Palliative Care and Geriatrics

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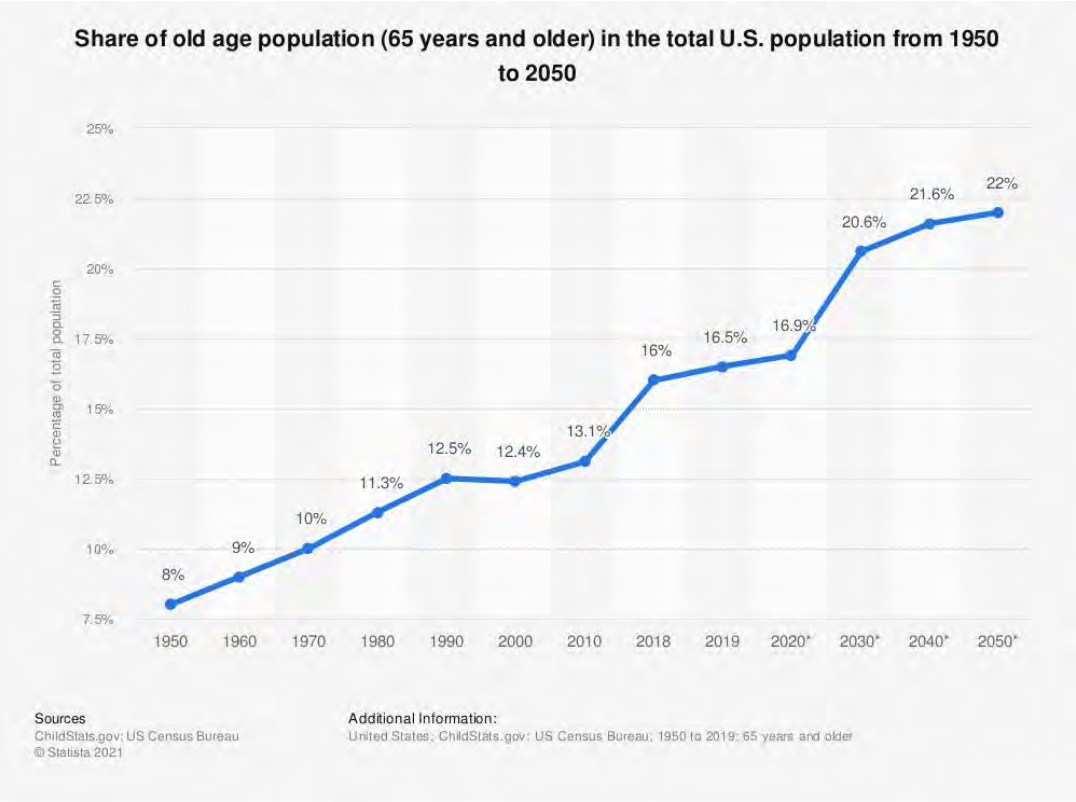
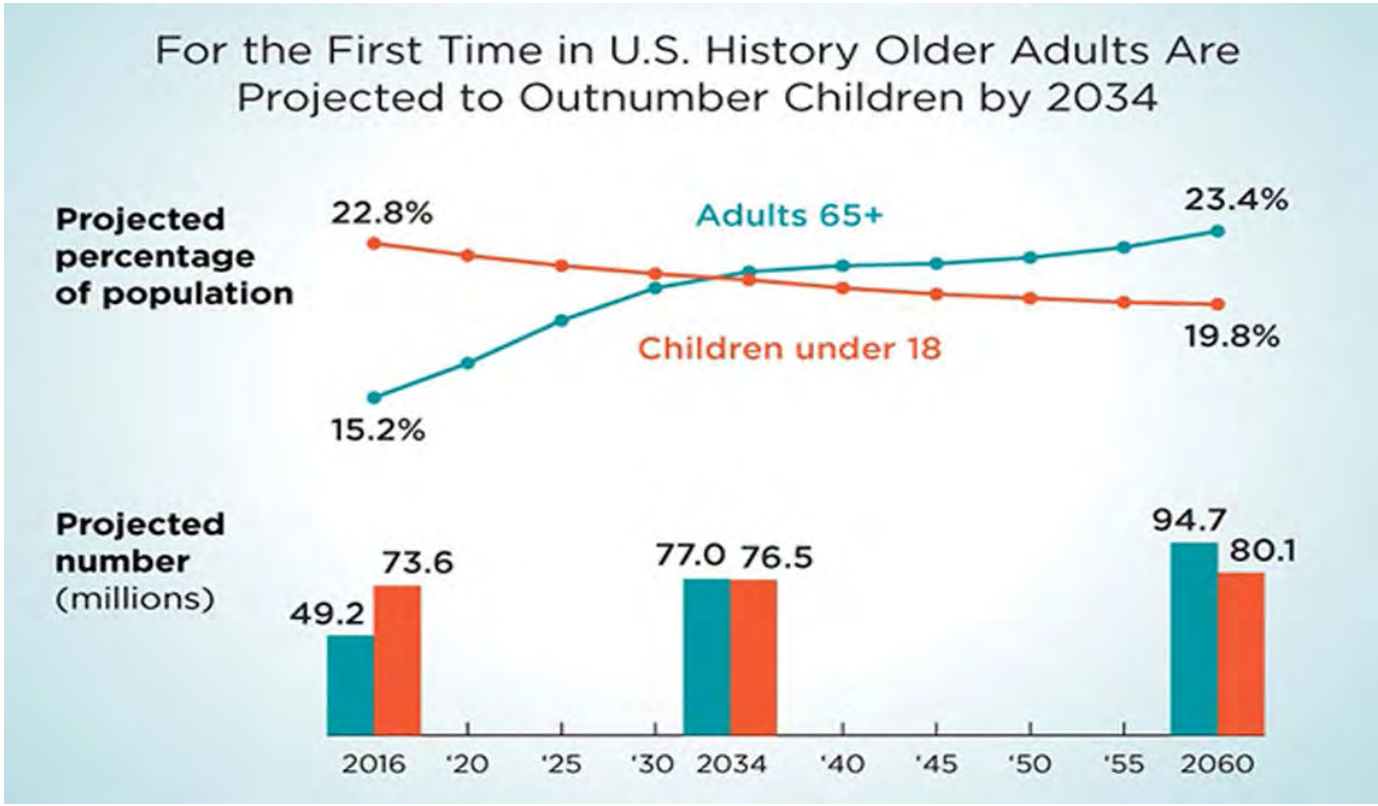
Objectives

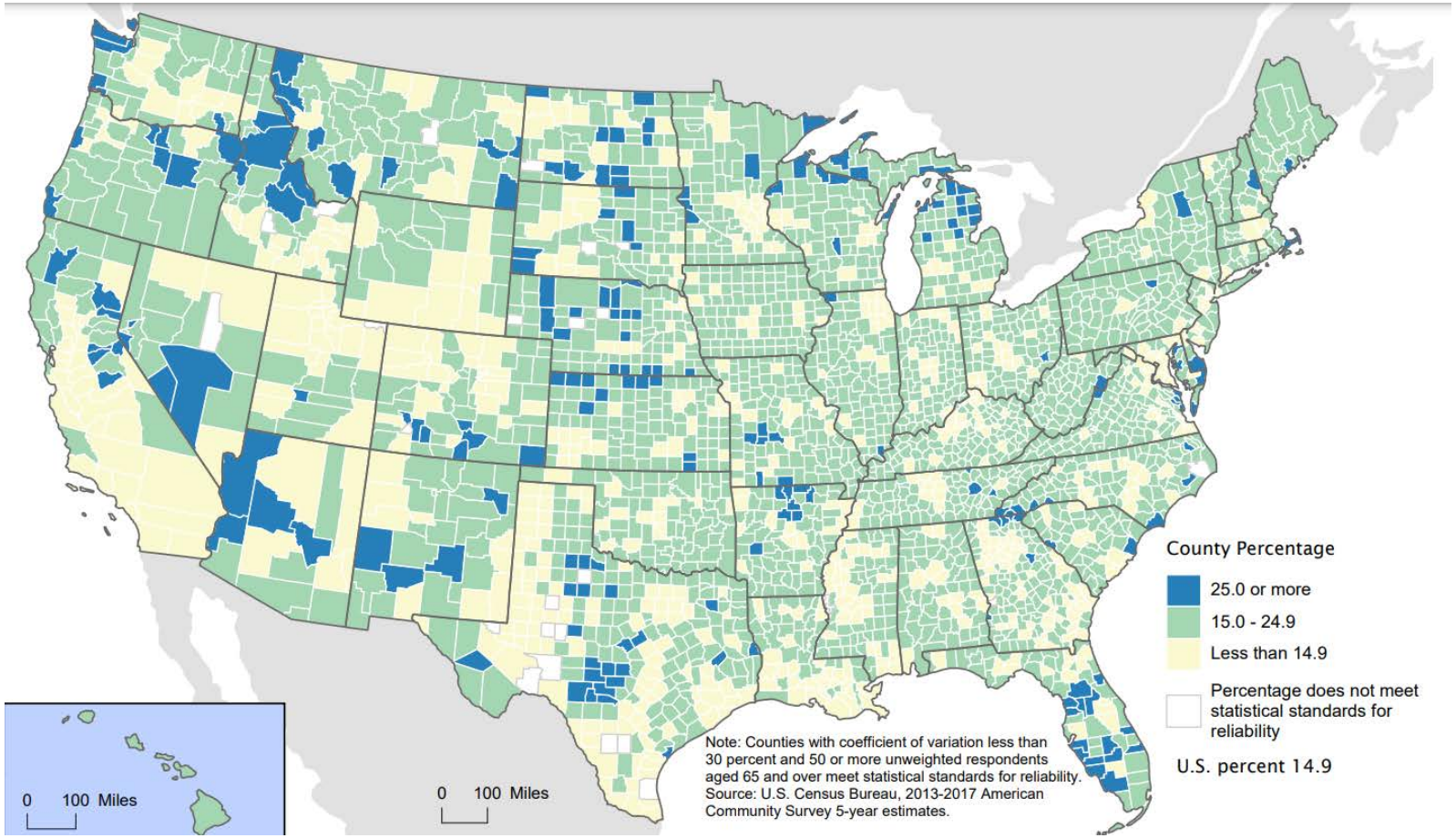
- Discuss the importance of care for older adults
- Understand the 4 M’s framework for an age friendly health systems
- Review the comprehensive geriatric assessment and its individual component parts
- Recognize and define frailty
- Emphasize the intersection of palliative care and geriatrics

