11**;
Osteoporosis #2; **Pneumonia #6**; **Stroke #8**)

Screen for pain (**Pain #1, 2**)

Pneumococcal vaccine (**Pneumonia #1, 3, 4**)

Influenza vaccine (**Pneumonia #2, 3, 4, 5**)

Urinary incontinence screening (**UI #1, 2**)

Vision evaluation (**Vision #1**)

STROKE AND ATRIAL FIBRILLATION**Carotid endarterectomy**

- 1. IF** a male person age 75 or older has carotid artery symptoms, and is diagnosed with a TIA or nondisabling stroke, and has had carotid imaging documenting $\geq 70\%$ carotid stenosis on the side ipsilateral to the hemisphere producing the symptoms, and the medical record does not document that no facility is available with $< 6\%$ 30-day morbidity and mortality, **THEN** he should receive referral for evaluation for carotid endarterectomy (CEA) within 4 weeks of the diagnostic study or event, whichever is later.

Carotid artery imaging

- 2. IF** a male person age 75 or older has carotid artery symptoms and is diagnosed with 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.

Contraindications to CEA

- 3. IF** for a person age 75 or older the combined risk of surgery (patient characteristics and hospital or surgeon experience) is 10% or greater, **THEN** CEA should not be performed.

Anticoagulation for atrial fibrillation

- 4. IF** a person age 75 or older has atrial fibrillation (AF) > 48 -hour duration and has any "high risk" condition:
 - impaired LV function
 - female gender
 - hypertension or systolic blood pressure > 160 mmHg
 - prior ischemic stroke, TIA, or systemic embolism**THEN** he or she should be offered oral anticoagulation therapy, or antiplatelet therapy if the medical record documents a reason not to give anticoagulant therapy.

Stroke imaging before anticoagulation

- 5. IF** a person age 75 or older has a presumed stroke, **THEN** a CT or MRI of the head should be obtained prior to initiation or continuation of thrombolytic treatment, anticoagulant therapy, or antiplatelet therapy.

Antiplatelet therapy for acute stroke/TIA

- 7. IF** a person age 75 or older is diagnosed with acute atherothrombotic ischemic stroke or with a TIA, **THEN** antiplatelet treatment should be offered within 48 hours following the stroke or TIA, unless the patient is already receiving anticoagulant treatment.

Smoking cessation

- 8. IF** a person age 75 or older has a TIA or stroke, **THEN** the medical record should document that smoking status was assessed, and that smokers were counseled to stop smoking.

Thrombolytic therapy

- 9. IF** a person age 75 or older is started on thrombolytic therapy for a stroke, **THEN** all of the following should be true:
 - a head CT or MRI should precede initiation of thrombolytic therapy;
 - sulcal effacement, mass effect, edema, or possible hemorrhage should not be present on neuroimage;
 - time from symptom onset to initiation of thrombolytic therapy should be documented in the medical record and should not exceed 3 hours;
 - absence of absolute contraindications to thrombolysis should be documented in the medical record;
 - tPA should be used; AND
 - National Institute of Neurological Disorders and Stroke exclusion criteria should not be present.

Admission to stroke unit

- 10. IF** a person age 75 or older 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.

Stroke prophylaxis

- 11. IF** a person age 75 or over has cerebrovascular disease, **THEN** the patient should be offered appropriate stroke prophylaxis with antiplatelet agents or warfarin.

Related Quality Indicators for STROKE AND ATRIAL FIBRILLATION

Evaluate patients with stroke for depression
(**Depression #2**)

Aspirin for diabetic patients (**Diabetes #8**)

Antiplatelet therapy for patients with IHD
(**IHD #10**)

Follow INR for warfarin use
(**Medication #6**)

Feeding for persistent dysphagia after stroke
(**Malnutrition #8**)

URINARY INCONTINENCE

Initial evaluation

1. **ALL** persons age 75 or older should have documentation of the presence or absence of urinary incontinence (UI) during the initial evaluation.

Annual evaluation

2. **ALL** persons age 75 or older should annually have documentation of the presence or absence of UI.

Targeted history

3. **IF** a person age 75 or older has new UI that persists for over 1 month or UI 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) prior treatment for urinary incontinence, (4) importance of the problem to the patient, and (5) mental status.

Targeted physical examination

4. **IF** a person age 75 or older has new UI that persists for over 1 month or UI at the time of a new evaluation, **THEN** a

targeted physical exam should be performed that documents (1) a rectal exam and (2) a genital system exam (including a pelvic exam for women).

