# Approach to the Geriatric Patient: Healthspan & Frailty

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### **Disclosures**

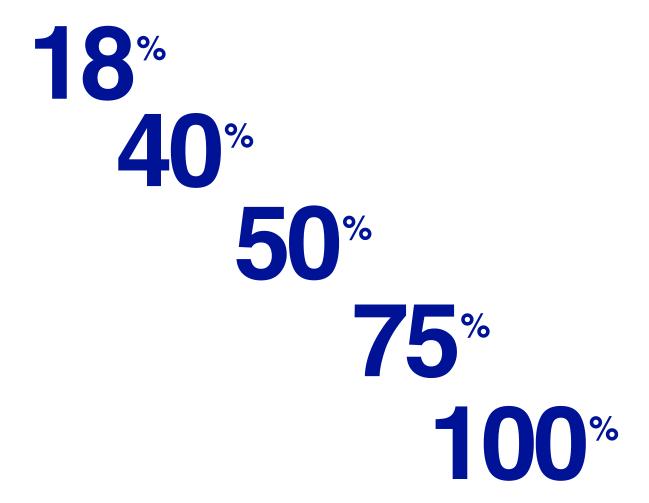
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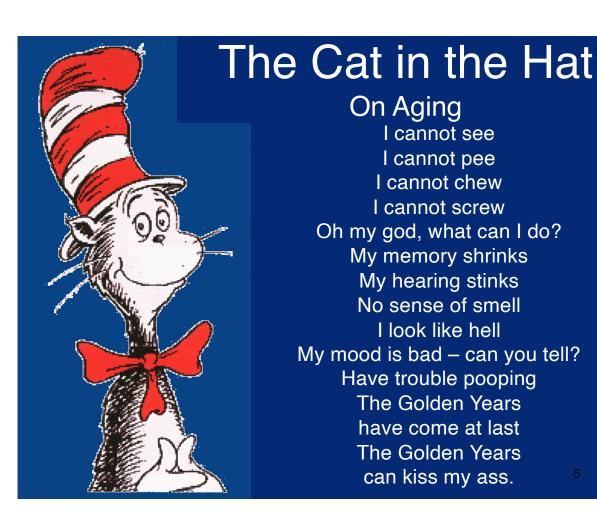
### Acknowledgement

Jihae Lee, MD

### **Objectives**

- Become familiar with the Silver Tsunami and its impact on health care.
- Recognize the prevalence of the frailty syndrome and cognitive impairment.
- Appreciate the importance of frailty in the development of disability and adverse health outcomes.
- Utilize the 5Ms of Geriatrics to assess an older adult.





### On Aging

I cannot see I cannot pee I cannot chew I cannot screw Oh my god, what can I do? My memory shrinks My hearing stinks No sense of smell I look like hell My mood is bad - can you tell? Have trouble pooping The Golden Years

> have come at last The Golden Years can kiss my ass.

"Aging seems to be the only available way to live a long life."

**Daniel Francois Esprit Auber** 

"Aging is not lost youth but a new stage of opportunity and strength."

**Betty Friedan** 







### Healthspan

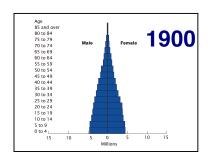
- Number of years lived in a healthy, vital, and functionally capable state with a good quality of life
- Lifespan might far exceed healthspan
- Goals: prevent, treat, or even reverse diseases associated with older age
- Goal: prolong the healthspan for a greater portion of life, until a time that is closer to the actual end of life

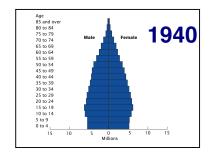


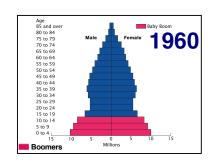


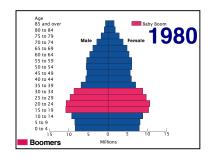
### What percentage of the population is 65 and older?