An Aging Society

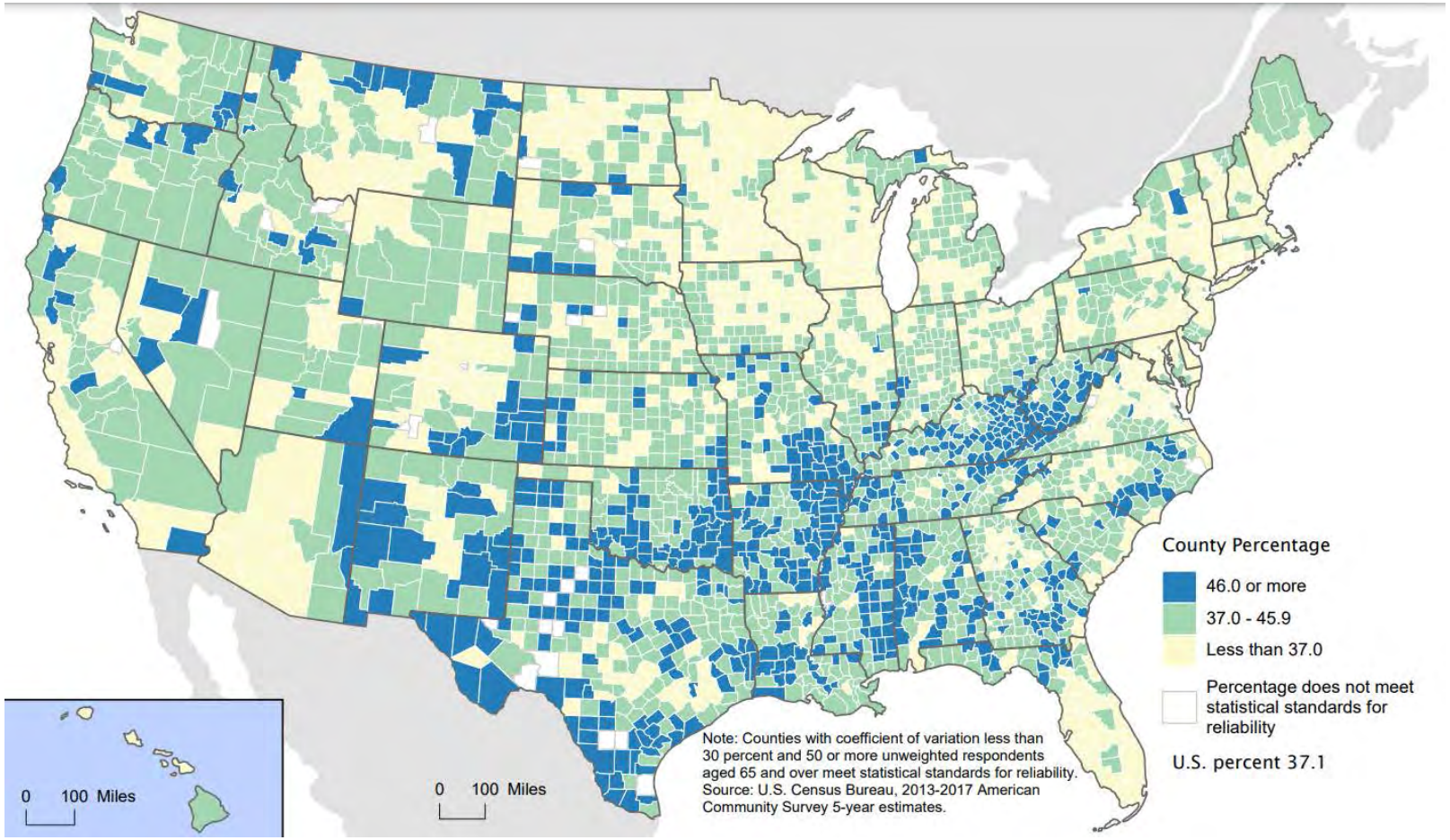




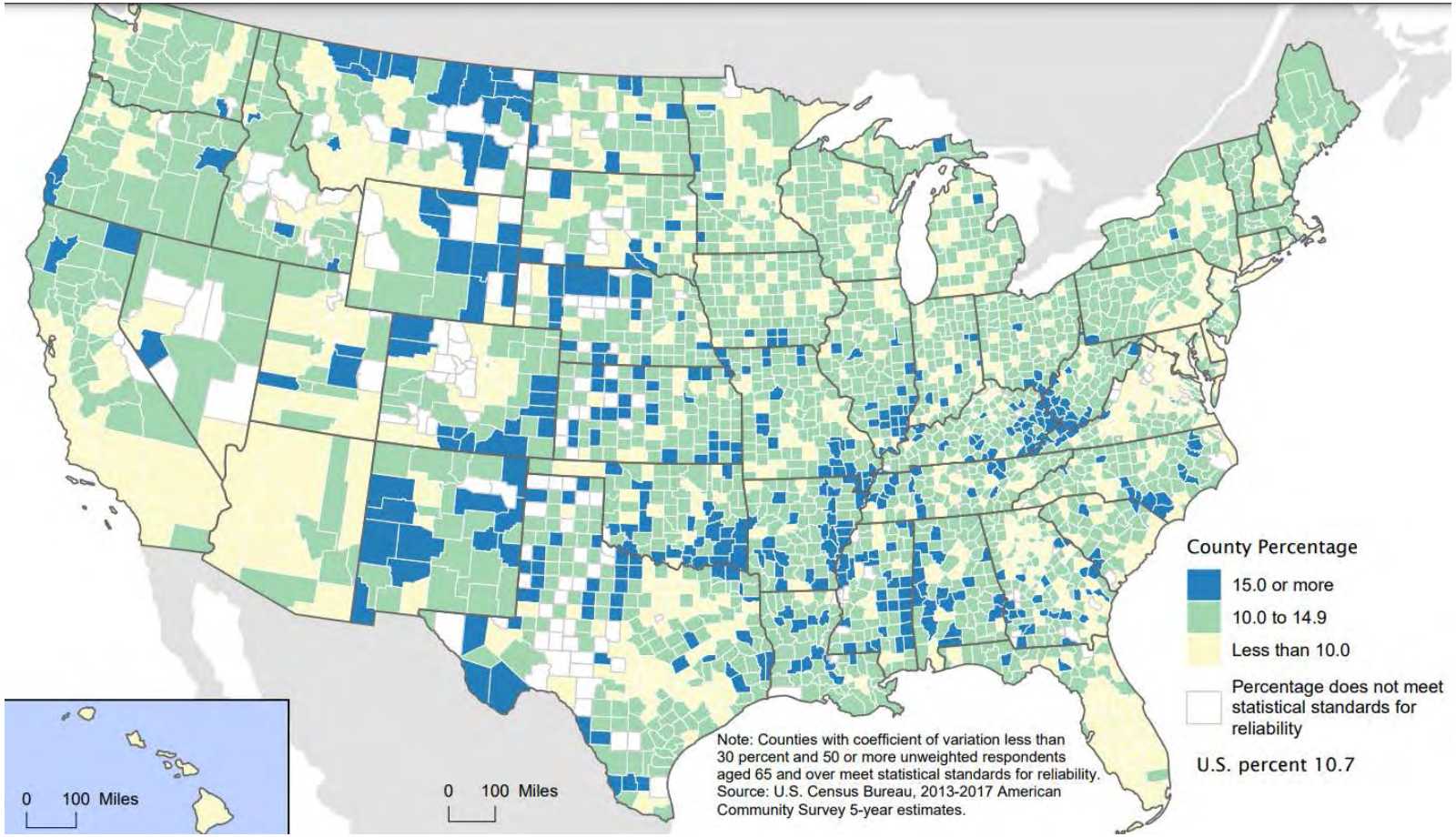
Population Aged Over 65 Years Old



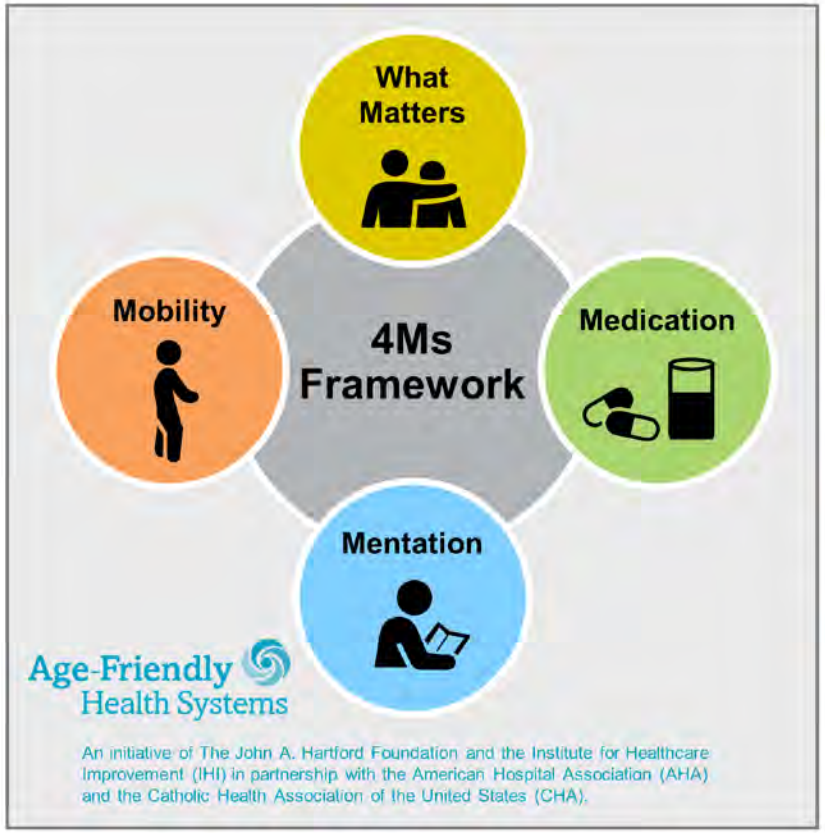
Population Aged Over 65 with Disability



Population Aged 65 and Over with Disability and Living Alone



Building an Age Friendly Health System



What Matters

Know and align care with each older adult's specific health outcome goals and care preferences including, but not limited to, end-of-life care, and across settings of care.

Medication

If medication is necessary, use Age-Friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care.

Mentation

Prevent, identify, treat, and manage dementia, depression, and delirium across settings of care.