Diagnostic tests

5. **IF** a person age 75 or older has new UI that persists for over 1 month or UI at the time of a new evaluation, **THEN** a dipstick urinalysis and post-void residual should be obtained.

Discussion of treatment options

6. **IF** a person age 75 or older has new UI or UI at the time of a new evaluation, **THEN** treatment options should be discussed.

Behavioral therapy

7. **IF** a cognitively intact person age 75 or older who is capable of independent toileting has documented stress, urge, or mixed incontinence without evidence of hematuria or high post-void residual, **THEN** behavioral treatment should be offered.

Urodynamic testing pre-procedure

8. **IF** a person age 75 or older undergoes surgery or periurethral injections for UI, **THEN** subtracted cystometry should be performed prior to the procedure.

Incontinence surgery

9. **IF** a female person age 75 or older has documented stress UI caused by isolated intrinsic sphincter deficiency (ISD) or ISD with coexistent hypermobility and she undergoes surgical correction, **THEN** a sling or artificial sphincter procedure should be used.

Chronic indwelling catheter use

10. **IF** a person age 75 or older has clinically significant, newly discovered overflow UI, and indwelling urethral catheterization is used, **THEN** there should be documentation that the patient is not a candidate for alternative interventions as a result of severe physical or mental impairments or does not want alternative interventions.

VISION CARE

Comprehensive eye examination

1. **ALL** persons age 75 or older should be offered an eye evaluation every 2 years that includes the essential components of a comprehensive eye exam.

Urgent signs and symptoms

2. **IF** a person age 75 or older 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.

Chronic signs and symptoms

3. **IF** a person age 75 or older develops progression of a chronic visual deficit that now interferes with his or her ability to carry out needed or desired activities, **THEN** he or she should have an ophthalmic examination by a person skilled at ophthalmic examination within 2 months.

Function evaluation for cataract

4. **IF** a person age 75 or older is diagnosed with 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.

Macular degeneration evaluation

5. **IF** a person age 75 or older with age-related macular degeneration has a new-onset change in vision, **THEN** he or she should have a dilated retinal examination of the affected eye within 3 days.

Initial glaucoma evaluation

6. **IF** a person age 75 or older 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 exam AND documentation of the optic nerve appearance, visual field testing and determination of an initial target pressure.

Diabetic retinopathy

7. **IF** a person age 75 or older with diabetes has a retinal exam, **THEN** the presence and/or degree of diabetic retinopathy should be documented.
8. **IF** a person age 75 or older is diagnosed with proliferative diabetic retinopathy, **THEN** a dilated eye exam should be performed at least every 4 months.

Macular edema

9. **IF** a person age 75 or older with diabetes is diagnosed with macular edema, **THEN** a dilated eye exam should be performed at least every 6 months.

Cataract extraction

10. **IF** a person age 75 or older is diagnosed with a cataract that limits the patient's ability to carry out needed or desired activities, **THEN** cataract extraction should be offered.

Cataract surgery follow up

11. **IF** a person age 75 or older undergoes cataract surgery, **THEN** a follow-up ocular exam should occur within 48 hours and re-examination should occur within 3 months.

Glaucoma follow up

12. **IF** a person age 75 or older with glaucoma experiences progressive optic

nerve damage on visual field tests or optic nerve examination, **THEN** treatment should be reassessed and/or advanced at least every 3 months until the intra-ocular pressure is lowered by at least 20% or there is documentation that the vision loss has stabilized.

Ocular therapy

13. **IF** a person age 75 or older who has been prescribed an ocular therapeutic regimen becomes hospitalized, **THEN** the regimen should be administered in the hospital unless discontinued by an ophthalmological consultant.

Refraction correction

14. **IF** a person age 75 or older with functional visual deficits has subjective improvement on refraction, **THEN** he or she should receive a primary or updated prescription for corrective lenses.

Inpatient access to corrective lenses

15. **IF** a person age 75 or older who uses corrective lenses for any activities of daily living is hospitalized (or in a nursing home) and his or her corrective lenses are at the hospital (or nursing home), **THEN** the corrective lenses should be readily accessible to the person age 75 or older.

Monitoring of glaucoma

16. **IF** a person age 75 or over has glaucoma, **THEN** documentation of follow-up examinations of the eye should include the status of the optic nerve.

Related Quality Indicators for VISION CARE

Dilated eye examination for patient with diabetes every 2 years (**Diabetes #10**)