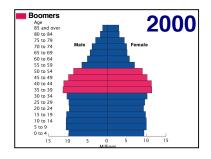
- **D.** 35
- E. 45

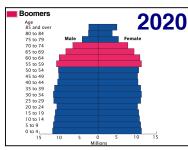








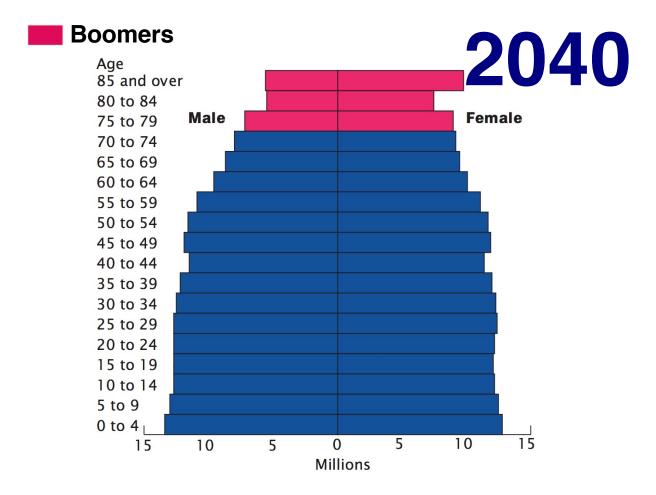


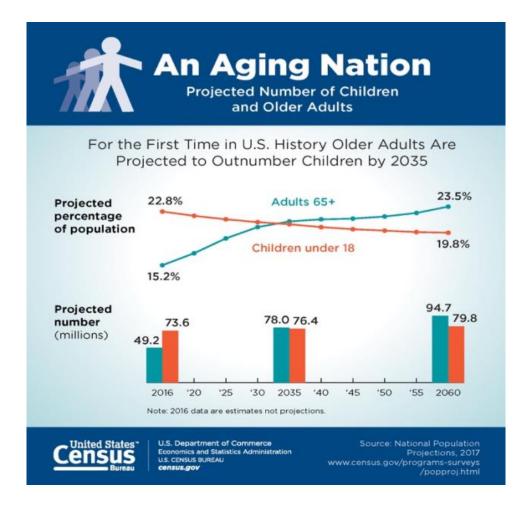












# Aging population is transforming our society

- Over 65 will double to > 75 million by 2030
  - ~20% of the US population
  - Centenarians are the fastest growing age group
- Over 85 will increase 5x by 2050
  - Centenarians are the fastest growing age group
- Greater diversity
  - 15% (1995) → 34% (2050)
- City of Buffalo (2018 census.gov)
  - Over 6517.9% (USA 15%)
  - Over 65166,000







### Aging population is transforming our society

- ~1.5 million Americans reside in nursing homes -20% aged 85 or older
- Half of those 85+ need some long-term care
- ~1/3 of those 65+ will need long-term care services sometime in their lifetime
- Number of trained, professional caregivers is decreasing
- Over 1/3 of hospital patients 65 or older







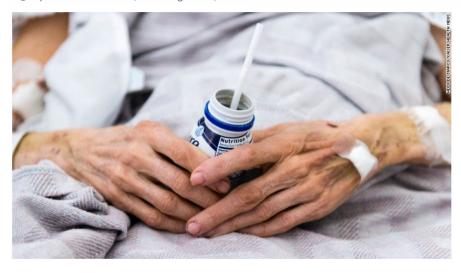
#### **Opportunities for better care - Mr. E.**

- 74 yo, PMH of dementia, hyperlipidemia, DJD, found "wandering" in his neighborhood
- "non-reimbursable admission"
- Calm upon admission, answering questions
- Subsequently confused and uncooperative; given Haldol and restrained. For hours, not toileted, not ambulated. Given Seroquel with further sedation.
- In the chair next several days despite PT plan to ambulate "several times/week"
- Fell trying to get out of the chair resulting in a CT of the head and a wrist x-ray
- Discharged to a nursing home

# 'The older you are, the worse the hospital is for you'

By Anna Gorman, Kaiser Health News

① Updated 8:56 AM ET, Mon August 15, 2016



"The unique needs of older patients are not a priority for most hospitals"



June 26, 2019, 3:38 PM EDT By Liz Seegert

# Doctors are ageist – and it's harming older patients

Without a major change in medical training and attitudes as the country ages, more and more of us will be at risk when we seek care.



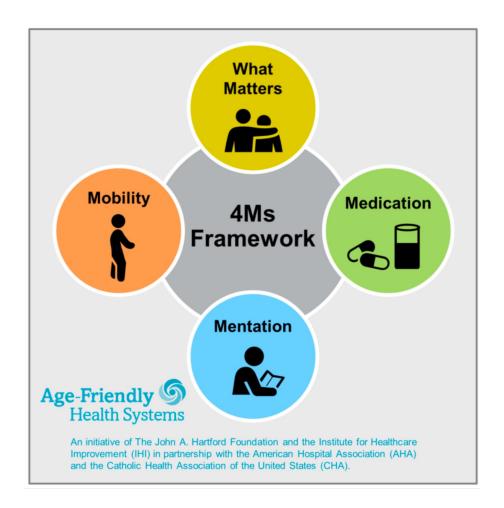
"Elderly patients receive less engagement and less information than other patients from the very practitioners who are supposed to improve their health and wellbeing."