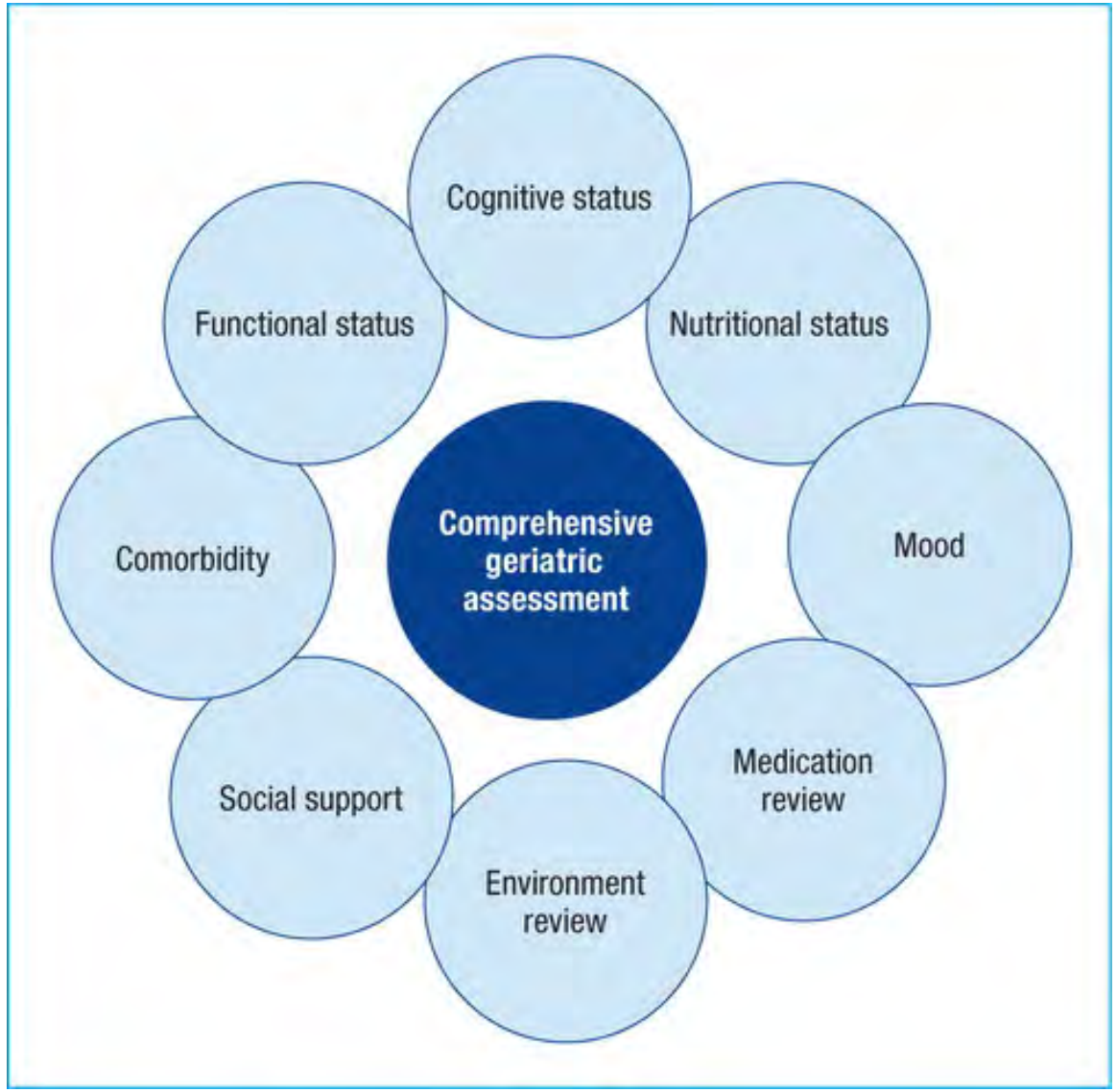
Mobility

Ensure that older adults move safely every day in order to maintain function and do What Matters.

Comprehensive Geriatric Assessment

Definition of Comprehensive Geriatric Assessment

"A multi-dimensional, interdisciplinary diagnostic process to determine the medical, physiological and functional capabilities of a frail older person in order to develop a coordinated and integrated plan for treatment and long-term follow-up."


Cognitive status
Functional status
Nutritional status
Comorbidity
Comprehensive geriatric assessment
Mood
Social support
Medication review
Environment review

ASCO Guidelines

Recommendations

1. In patients age 65 and older receiving chemotherapy, geriatric assessment (GA)—the evaluation of functional status, physical performance and falls, comorbid medical conditions, depression, social activity/support, nutritional status, and cognition—should be used to identify vulnerabilities or geriatric impairments that are not routinely captured in oncology assessments (Type: evidence-based, benefits outweigh harms; Evidence quality: high; Strength of recommendation: strong).

2. While many tools are appropriate for assessment of each domain, the Expert Panel provided recommendations based on evidence supporting their utility for predicting adverse outcomes and for ease of administration. In patients aged 65 and older receiving chemotherapy, validated and practical geriatric assessment (GA)-based tools can be used to predict adverse outcomes.

a. The evidence supports, at a minimum, assessment of function, comorbidity, falls, depression, cognition, and nutrition.

b. The Expert Panel recommends IADLs to assess for function, a thorough history or validated tool to assess comorbidity, a single question for falls, the Geriatric Depression Scale (GDS) to screen for depression, the Mini-Cog or the Blessed Orientation-Memory-Concentration test (BOMC) to screen for cognitive issues, and assessment of unintentional weight loss to evaluate nutrition.

c. Either the CARG or CRASH tools are best used to obtain specific estimates on risk of chemotherapy toxicity, while short tools such as G8 or VES-13 can help predict mortality. Table 1 in the full guideline also provides alternatives to these options.

(Type: evidence-based, benefits outweigh harms; Evidence quality: high that GA tools predict chemotherapy toxicity and mortality; Evidence quality: moderate to recommend specific tools to evaluate GA domains such as function, comorbidity, depression, cognition, and nutrition. Strength of recommendations: moderate.)

ASCO Guidelines Cont.

3. Based on the best clinical opinion of the Expert Panel, clinicians should use one of the validated tools listed at ePrognosis (https://eprognosis.ucsf.edu/) to estimate life expectancy (LE) greater than or equal to 4 years.
    - a. The Expert Panel especially recommends either the Schonberg or Lee Index (https://eprognosis.ucsf.edu/leeschonberg.php). The most common variables considered in these indices include age, sex, comorbidities (eg, diabetes, COPD), functional status (eg, ADLs, IADLs, mobility), health behaviors and lifestyle factors (eg, smoking status, body mass index), and self-reported health.
    - b. Several indices have "presence of cancer" as a relevant variable; answering "no" to this question will allow for noncancer life expectancy, to consider competing risks of mortality.
    - (Type informal consensus, benefits outweigh harms; Evidence quality: high that it predicts mortality, insufficient that it improves outcomes or improves decision making; Strength of recommendation: strong that it predicts mortality; weak that it improves outcomes or improves decision making).

4. Delphi consensus panels of experts have established approaches for implementing GA-guided care processes in older adults with cancer.
    - a. The Expert Panel recommends that clinicians apply the results of GA with patients to develop an integrated and individualized plan that informs treatment selection helping to estimate risks for adverse outcomes (see Recommendation 2), and to identify nononcologic problems (see Recommendation 1) that may be amenable to intervention.
    - b. Based on clinical experience and the results of formal expert consensus studies, the Expert Panel suggests that clinicians take into account GA results when recommending treatment and that the information be provided to patients and caregivers to guide decision making for treatment. In addition, clinicians should implement targeted, GA-guided interventions to manage nononcologic problems.
    - c. Consistent with the results of formal modified Delphi consensus studies, the ASCO Expert Panel supports the specific high-priority GA-guided interventions outlined in Table 2 in the full guideline.

SIOG Guidelines

The International Society of Geriatric Oncology (SIOG) created a task force to review the evidence on the use of a comprehensive geriatric assessment (CGA) in cancer patients. A systematic review of the evidence was conducted.

Results: Several biological and clinical correlates of aging have been identified. Their relative weight and clinical usefulness is still poorly defined. **There is strong evidence that a CGA detects many problems missed by a regular assessment in general geriatric and in cancer patients. There is also strong evidence that a CGA improves function and reduces hospitalization in the elderly. There is heterogeneous evidence that it improves survival and that it is cost-effective. There is corroborative evidence from a few studies conducted in cancer patients.** Screening tools exist and were successfully used in settings such as the emergency room, but globally were poorly tested. The article contains recommendations for the use of CGA in research and clinical care for older cancer patients.

Conclusions: A CGA, with or without screening, and with follow-up, should be used in older cancer patients, in order to detect unaddressed problems, improve their functional status, and possibly their survival. The task force cannot recommend any specific tool or approach above others at this point and general geriatric experience should be used.

Functional Status

- Grip strength, gait speed
- CARG score

CARG Score

Variable	Score
Age ≥ 72 years old	2
Cancer type (gastrointestinal or genitourinary)	2
Chemotherapy dosing (standard dosing)	2
Number of chemotherapy drugs (polychemotherapy)	2
Hemoglobin (< 11 g/dL in males; < 10 g/dL in females)	3
Creatinine clearance (< 34 mL/min)	3
Hearing (fair or worse)	2
Number of falls in the past 6 months (one or more)	3
Take medications with some help/unable	1
Walking one block, somewhat limited/limited a lot	2
Decreased social activity because of physical/ emotional health problem (limited at least sometimes)	1

Note. Information from Hurria et al. (2011).

	Total risk score	% Risk	N
Low	0–3	25%	28
	4–5	32%	100
Mid	6–7	50%	136
	8–9	54%	91
High	10–11	77%	62
	12–19	89%	47

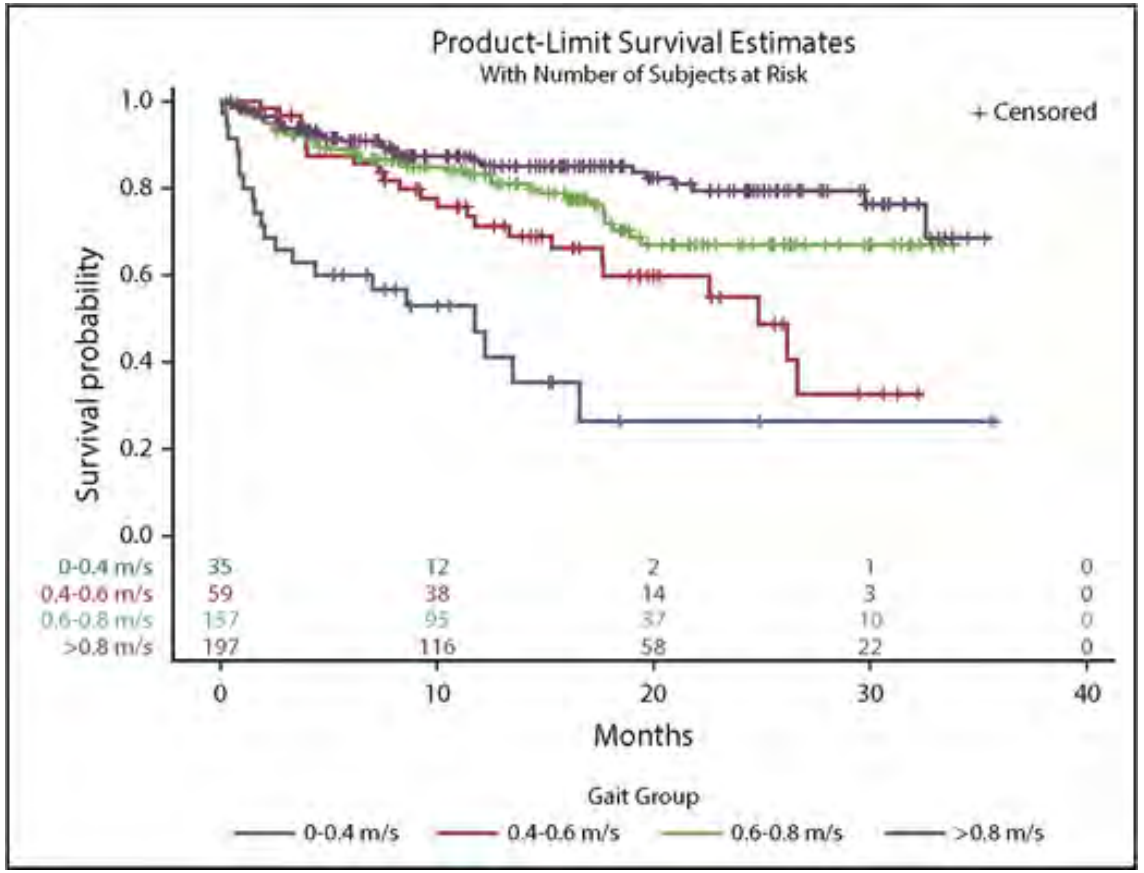
Note. Information from Cancer and Aging Research Group (n.d.-a). Table used with permission.