## What percentage of adults ≥ 85 are frail?

- **A.** 20
- **B.** 30
- C. 40
- **D.** 50
- **E.** 60

### **Geriatric 5 M's**

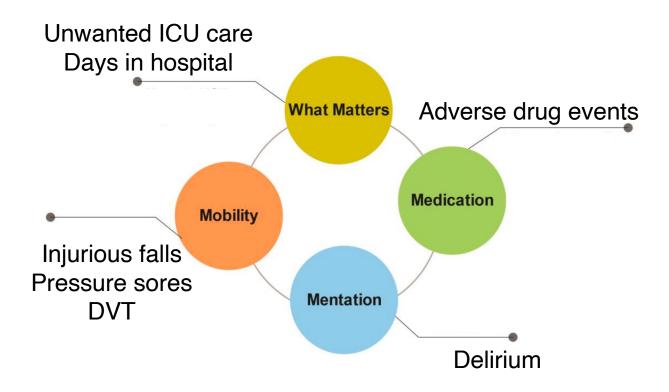




### **Age-Friendly Health System**

### Every older adult's care:

- Is guided by an essential set of evidence-based practices (4Ms);
- Causes no harms; and
- Is consistent with What Matters to the older adult and their family.



# Life Expectancy and Health Status

- At age 65, people can now expect to live another 15-20 years, on the average
- Health status during this time is of great importance:
  - -30% robust
  - -50% have 2 or more diseases
  - —40% have difficulty walking or doing other essential activities
  - \_7-10% are frail

### **Frailty and Aging**

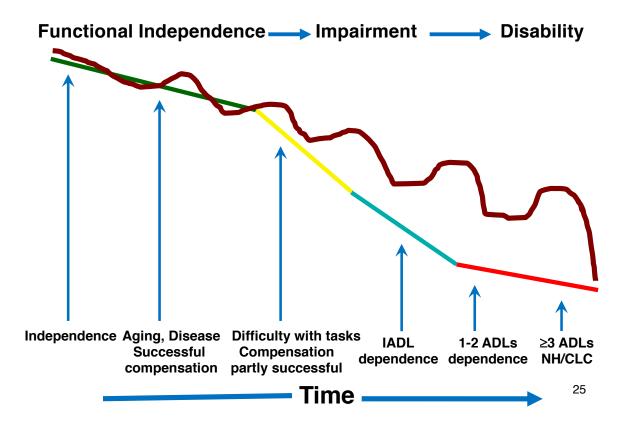
- 7 % ≥ 65 living alone had at least three criteria for frailty, while 46 % had none
- more likely to affect women, African Americans, ≥75, less educated, and the poor
- Co-existing chronic diseases: including arthritis, hypertension, and diabetes
- Death 6 X more likely in the frail vs. nonfrail after 3 years
- Death after 7 years: 43 % of frail vs. 23 % of intermediate vs. 12 % of non-frail

Fried et al. Journal of Gerontology 2001

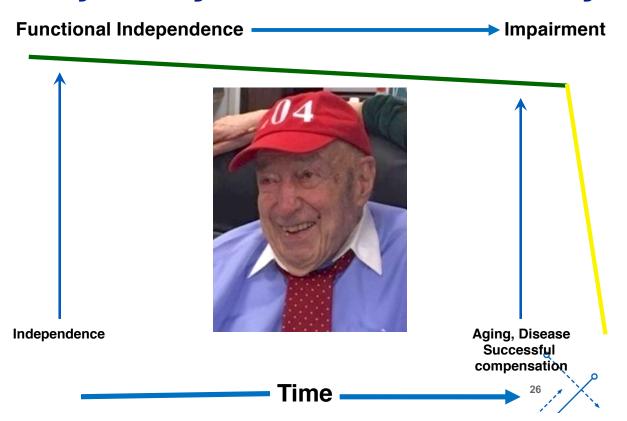
### **Frailty Syndrome**

- A physiologic state of increased vulnerability to stressors that results from decreased physiologic reserves, and even dysregulation, of multiple physiologic systems.
- Frailty may lead to adverse health outcomes including: disability, dependency, falls, need for long-term care, and mortality.