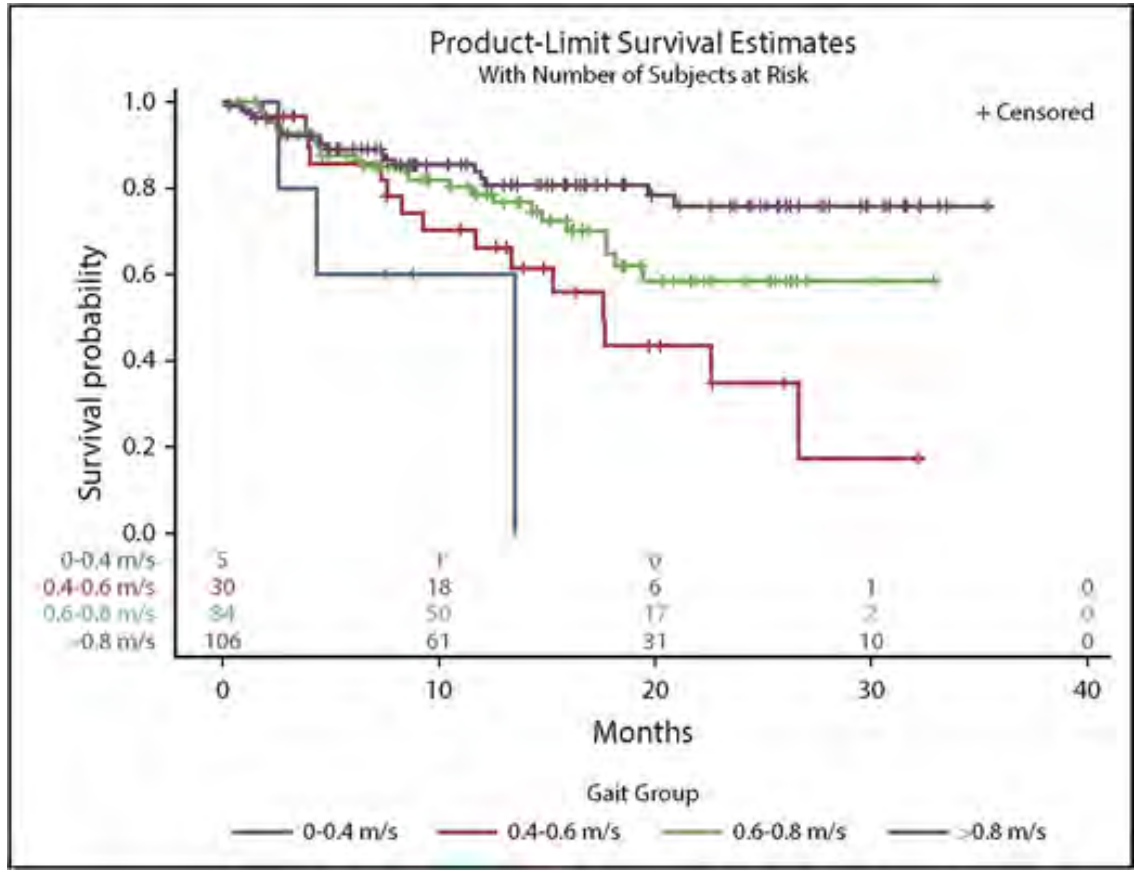
Gait speed

- Gait speed is a marker of frailty and can independently predict survival and hospital utilization among older patients with blood cancers.
- Assessing gait speed in oncology clinics may substantially improve patient assessment, prognostication, and individualization of care.

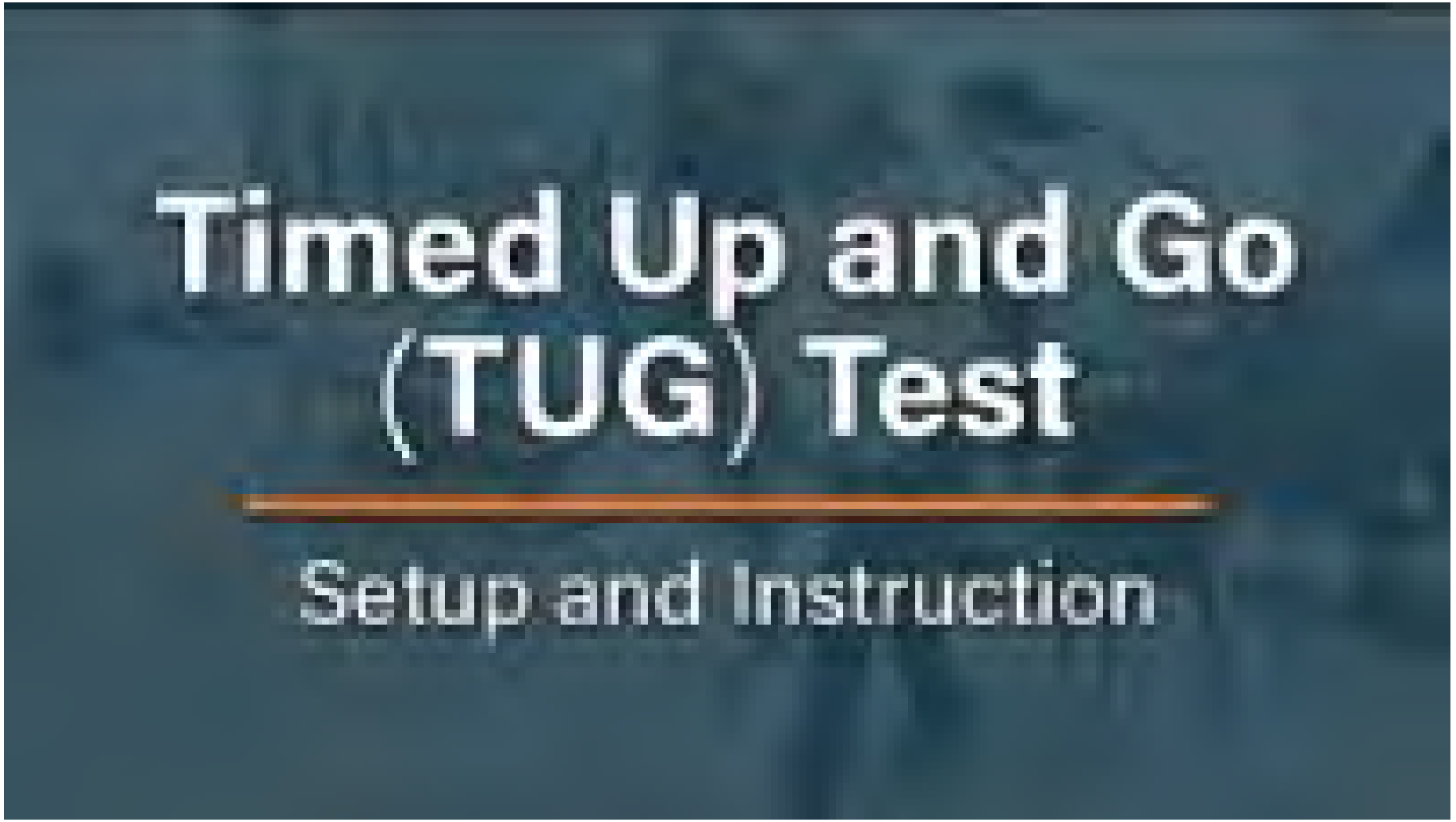
Gait speed, grip strength, and clinical outcomes in older patients with hematologic malignancies

- Prospectively recruited 448 patients aged 75 years and older presenting for initial consultation at the myelodysplastic syndrome/leukemia, myeloma, or lymphoma clinic of a large tertiary hospital, who agreed to assessment of gait and grip.
- A subset of 314 patients followed for ≥6 months at local institutions was evaluated for unplanned hospital or emergency department (ED) use.
- Mean age was 79.7 (± 4.0 standard deviation) years.
- After adjustment for age, sex, Charlson comorbidity index, cognition, treatment intensity, and cancer aggressiveness/type, every 0.1-m/s decrease in gait speed was associated with higher mortality, odds of unplanned hospitalizations, and ED visits.
- Every 5-kg decrease in grip strength was associated with worse survival but not hospital or ED use.





Michael A. Liu, Clark DuMontier, Anays Murillo, Tammy T. Hshieh, Jonathan F. Bean, Robert J. Soiffer, Richard M. Stone, Gregory A. Abel, Jane A. Driver; Gait speed, grip strength, and clinical outcomes in older patients with hematologic malignancies. *Blood* 2019; 134 (4): 374–382. doi: https://doi.org/10.1182/blood.2019000758


Timed Up and Go
(TUG) Test
Setup and Instruction

Functional Status

- ADLs - Self-feeding, dressing, continence, grooming, transferring, using the bathroom
- IADLs - Using transportation, managing money, taking medications, shopping, preparing meals, doing laundry, doing housework, using the telephone
- Physical performance status (Refer to Karnofsky or Eastern Cooperative Oncology Group [ECOG] specifically for performance status [PS])
- Visual function and/or hearing impairment
- Falls and/or unstable gait
  - Falls are more common in older adults with cancer than those without cancer
  - Factors that have been prospectively associated with increased risk of subsequent falls in older adults with cancer include: prior falls, benzodiazepine use, cancer pain, and neurotoxic chemotherapy
  - In patients who are at risk, such as those who have experienced a fall in the last 6 months or if the patient is "afraid of falling," consider the following evaluations:
    - ◊ Assessment of gait by evaluating gait speed[8] or using the TUG test: See OAO-E
    - ◊ Exercise promotion including physical therapy (PT) or occupational therapy (OT) evaluation, as needed
    - ◊ Checking vitamin D levels and supplementing vitamin D if low
    - ◊ Referral to geriatrics or primary care physician
    - ◊ Home safety evaluation and home modifications as indicated
    - ◊ Medications that put patients at risk for adverse outcomes See Medications Commonly Used for Supportive Care that Are of Concern in Older Patients (OAO-I)

Comorbidity

- A longitudinal observational study of 936 women with breast cancer ages 40 to 84 found that patients who had three or more comorbid medical conditions had a 20-fold higher rate of mortality from causes other than breast cancer and a four-fold higher all-cause mortality rate compared with those who had no comorbid medical conditions.
- Although age was not an independent factor influencing survival, comorbidity, as evidenced by a Charlson Comorbidity Index score ≥1, is associated with increased mortality.
- Analysis using the Charlson Comorbidity Index, the National Institute on Aging and National Cancer Institute Comorbidity Index, and the Adult Comorbidity Evaluation-27 all found that patients with the highest comorbidity burden had the poorest overall and colon cancer-specific survival.

Satariano, W A, and D R Ragland. “The effect of comorbidity on 3-year survival of women with primary breast cancer.” *Annals of internal medicine* vol. 120,2 (1994): 104-10. doi:10.7326/0003-4819-120-2-199401150-00002

Cognitive Function

- In the general geriatric population, dementia is an independent prognostic factor for survival. The presence of dementia influences the likelihood of both cancer diagnosis and treatment.
- ASCO guidelines suggest either the mini-Cog or the BOMC test to screen for cognitive issues.

Mini-Cog©

Instructions for Administration & Scoring

ID: _____ Date: _____

Step 1: Three Word Registration

Look directly at person and say, "Please listen carefully. I am going to say three words that I want you to repeat back to me now and try to remember. The words are [select a list of words from the versions below]. Please say them for me now." If the person is unable to repeat the words after three attempts, move on to Step 2 (clock drawing).

The following and other word lists have been used in one or more clinical studies.[1-3] For repeated administrations, use of an alternative word list is recommended.

Version 1	Version 2	Version 3	Version 4	Version 5	Version 6
Banana	Leader	Village	River	Captain	Daughter
Sunrise	Season	Kitchen	Nation	Garden	Heaven
Chair	Table	Baby	Finger	Picture	Mountain

Step 2: Clock Drawing

Say: "Next, I want you to draw a clock for me. First, put in all of the numbers where they go." When that is completed, say: "Now, set the hands to 10 past 11."

Use preprinted circle (see next page) for this exercise. Repeat instructions as needed as this is not a memory test. Move to Step 3 if the clock is not complete within three minutes.

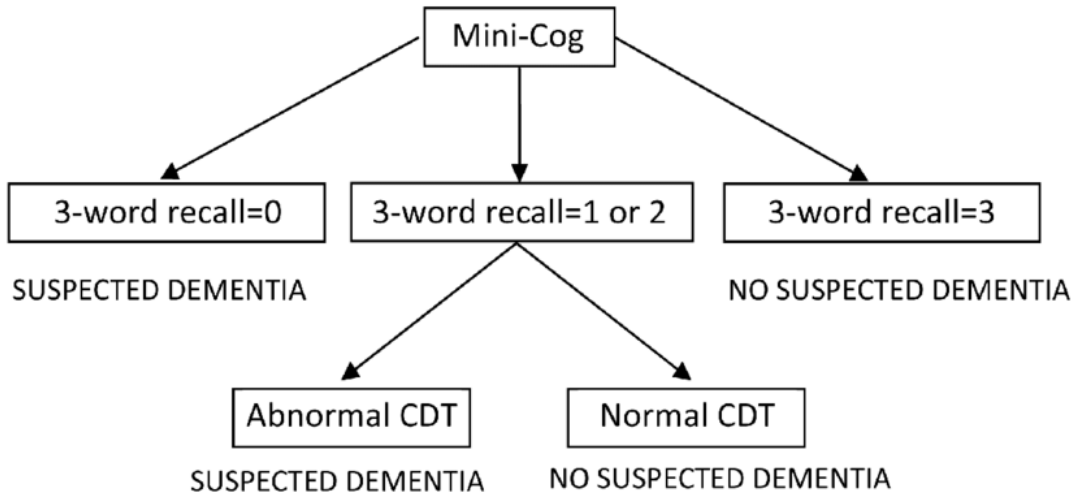
Step 3: Three Word Recall

Ask the person to recall the three words you stated in Step 1. Say: "What were the three words I asked you to remember?" Record the word list version number and the person's answers below.

Word List Version: _____ Person's Answers: _____

Scoring

Word Recall: _____ (0-3 points)	1 point for each word spontaneously recalled without cueing.
Clock Draw: _____ (0 or 2 points)	Normal clock = 2 points. A normal clock has all numbers placed in the correct sequence and approximately correct position (e.g., 12, 3, 6 and 9 are in anchor positions) with no missing or duplicate numbers. Hands are pointing to the 11 and 2 (11:10). Hand length is not scored. Inability or refusal to draw a clock (abnormal) = 0 points.
Total Score: _____ (0-5 points)	Total score = Word Recall score + Clock Draw score. A cut point of <3 on the Mini-Cog™ has been validated for dementia screening, but many individuals with clinically meaningful cognitive impairment will score higher. When greater sensitivity is desired, a cut point of <4 is recommended as it may indicate a need for further evaluation of cognitive status.



Nutrition

- The importance of weight loss was illustrated by a study of 4714 community-dwelling adults age ≥65 years, in which weight loss ≥5 percent was associated with an increased risk of mortality.
- Similar results were seen in another study of 7527 individuals age ≥70 years, in which a BMI <19.4 kg/m^2 (the lowest 10 percent of the population) was associated with an increased risk of mortality.
- In a study of 3047 patients enrolled in 12 ECOG chemotherapy protocols weight loss was an independent prognostic factor for survival and was associated with a lower performance status. Furthermore, weight loss was associated with a decrease in chemotherapy response rates in women with breast cancer, although this correlation was not present in other tumor types.

Newman A, Yanez D, Harris T, et al. Weight change in old age and its association with mortality. *J Am Geriatr Soc.* 2001;49:1309–1318.

Dewys WD, Begg C, Lavin PT, et al. Prognostic effect of weight loss prior to chemotherapy in cancer patients. Eastern Cooperative Oncology Group. *Am J Med.* 1980; 69: 491–497.

Nutritional Status[9]

Patients with cancer are at risk for severe malnutrition that is underdiagnosed.[10]

- **Poor nutritional status is associated with increased mortality and poor chemotherapy tolerance.[11,12,13,14]**
- **Malnutrition among hospitalized patients with cancer is associated with increased length of stay.[10]**
  - **Practical consideration to guide further nutritional assessment of at-risk patients includes:**
    - **Unintentional weight loss of greater than 5% over 6 months[15,16]**
    - **BMI of 22 or below[17]**
    - **Weighing less than 80% of ideal body weight[18]**
    - **Practical suggestions for evaluation of and treatment for optimizing nutrition among patients with cancer:**
      - **Guide to Nutritional Intervention from NCI Nutrition in Cancer Care (PDQ)**
      - **MNA® Mini Nutritional Assessment**
    - **Referral to speech and language pathologist to assess for swallowing issues**

Domain	Assessment tool	Description	Abnormal score (range)	Suggested intervention [42,43]
Functional status	Katz Activities of Daily Living [9]	6-item tool to assess basic activities of daily living	≤5 (0–6)	Physical therapy and occupational therapy referral; home safety evaluation; institute home health care; evaluate fall risk; promote exercise
	Lawton Instrumental Activities of Daily Living [8]	8-item tool to assess activities of daily living needed to live independently	≤7 (0–8)	
	Timed up and go test [10]	Time it takes a patient to stand up from a chair (without using their arms), walk 3 metres, turn around, and return to the chair and sit down	>12 s	
Comorbidities	Charlson Comorbidity Index [14]	Assess for presence of 19 comorbid conditions weighted for severity	≥1	Informed discussion about prognosis and treatment options; referral to specialist.
	Charlson Comorbidity Index (updated index) [16]	Assess for presence of 12 comorbidities	≥1	
	Cumulative Illness Rating Scale for Geriatrics (CIRS-G) [44]	14-item tool; score based on severity of each comorbid condition, graded from 0 to 4	(0–56)	
	Adults Comorbidity Evaluation-27 (ACE-27) [19]	27-item; score based on severity of each comorbid condition, graded from 0–3	Overall comorbidity score ranges from 0 (none) to 3 (severe)	
Polypharmacy	Screening Tool of Older Persons' Prescriptions (STOPP) [22]	65 indicators for potentially inappropriate prescribing, including drug-drug and drug-disease interactions, therapeutic duplication, and drugs that increase the risks of geriatric syndromes	NA	Discontinue unnecessary medications; avoid potentially inappropriate medications; consult pharmacist for medication review and reconciliation
	Screening Tool to Alert doctors to Right Treatment (START) [22]	22 evidence-based indicators to identify prescribing omissions in older people	NA	
	Beer's criteria [45]	Identifies potentially inappropriate medications that should be avoided if possible in older adults	NA	
Cognition	Mini Mental Status examination (MMSE) [34]	11-item test that includes registration, attention and calculation, recall, language, and orientation	≤23 (0–30)	Send for formal cognitive testing; delirium prevention; assess capacity and ability to consent to treatment; involve caregiver and identify health care proxy
	Montreal Cognitive Assessment (MOCA) [35]	12-item test of cognitive function; assesses short term memory, visuospatial awareness, executive function, attention, and orientation.	<26 (0–30)	
	Mini-Cog [36]	Cognitive screen that includes a recall test and clock drawing	<3 (0–5)	
	Blessed Orientation Memory Concentration test [37]	6-item tool that tests orientation, attention and memory	>10 (0–12)	
Psychological status	Geriatric Depression Scale [25]	15-item self-assessment with yes/no questions used to identify older patients at risk of depression	>5 (0–15)	Counseling, referral to psychiatry and/or psychology; consider medications to treat anxiety or depression; referral to support programs; spiritual care
	Hospital Anxiety and Depression Scale [46]	14-item self-assessment of anxiety (7 items) and depression (7 items)	>8 (0–21) for depression and anxiety subscales	
Social support	Social history	Assess social support and living condition	NA	Transportation assistance; home health care; home safety evaluation; support groups; referral to social work
	Medical Outcomes Survey social support survey [27]	19-item tool involving 4 social domains: emotional support, tangible support, affectionate support, and medical outcomes	Lower scores worse (0–100)	
Nutrition	Mini Nutritional Assessment [40]	6-item tool to identify patients at risk of malnutrition	<24 (0–30)	Dietician consult, specific dietary recommendations, oral care, and supplemental nutrition

Socioeconomic Considerations

Evaluate/assess for the following (refer to social work as appropriate):

- **Language barriers and need for interpreter support**
- **Cultural considerations**
- **Living conditions**
  - **Family/caregiver or social support**
  - **Income**
  - **Elder abuse**
  - **Safety at home**
- **Transportation barriers/access problems**
- **Food insecurity**
- **Financial toxicity (eg, underinsurance and/or high out-of-pocket costs)[6]**

Medication Review[19]

- Does every medication match a known medical problem or chronic condition?
  - Any deficiencies?[20,21,22,23]
  - Any duplications?
- Are the dosages appropriate for each medication for the patient's age, renal function, or liver function?
- Are there potential drug-drug or drug-disease interactions or other adverse effects of the medication?
  - Drug interactions[25]:
    - http://medicine.iupui.edu/clinpharm/ddis/
    - http://www.mskcc.org/cancer-care/integrative-medicine/about-herbs-botanicals-other-products
- Are there any high-risk/low-benefit or inappropriate medications?
  - Beers criteria[26]:
    - http://geriatricscareonline.org/toc/american-geriatrics-society-updated-beers-criteria-for-potentially-inappropriate-medication-use-in-older-adults/CL001
  - Screening Tool of Older Persons' Prescriptions (STOPP) and Screening Tool to Alert to Right Treatment (START) criteria[21,22,23,24]
  - Medication Appropriateness Index[27]
- Could a medication-related problem be responsible for current complaints or presenting problems?
- Can the regimen be simplified?
- Are there any less expensive alternative medications that are of equal utility?