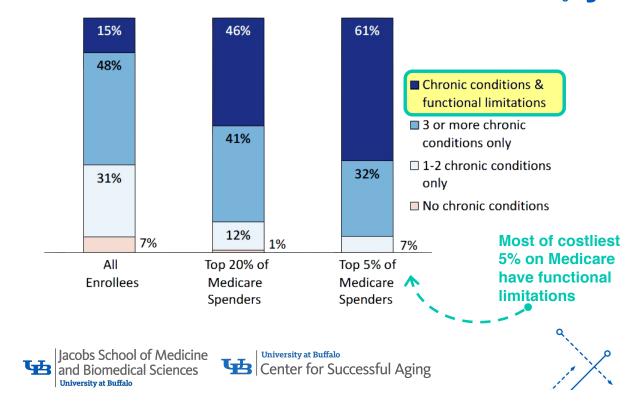
### Trajectory of functional ability



### **Trajectory of functional ability**



# Chronic conditions and functional limitations are costly



# Frail elderly are at risk for multiple adverse outcomes

- Acute illness / Medical instability
- Disability, dependency
- Hospitalization / Institutionalization
- Injuries / Falls
- + Health care resources utilization
- ◆Recovery from illness and/or hospitalization
- †latrogenesis and side effects
- Mortality

# Frailty is at the Core Of Geriatric Medicine (and Palliative Medicine)

#### **Clinical Frailty Scale**



1. Very Fit



2. Well



3. Managing Well



4. Vulnerable



5. Mildly Frail



6. Moderately Frail



7. Severely Frail



8. Very Severely Frail



9. Terminally III

Where dementia is present, the degree of frailty usually corresponds to the degree of dementia:

- Mild dementia includes forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.
- Moderate dementia recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.
- Severe dementia they cannot do personal care without help.

K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495

### "FRAIL" Screening Tool

- Fatigue: Are you fatigued?
- Resistance: Cannot walk up one flight of stairs?
- Aerobic: Cannot walk one block?
- Illnesses: ≥ 5 illnesses?
- Loss of weight: ≥ 5% past 6 months?

≥ 3 = frailty, 1 or 2 = prefrail

Morley et al. JAMDA 2013;14:392-397

### **M**obility



#### History

- Recent falls or fear of falling
- Baseline mobility
- Living situation (community vs. facility)

#### Functional Status

- Activities of Daily Living/Instrumental Activities of Daily Living
- -Get up and Go test

#### Fall injury prevention

- Intrinsic factors Orthostatic hypotension, vision impairment
- Extrinsic factors –
   Medications, environment

### **Function: Activities of Daily** Living

Basic (self-care)

Instrumental (community interactions)

- Dressing
- Shopping

Eating

- Housework
- Ambulating
   Accounting
- Toileting
- Food preparation
- Hygiene
- Transportation

#### **Altered Presentation of Disease**

- severe or life-threatening illness with vague, nonspecific, or trivial sx's
- vague sx's may represent an abrupt change
- functional, e.g. ceases to go shopping, refuses to arise from bed, falls more often
- some sx's appear to represent illness within one organ system but actually indicate change in another
- many presentations represent change in homeostatic reserve
- perhaps 2° to changes in sensitivity to pain and other stimuli, e.g. - pt. with diminished mental status

## Altered Presentation of Specific Illnesses

- Depression without sadness
- Infectious disease without leukocytosis, fever or tachycardia
- Silent surgical abdomen
- Silent malignancy ("mass without symptoms")
- Myocardial infarction without chest pain
- Nondyspneic pulmonary edema
- Apathetic thyrotoxicosis

# Nonspecific symptoms that may represent specific illness

- Confusion
- Self-neglect
- Falling
- Incontinence
- Apathy
- Anorexia
- Dyspnea
- Fatigue

### "Hidden Illnesses"

- Confusion
- Sexual dysfunction
- Depression
- Incontinence
- Musculoskeletal stiffness
- Alcoholism
- Hearing loss
- Dementia

### **Common Syndromes**

- Function impairment
- Polypharmacy
- Dysmobility
- Cognitive impairment
- Depression
- Urinary incontinence
- Constipation
- Alcohol abuse
- Elder mistreatment

# How many drugs constitute polypharmacy?

- **A.** 5
- **B.** 10
- **C.** 15
- D. 1 (if adverse reaction)

# Polypharmacy

too many drugs
drugs for too long
drug doses too high

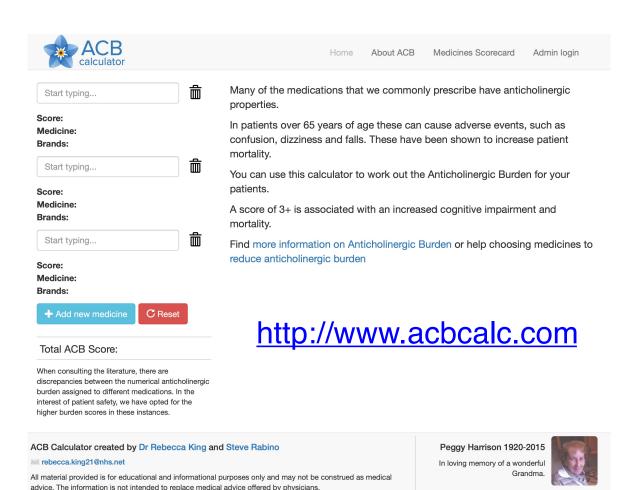
# What causes the highest rate of adverse drug reactions?