Consider initiating all medications at the lowest possible dose and increase dose gradually (as tolerated).

Therapeutic Class/ Medication(s)	Negative Effects/ Condition the Drug May Adversely Affect	Recommendation	Alternative(s)
First-generation antihistamines[4,5,7,8]: • diphenhydramine • hydroxyzine • promethazine • brompheniramine • carbinoxamine • clemastine • cyproheptadine • dexbrompheniramine • dexchlorpheniramine • doxylamine • triprolidine	• Anticholinergic toxicities • Confusion • Cognitive impairment • Delirium • Dry mouth • Constipation • Urinary retention • Clearance is reduced	• Use only for supportive care when convincing benefit exists. • Appropriate for acute treatment of severe allergic reactions.	• Consider second-generation antihistamines (cetirizine, desloratadine, fexofenadine, levocetirizine), intranasal antihistamines, intranasal anticholinergics, or leukotriene inhibitors. • For sleep, use sleep hygiene education, sleep restriction or sleep compression, or cognitive behavioral therapy. See "Insomnia" (OAO-H). See NCCN Guidelines for Survivorship.
Antiemetic, prokinetic[6,7,8]: • metoclopramide • NK-1 antagonists ▸ Aprepitant ▸ Fosaprepitant ▸ Rolapitant **Phenothiazine antiemetic[7]:** • prochlorperazine	• May cause extrapyramidal effects • Greater risk of falls in older patients • Can worsen parkinsonian symptoms	• Avoid, unless use for patients with gastroparesis. • If benefit outweighs risk, use the lowest dose possible, and avoid exceeding 5mg. • Renally dose adjust metoclopramide	• Consider serotonin antagonists (ie, dolasetron, granisetron, ondansetron, palonosetron, tropisetron), short-term corticosteroids (ie, dexamethasone, prednisone), or other antiemetics. See NCCN Guidelines for Antiemesis.
Histamine-2 receptor blockers[7]: • famotidine • ranitidine • cimetidine	• Delirium • Cognitive impairment • Can worsen dementia	• Avoid in patients at risk for delirium.	• Proton-pump inhibitors (eg, omeprazole, esomeprazole, pantoprazole, lansoprazole) • An alternative to H2 blockers may be antacids such as calcium carbonate in addition to proton pump inhibitors if hypercalcemia of malignancy is not a concern.

MEDICATIONS COMMONLY USED FOR SUPPORTIVE CARE THAT ARE OF CONCERN IN OLDER PATIENTS

Consider initiating all medications at the lowest possible dose and increase dose gradually (as tolerated).

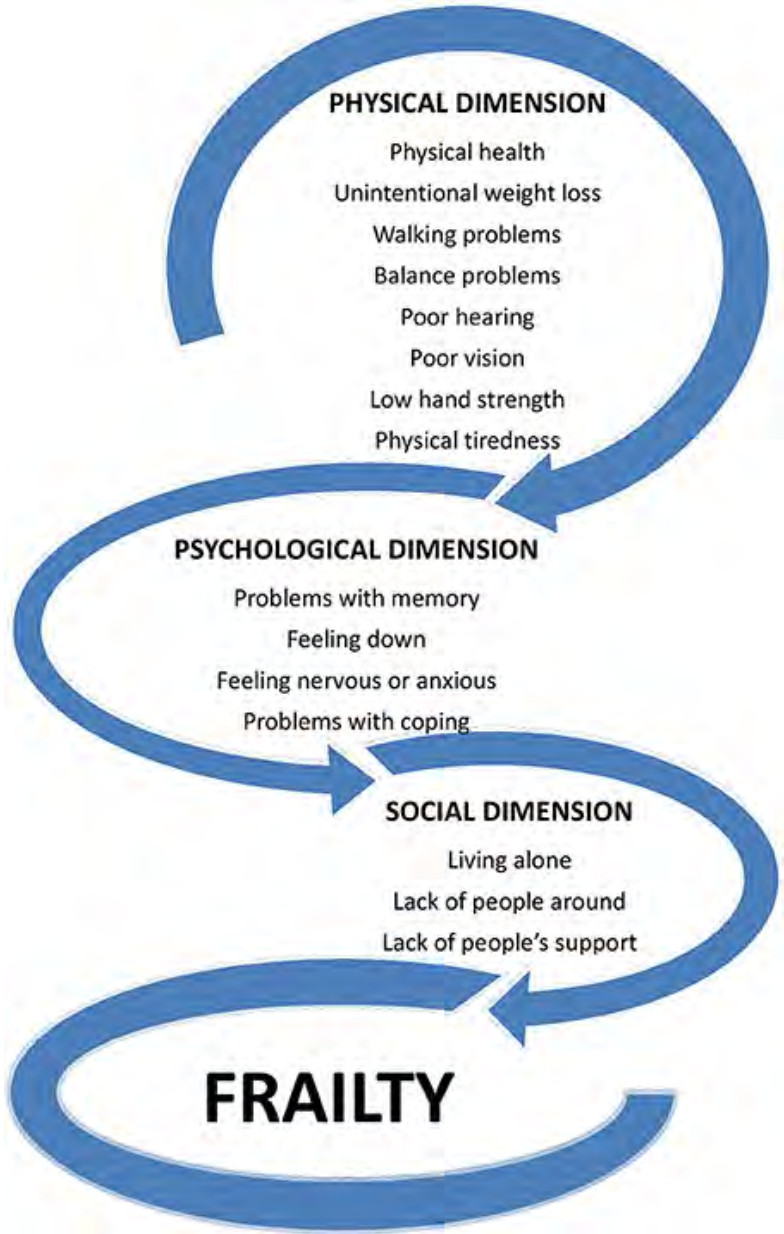
Therapeutic Class/ Medication(s)	Negative Effects/ Condition the Drug May Adversely Affect	Recommendation	Alternative(s)
Selective serotonin reuptake inhibitor antidepressants[4,5,7,8,10,11,12]**:** • fluoxetine • paroxetine • sertraline • fluvoxamine • citalopram • escitalopram	• Can induce ataxia, impair psychomotor function • Increase risk for syncope • Increase risk for falls • Exacerbate hyponatremia particularly in older adults by syndrome of inappropriate antidiuretic hormone secretion (SIADH) • Increased risk for GI bleeding, particularly when using with nonsteroidal anti-inflammatory drugs (NSAIDs), aspirin, or anticoagulation • Can increase QT interval	• Consider side-effect profile and drug interactions prior to the selection of antidepressants. • Review the need for continued treatment for depression at least 6 months after remission of the episode, based on number of prior episodes, residual symptoms, current medical problems, and psychosocial difficulties. • Consider stopping by gradually reducing the dose over a 4-week period in patients who no longer need antidepressants. • Avoid in patients with falls, unless alternatives are not available. • Avoid in patients with SIADH. • Avoid paroxetine (and possibly fluoxetine) in patients taking tamoxifen. • Consider baseline electrocardiogram (EKG) before initiation of therapy.	• For patients with falls, consider serotonin-norepinephrine reuptake inhibitors (SNRIs) (eg, venlafaxine, desvenlafaxine, duloxetine) or bupropion. • Consider the use of a gastroprotective medication (proton pump inhibitors such as omeprazole, esomeprazole, or misoprostol) if selective serotonin reuptake inhibitor (SSRIs) must be combined with NSAIDs, aspirin, or antiplatelet agents. • For patients taking warfarin, heparin, or anticoagulants, consider mirtazapine • Consider complementary or alternative therapy (eg, cognitive behavioral therapy [CBT])

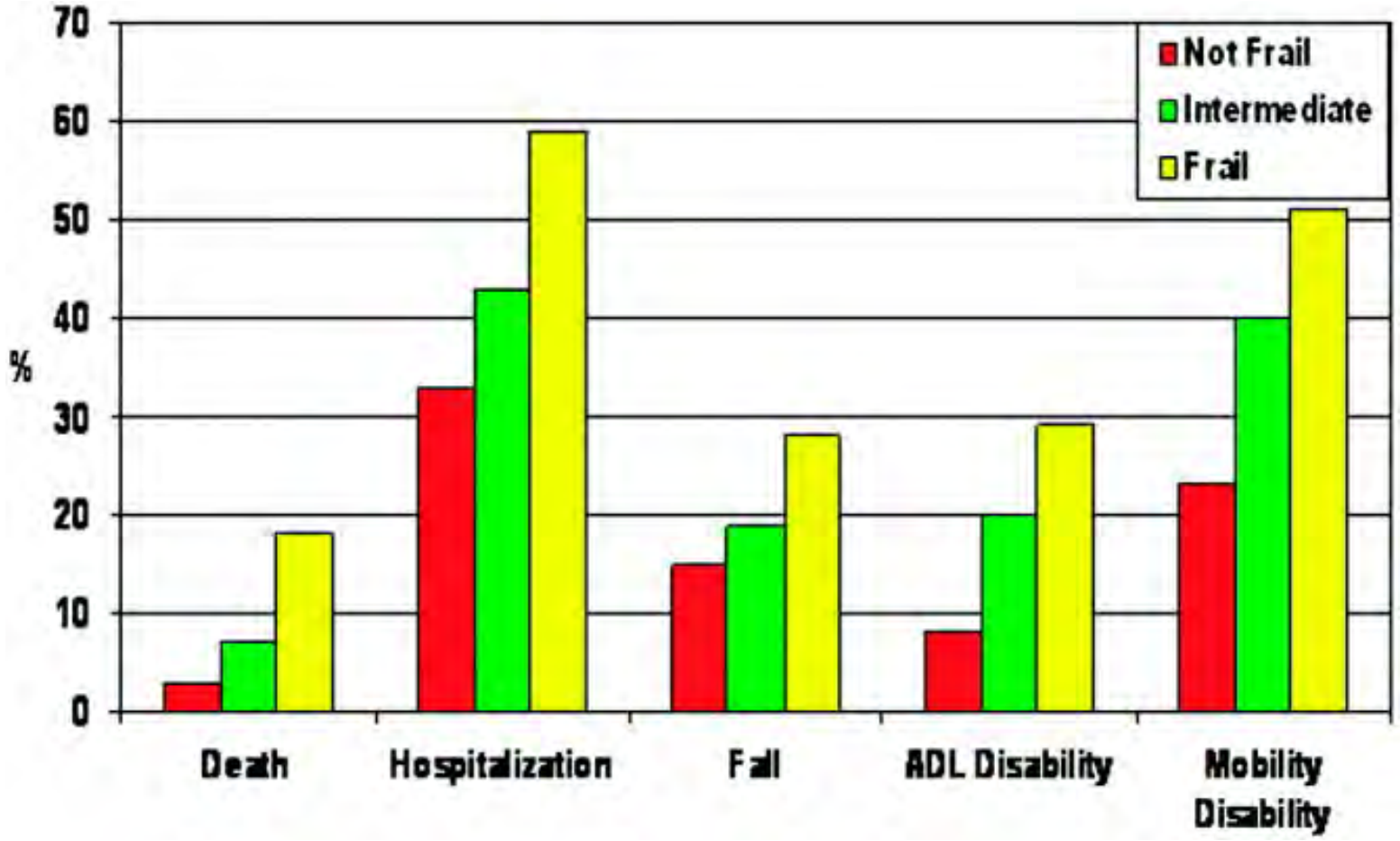
Consider initiating all medications at the lowest possible dose and increase dose gradually (as tolerated).