- A. Cardiovascular agents
- **B.** Anti-diabetic agents
- C. Anti-cholinergic agents
  - D. Psychotropic agents
  - E. Benzodiazepines

### **Medications**



- Polypharmacy !!!!
- Deprescribing and Optimal prescribing
- Adverse medication effects and medication burden
- Tools
  - AGS Beers Criteria®
  - Deprescribing.org
  - Medstopper.org
  - Anticholinergic
     Burden Calculator



#### **Common Side Effects in Older Adults (1)**

Complaint	Cause
drowsiness	anti-hypertensives, benzodiazepines, TCA's, anti-histamines, codeine, tranquilizers
fatigue, lethargy	barbiturates, benzodiazepines, anti- hypertensives
lightheadedness, dizziness	diuretics, anti-hypertensives, codeine, vasodilators, TCA's
indigestion, nausea	ASA, NSAI's, K+, allopurinol

# Beware anti-cholinergics! Avoid anxiolytics and hypnotics!

#### **Common Side Effects in Older Adults (2)**

Complaint	Cause
incoordination, unsteadiness	benzodiazepines, barbiturates
constipation	antacids, anti-hypertensives, codeine, TCA's, tranquilizers, belladonna alkaloids
urinary	diuretics, anti-cholinergics, belladonna alkaloids, tranquilizers
dry mouth	anti-histamines, anti-hypertensives, TCA's, belladonna alkaloids, tranquilizers

# Beware anti-cholinergics! Avoid anxiolytics and hypnotics!

### Taking the History<sub>1</sub>

#### General considerations

- Possibly more time
- Patient as 1° source of info
- If patient's responses inappropriate MOCA

#### Special emphasis

- Medications
- Social History
- Health Care Maintenance
- Function
- Nutritional history
- Alcohol
- Review of systems

### **Review of systems**

Ask about fatigue, anorexia, wt. loss, insomnia

**Respiratory** ↑ dyspnea, cough

**Cardiovascular** lightheadedness, syncope, orthopnea,

edema, angina, claudication, palpitations

Gastrointestinal difficulty chewing, dysphagia, abdominal

pain,  $\Delta$  bowel habits

**Genitourinary** incontinence, frequency, urgency,

nocturia, hesitancy, straining, hematuria,

vaginal bleeding

Musculoskeletal focal or diffuse pain / weakness

**Neurological** visual disturbances, hearing loss, vertigo,

unsteadiness/falls, transient sx's

**Psychological** depression, anxiety / agitation,

forgetfulness / confusion

### **Elder mistreatment**

- Physical neglect
- Psychological neglect
- Psychological abuse
- Financial neglect
- Financial abuse
- Violation of personal rights

### **Physical Exam (1)**

#### **General considerations:**

may need to limit time in supine position multiple sessions may be required

#### **Special emphasis:**

General observation & vital signs:

ADL deficits, poor hygiene, disheveled, systolic BP, orthostatic BP, weight

Skin: ulcers, neoplasms in sun exposed areas

**HEENT:** visual acuity, lens (cataracts) and fundoscopic exam hearing, otoscopy (wax) remove dentures temporal artery (if c/o headaches)

### **Physical Exam (2)**

#### Cardiovascular:

palpation less reliable (kyphoscoliosis)
atrial and ventricular dysrhythmias common
systolic murmurs common (aortic sclerosis)
diastolic murmurs and S3 always important
arterial insufficiency (hair loss, bruits, decreased pulses)
venous disease (stasis, skin changes, edema)

#### Lungs:

rales may not indicate pneumonia/edema baseline exam particularly important wheezes - possible obstructing lesion (Ca)

#### **Breast:**

tumors may be easier to palpate

### Physical Exam (3)

#### **Abdomen:**

if unable to lie flat -may appear distended palpable liver edge without hepatomegaly peritoneal signs may be blunt/absent in frail elderly palpation of distended bladder or aortic aneurysm may palpate sigmoid colon/fecal impaction check for reducibility of hernias

#### **Extremities:**

arthritis, deformities, contractures, injuries gait assessment ("Get up and go") assess toes and toenails

#### Rectal:

prostate, fecal impaction, sacral reflexes, hemoccult

### Physical Exam (4)

#### Pelvic:

prolapse, uterine/adnexal/vaginal neoplasm infections estrogen deficit speculum exam may be painful and difficult Pap smear

#### **Neurological:**

MoCA in <u>all</u> patients to establish baseline DTR's & vibratory sense may be normally diminished gait assessment tandem stand / walk (stand near pt.!) balance on one leg, stand on toes (stand near pt.!) signs of Parkinsonism (possibly drug induced) intention and some resting tremors are benign (?function) depression screening

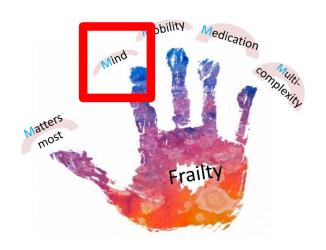
# What percentage of adults ≥ 65 exhibit cognitive impairment?

- **A.** 5
- **B.** 10
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- **D.** 20
- E. 25

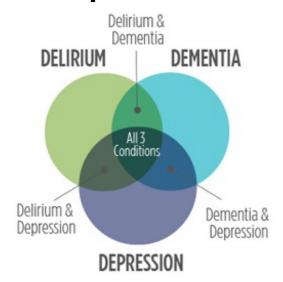
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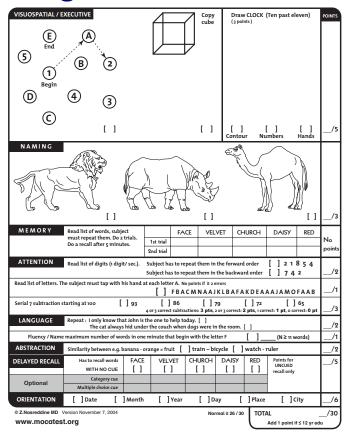
### Mind / Mentation



- Dementia
- Delirium
- Depression



#### **Montreal Cognitive Assessment (MOCA)**



# Health Risk Assessment for Cognitive Function

- "In the past 12 months, have you experienced confusion or memory loss more often or is it getting worse?"
- "In the past 7 days, did you need help from others to perform everyday activities such as:"

**Dressing / Eating / Ambulating / Toileting / Hygiene** 

 "In the past 7 days, did you need help from others to complete:"

Shopping / Housework / Accounting / Food Prep / Transportation-Telephone

Any "yes" should trigger a cognitive assessment.

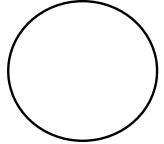
### Mini-Cog

"I am going to tell you 3 words. Repeat them back and try to remember them."

- Banana, Sunrise, Chair
- Leader, Season, Table

"Now I want you to put the numbers on the clock for me. Put the time as 10 past 11."

Clock Draw:



"What were those 3 words I asked you told you to remember?

#### Scoring:

- 1 pt for each word recalled w/o cuing (0-3)
- Normal clock = 2 pts, numbers in correct sequence, no missing / duplicate numbers, hands pointing to the 11 and 2
- Score of ≤3 requires full dementia evaluation, diagnosis and treatment OR referral to specialist

### **AD 8 Dementia Screen**

#### To be completed by informant if possible / available

"Yes" = a change noticed in last several years caused by cognitive (thinking & memory) problems

1.Problems with judgment (ie. decision making, problems with think, bad financial decisions)	Yes	No	N/A
2. Less interest in hobbies/activities	Yes	No	N/A
3. Repeats the same things over and over (questions, stories, statements)	Yes	No	N/A
4. Trouble learning how to use a tool, appliance or gadget (ie. Computer, remote , microwave)	Yes	No	N/A
5.Forgets correct month or year	Yes	No	N/A
6. Trouble handling complicated financial affairs (ie. Balancing checkbook, taxes, paying bills)	Yes	No	N/A
7. Trouble remembering appointments	Yes	No	N/A
8. Daily problems with thinking and/or memory	Yes	No	N/A
TOTAL AD8 SCORE – Concern triggered if "yes" ≥ 2			

Adapted from Galvin JE et al, The AD8, a brief informant interview to detect dementia, Neurology 2005:65:559-564 Copyright 2005

### **Delirium in Older Adults**

- 7-20% upon ED arrival
- 30-40% during hospitalization
  - 50% have delirium present on admission
  - 50% develop in hospital
- ICU ≥ 70% older adults
- ED: only 16-35% of cases accurately diagnosed
- Delirium associated with high morbidity and mortality