Therapeutic Class/ Medication(s)	Negative Effects/ Condition the Drug May Adversely Affect	Recommendation	Alternative(s)
Antipsychotics[4,5,7,8,13,14,15,16]: • chlorpromazine • fluphenazine • haloperidol • loxapine • molindone • perphenazine • pimozide • promazine • thioridazine • thiothixene • trifluoperazine • triflupromazine • aripiprazole • asenapine • clozapine • iloperidone • lurasidone • olanzapine • paliperidone • quetiapine • risperidone • ziprasidone	• Some agents have anti-anticholinergic effects (especially chlorpromazine, clozapine, loxapine, olanzapine, thioridazine, and trifluoperazine) • Increased risk of cerebrovascular accident (CVA) • Increased risk of mortality in patients with dementia • Hyperglycemia • Increased risk of falls and fractures, especially in patients at risk • Concern for QT prolongation, especially in combination with serotonin antagonists, antidepressants, and in patients with underlying cardiac diseases	• In the presence of psychosis and danger to self/others, use low-dose non-anticholinergic agent for the shortest duration possible. • May be appropriate for short-duration treatment of refractory chemotherapy-induced nausea and vomiting. • May be appropriate for short-term management of delirium. • With concern for QT prolongation, start at the lowest dose with slow uptitration. Consider baseline EKG before initiation of therapy.	• For delirium, short-term use (no more than 5 days) of one of the following at low dose: ▸ Haloperidol[a] (0.25–1 mg PO up to q8h) ▸ Olanzapine[a] (2.5–5 mg PO daily) ▸ Risperidone[a] (0.25–0.5 mg PO daily) ▸ For patients with parkinsonism, quetiapine[a] (12.5–25 PO daily or q12h) • If using an antipsychotic, attempt to reduce, taper, or stop other antipsychotics and/or drugs acting on the central nervous system that can worsen the risk of falls or cognitive decline. • For nausea, could consider other antiemetics (serotonin antagonists such as ondansetron, dexamethasone, or aprepitant) if risk outweighs the benefit of using an antipsychotic. • Monitor for extrapyramidal symptoms; tools such as the Abnormal Involuntary Movement Scale are useful. • See NCCN Guidelines for Antiemesis.

Frailty

- It is generally recognized that the term “frailty” captures the essence of age-related vulnerability and decline, and that it can be useful in clinical practice. At present, there are two major conceptual frameworks for the term “frailty” that have influenced the development of multiple frailty measurement tools.
- Physical frailty, often termed phenotypic or syndromic frailty, was developed in part to capture representative signs and symptoms (fatigue, low activity, weakness, weight loss, and slow gait) of community-dwelling older adults that were most vulnerable to adverse health outcomes.
- Deficit accumulation frailty or index frailty was developed around a conceptual framework that identifies the most frail, vulnerable older adults through cumulative comorbidities and cumulative illnesses as frail.


PHYSICAL DIMENSION
Physical health
Unintentional weight loss
Walking problems
Balance problems
Poor hearing
Poor vision
Low hand strength
Physical tiredness
PSYCHOLOGICAL DIMENSION
Problems with memory
Feeling down
Feeling nervous or anxious
Problems with coping
SOCIAL DIMENSION
Living alone
Lack of people around
Lack of people's support
FRAILTY



Incidence of Adverse Outcomes Associated With Frailty. The 3-year outcomes denoted here were adapted from Fried LP, Tangen CM, Walston J, et al. Frailty in older adults: evidence for a phenotype. *J Gerontol A Biol Sci Med Sci.* 2001;56:M146–M157

Screening Tool

- The physical frailty screening tool most often cited is often called the Fried Frailty Tool or Frailty Phenotype. This tool was developed to identify physical frailty in community-dwelling older adults and was validated in the Cardiovascular Health Study (CHS), which involved over 5000 men and women aged ≥65 years, and multiple other studies.

- Weight loss (≥5 percent of body weight in last year)
- Exhaustion (positive response to questions regarding effort required for activity)
- Weakness (decreased grip strength)
- Slow walking speed (gait speed) (>6 to 7 seconds to walk 15 feet)
- Decreased physical activity (Kcals spent per week: males expending <383 Kcals and females <270 Kcal)

Scores range from 0 to ≥3 (0 = best) and represent frail (≥ 3), intermediate (1 to 2), and not frail (0).

FRAIL Scale

- **F**atigue ("Have you felt fatigued? Most or all of the time over the past month?")

Yes = 1, No = 0

- **R**esistance ("Do you have difficulty climbing a flight of stairs?")

Yes = 1, No = 0

- **A**mbulation ("Do you have difficulty walking one block?")

Yes = 1, No = 0

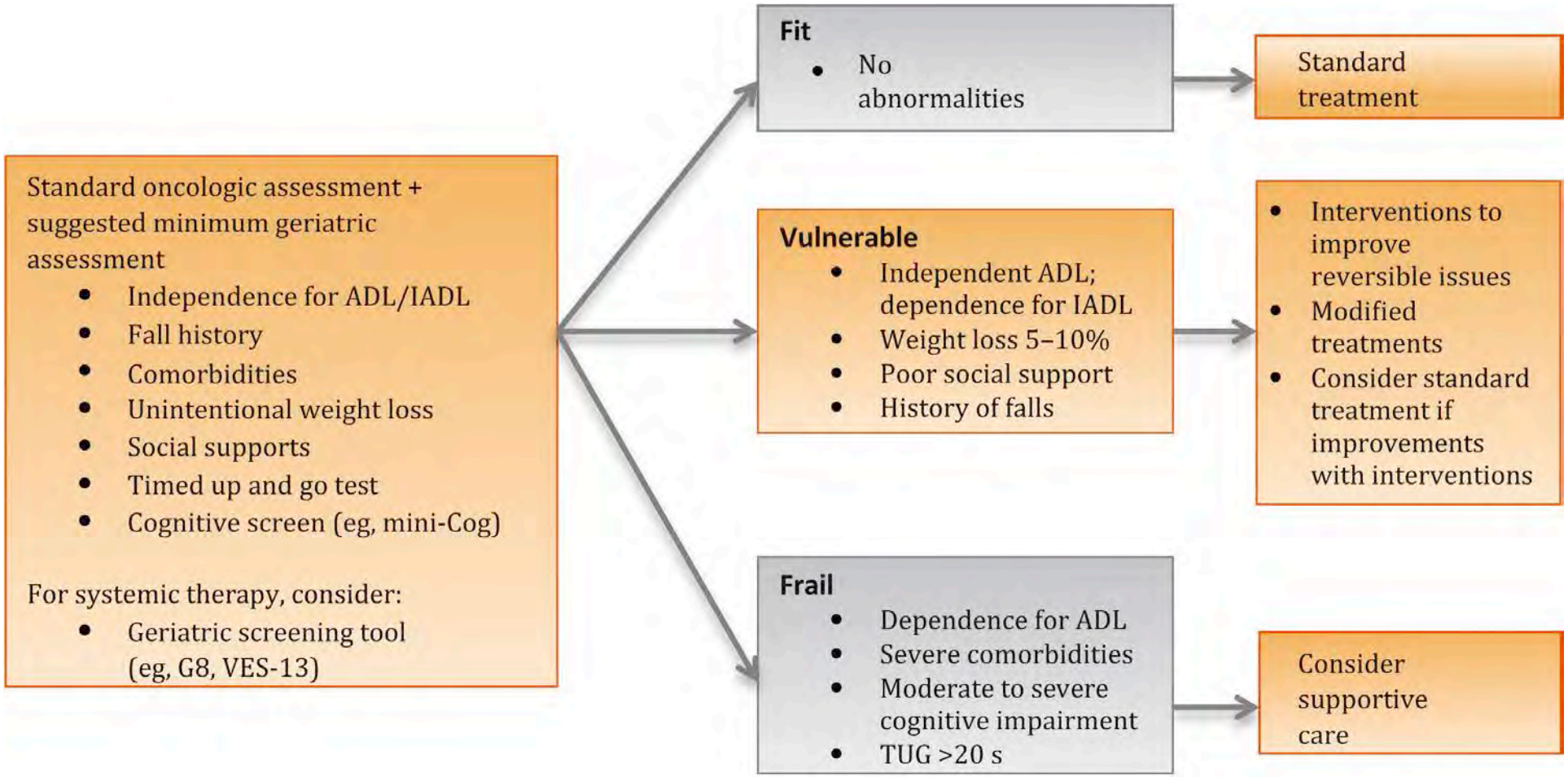
- **I**llnesses (“Do you have any of these illnesses: hypertension, diabetes, cancer (other than a minor skin cancer), chronic lung disease, heart attack, congestive heart failure, angina, asthma, arthritis, stroke, and kidney disease?”)

Five or greater = 1, fewer than 5 = 0

- **L**oss of weight (“Have you lost more than 5 percent of your weight in the past year?”)

Yes= 1, No = 0

Frail scale scores range from 0 to 5 (0 = best, 5 = worst) and represent frail (3 to 5), pre-frail (1 to 2), and robust (0) health status.