#### Delirium is an EMERGENCY!

### **Poor Patient Outcomes**

- Increased risk of:
  - DEATH
  - Institutionalization
  - Dementia
  - Functional decline
  - Morbidity

### Predisposing factors for delirium

- Dementia
- Hearing loss and visual impairment
- Chronic metabolic disorders
- renal failure, diabetes, hypothyroid, hyperthyroid
- Chronic malnutrition and/or dehydration (including vitamin deficiencies)
- Other chronic central nervous system diseases (neurosyphilis, CVA, tumors)
- Alcoholism or other drug addiction
- Extreme age

### **Triggers for delirium**

- Drug use (especially anti-cholinergics, and when introduced or dosage adjusted)
- Electrolyte and physiologic abnormalities (eg ♣ Na, ♣ O₂)
- Low pO<sub>2</sub> (anemia, PE, MI), Low volume (dehydration),
   Lack of drugs (withdrawal)
- Infection (especially urinary tract or respiratory infection) and Impaction (fecal)
- Retention (urinary, fecal), Restraints
- Intracranial problems (eg CVA, bleeding, meningitis, postictal)
- Urinary retention and Undernutrition/dehydration
- Myocardial problems (eg MI, arrhythmia, heart failure)
- Subdural, Sleep deprivation, Surgery, Sensory deprivation (decreased vision/hearing)

### 3 main types of delirium

- Hyperactive: hyper alert, agitated, intensely anxious, enhanced sensory sensitivity, restless, easily distracted, irritable, angry, frustrated, speech loud but incoherent, tangential (most recognized)
- Hypoactive: lethargic, apathetic, slow in movement, sleepy withdrawn and difficult to wake (least recognized but most common)
- Mixed: alternate between hyperactive and hypoactive, can change throughout the day

### **COVID-19 & Delirium**

- COVID-19, fever, and hypoxemia may trigger delirium even before fever and cough
- Exacerbating factors
  - Decreased availability of caregivers to orient and provide meaningful interactions
  - -PPEs can worsen communication, frighten
  - Isolation due viral cautions
- Identify & treat reversible causes
  - Dehydration, immobility, fever, pain, hypoxia, nausea, constipation, psychoactive meds
- Prevention is best
  - —mobilize patient, personal contact with orientation, ensure physiological needs are met\*
  - -\*But harder to do with isolation, PPEs, no family

### **Diagnosing / Treating Delirium**

- Treatment involves <u>identifying and correcting</u> <u>underlying cause</u>
- Two item tool
  - Day of the week; Months of the year backwards
- Head CT Not Needed for Most
  - only with clear head trauma and/or focal neuro deficit
- NO MEDICATIONS that are FDA approved for treatment
- ANTI-PSYCHOTICS, BENZODIAZEPINES ARE HARMFUL\* (black box warning also)
- \*Haldol 0.1mg SQ with up titration hourly

#### **Confusion Assessment Method (CAM)**

#### Diagnosis requires #1 and #2 and either #3 or #4

- 1. Acute change in mental status and fluctuating course:
  - Is there evidence of an acute change in cognition from the patient's baseline?
  - Does the abnormal behavior fluctuate during the day (tend to come and go, or increase or decrease in severity)?
- 2. Inattention: difficulty focusing, use one of these tests
  - Digit span up to 5 forward, 4 backward
  - "World" backward
  - Days of the week backward, months of the year backwards
- 3. Disorganized thinking:
  - Is the patient's thinking disorganized or incoherent (rambling or irrelevant conversation, unclear or illogical flow of ideas, unpredictable switching from subject to subject)?
- 4. Altered level of consciousness:
  - Is the patient's mental status anything other than alert (vigilant, lethargic, stuporous, comatose)?

### Patient Health Questionnaire-2 (PHQ-2)

Over the last 2 weeks, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day	
Little interest or pleasure in doing things	0	1	2	3	
2. Feeling down, depressed, or hopeless	0	1	2	3	
For office coding:	0	_+	_+	<u> </u>	
		=	= Total Score		

#### **PHQ-2 Scores and Proposed Treatment Actions**

The PHQ-2 consists of the first 2 questions of the PHQ-9. Scores range from 0 to 6. The recommended cut point is a score of 3 or greater. Recommended actions for persons scoring 3 or higher are one of the following:

- Administer the full PHQ-9
- Conduct a clinical interview to assess for Major Depressive Disorder

#### **Patient Health Questionnaire (PHQ-9)**

Over the last 2 weeks, how often have you been				
bothered by any of the following problems? (use "✓" to indicate your answer)	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so figety or restless that you have been moving around a lot more than usual	0	1	2	3
Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3
	add columns		+	F
(Healthcare professional: For interpretation of TOT, please refer to accompanying scoring card).	al, TOTAL:			

#### **GERIATRIC DEPRESSION SCALE**

Choose the best answer for how you have felt over the past week:

- 1. Are you basically satisfied with your life? YES / NO
- 2. Have you dropped many of your activities and interests? YES / NO
- 3. Do you feel that your life is empty? YES / NO
- 4. Do you often get bored? YES / NO
- 5. Are you in good spirits most of the time? YES / NO
- 6. Are you afraid that something bad is going to happen to you? YES / NO
- 7. Do you feel happy most of the time? YES / NO
- 8. Do you often feel helpless? YES / NO
- 9. Do you prefer to stay at home, rather than going out and doing new things? YES / NO
- 10. Do you feel you have more problems with memory than most? YES / NO
- 11. Do you think it is wonderful to be alive now? YES / NO
- 12. Do you feel pretty worthless the way you are now? YES / NO
- 13. Do you feel full of energy? YES / NO
- 14. Do you feel that your situation is hopeless? YES / NO
- 15. Do you think that most people are better off than you are? YES / NO

Answers in **bold** indicate depression. Although differing sensitivities and specificities have been obtained across studies, for clinical purposes a score > 5 points is suggestive of depression and should warrant a follow-up interview. Scores > 10 are almost always depression.

### **Matters Most**



- Advanced Care Planning
  - Health Care Proxy (HCP)
  - Medical Orders of Life Sustaining Treatment (MOLST) form
- Communication Tools
  - -Prepareforyourcare.org
  - -theconversationproject.org
  - Serious Illness Conversation guide
  - Vitaltalk.org REMAP

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### **Basic Ethical Principles**

- Autonomy Respect for independence of all adults; we all make irrational health decisions
- Non-maleficence/Beneficence all about the individual patient - primum non nocere, but also take active beneficial steps
- Justice Balance benefit, harm across individuals and populations
- Privacy HIPAA, MD-PT relationship, family

### **Elders Are at Ethical Risk**

#### Age alone is a risk factor for discrimination

- Should patient age influence care?
- Age as a proxy for other characteristics
- Ageism
- Prevalence of chronic conditions, dementia
- Institutionalization
- Costs of care and payment systems
- End of life care

# Empowering Healthcare Autonomy

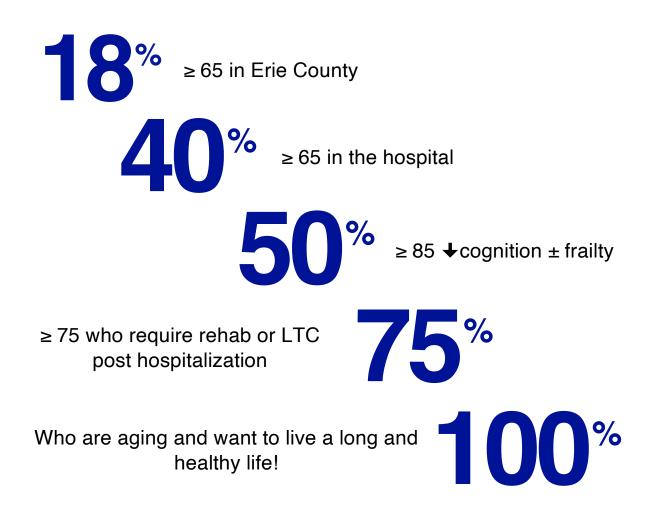
- Advance Directives the patient decides
  - Living Wills OK, but rarely exactly right
  - Advance care planning
- Proxies Others decide
  - Substituted Judgment standard
  - Best Interest standard
- In Between
  - Durable Power of Attorney for Healthcare

### **Discussing Death with Elders**

- Most often, elders have thought about it
- Often, they don't want to upset their nice young doctors or their children
- Often, they are grateful if you raise it
- Be matter-of-fact, open-ended "Have you thought about what you would want if...?"

### **Geriatric Principles**

- Assess each patient individually
- Assess cognitive and functional status
- Disease often presents atypically and/or as a change in functional status
- Rule out organic causes of behavioral changes
- Pathogenesis of symptoms is often multifactorial
- An ounce of prevention is worth a pound of cure
- Beware iatrogenesis
- Take a holistic approach
- Be the patient's advocate
- Do NOT be ageist



"The goal of preventive medicine should be not only reduction of premature morbidity and mortality, but preservation of function and quality of life."

Goldberg and Chavin