Hernandez Torres, Catalina, and Tina Hsu. "Comprehensive Geriatric Assessment in the Older Adult with Cancer: A Review." *European urology focus* vol. 3,4-5 (2017): 330-339. doi:10.1016/j.euf.2017.10.010

Screening tool	Sensitivity (%)	Specificity (%)	Items (*n*)	Description	Time to complete	Abnormal score cutoff (range)
Vulnerable Elders Survey-13 [71]	68	78	13	Includes age, physical status, functional capacity, and self-rated health	<10 min	≥3 (0–10)
Geriatric 8 [72]	87	61	8	Includes 7 items from the Mini Nutritional Assessment questionnaire plus age	<10 min	≤14 (0–17)
Triage Risk Screening Tool +1 [73]	92	47	5	Assesses cognitive impairment, presence of a caregiver, difficulty with ambulation, recent hospitalization, and polypharmacy	2 min	≥1 (0–6)
Groningen Frailty Index [74]	57	86	15	Assesses diminished abilities and resources in physical, cognitive, social, and psychological functioning	N/A	≥4 (0–15)
Fried frailty criteria [75]	31	91	5	Frailty defined as >3 criteria: unintentional weight loss (10 lbs in past year), self-reported exhaustion, weakness (grip strength), slow walking speed, and low physical activity	5 min	≥3
Abbreviated CGA [76]	51	97	15	Combines the items of the CGA that are most predictive of the total rating score of each scale	4 min	≥1 (0–4)

CGA = comprehensive geriatric assessment.

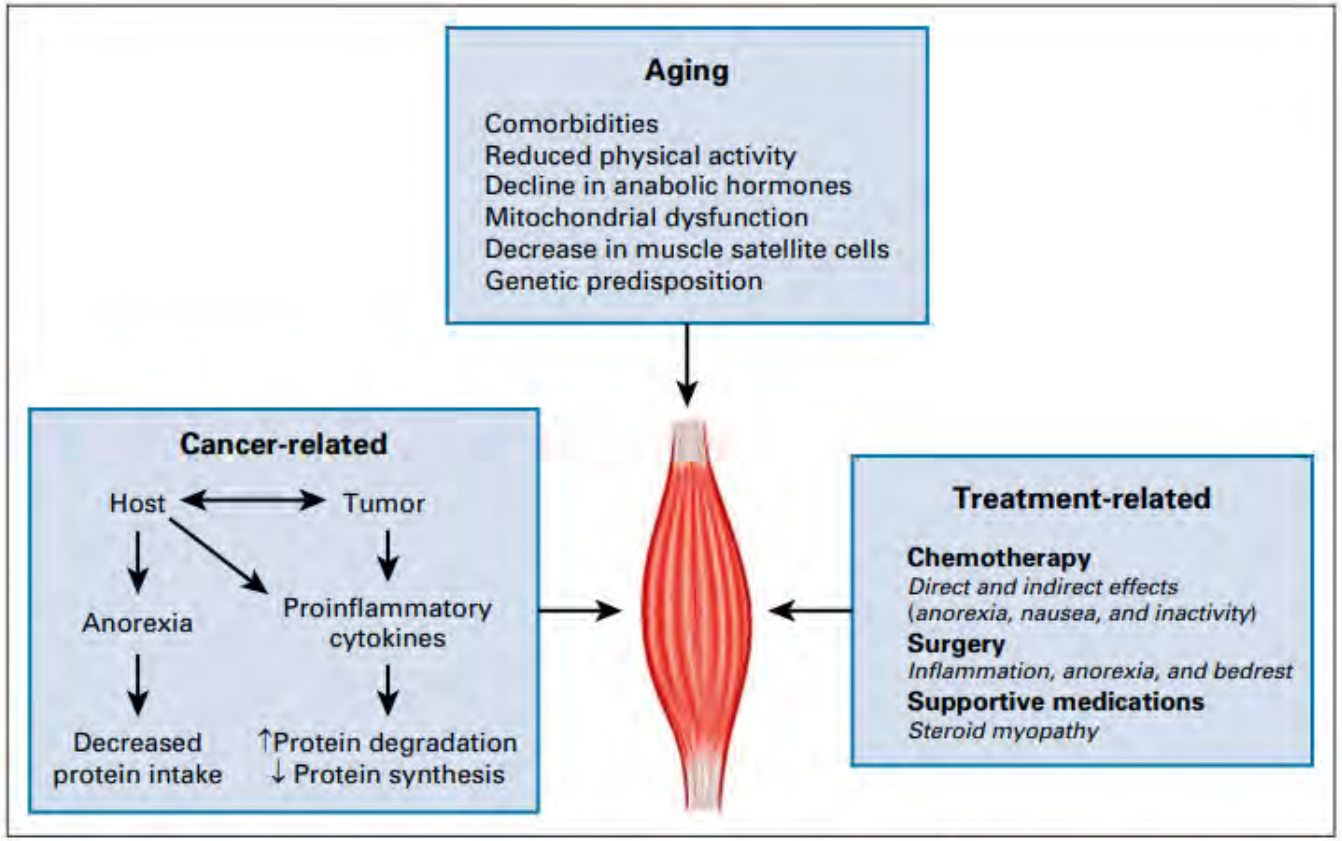


FIG 1. Multifactorial causes of muscle loss in the older adult with cancer. ↑, increase; ↓, decrease.

Features	Sarcopenia	Frailty	Cachexia
Muscle mass	↓	↓ or ↔	↓
Muscle strength and function	↓	↓ or ↔	↓
Fat mass	↔	↔	↓
Basal metabolic rate	↓	↓	↑
Inflammation	↔	↑	↑
Overall body weight	↔	↓	↓

FIG 2. Comparisons of the similarities and distinctions between sarcopenia, cachexia, and frailty. The bolded arrows indicate these are part of the formal definition of that entity. ↑, increase; ↓, decrease; ↔, can be increased, decreased, or unchanged with no real effect.

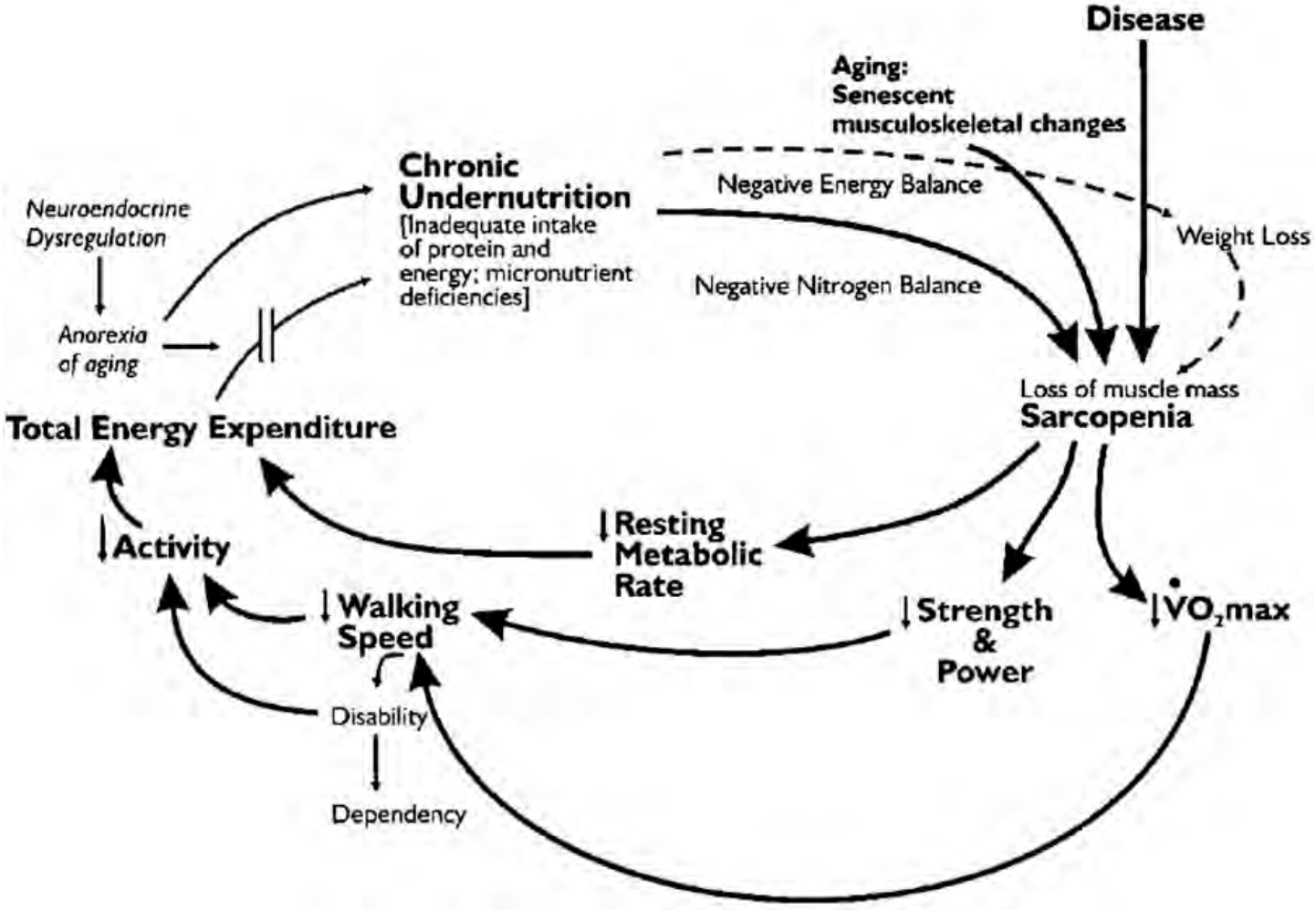
Williams, Grant R et al. "Sarcopenia in the Older Adult With Cancer." *Journal of clinical oncology : official journal of the American Society of Clinical Oncology* vol. 39,19 (2021): 2068-2078. doi:10.1200/JCO.21.00102

TABLE 2. The Diagnostic Criteria of Sarcopenia From the European Working Group on Sarcopenia in Older People Compared With the Diagnostic Criteria of Cancer Cachexia Based on an International Consensus Definition and the Fried Frailty Phenotype

Parameter	Sarcopenia[20]	Cancer Cachexia[43]	Frailty[47]
Diagnostic criteria	Low muscle strength Low muscle quantity[a] or quality Reduced physical performance	Weight loss > 5% over the past 6 months or 2% weight loss and either BMI < 20 or Evidence of muscle depletion	Weight loss or low muscle mass Weakness Exhaustion or poor endurance Slowness Low activity
Definition	Criteria 1 = probable sarcopenia Criteria 1 + 2 = sarcopenia Criteria 1 − 3 = severe sarcopenia	Any of the above scenarios constitutes cachexia	1 or 2 criteria = intermediate or prefrail 3 or more = frailty

Abbreviation: BMI, body mass index.

[a]Low muscle mass quantity alone is the most commonly used sarcopenia definition within the oncology literature.



Cycle of Frailty. VO_2max indicates maximum oxygen consumption. Adapted with permission from Fried LP, Tangen CM, Walston J, et al. Frailty in older adults: evidence for a phenotype. *J Gerontol A Biol Sci Med Sci*. 2001;56:M146–M157.

Life Expectancy