The Age-Friendly Health System: What Matters and Medications

James Y. Lin, DO, MSMEd, MHSA
Clinical Professor, Internal Medicine/Geriatric Medicine
Vice President of Senior Services and Adult Living
Director, LECOM Institute for Successful Aging
Program Director, HRSA GWEP LIGHT Grant

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Objectives

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- By the end of this lecture, the physician will:
  - Identify the 4Ms of an Age-Friendly Health System
  - Discuss and implement a Business Case for an Age-Friendly Health System
  - Explain the importance of establishing "What Matters" to older adult patients
  - Choose different methods for determining "What Matters" to older adult patients
  - Understand the necessity for reviewing medications in all settings with every older adult encounter
  - Identify medication classes that have the potential for limiting the other 3Ms of an Age-Friendly Health System

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Case Scenario

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- EF is an 82-year-old male who presents to the emergency department with his daughter who is concerned that the patient hasn't been himself lately. He had a reaction to an insect bite a week ago and started taking diphenhydramine to treat the swelling. Yesterday, he was supposed to attend a family gathering, but when he never showed up, his daughter got concerned and went to his home to check up on him. He was found "fumbling around in the kitchen" looking for something that he couldn't remember. She noticed he was unsteady on his feet, and she had a difficult time getting him to come to the hospital because he insisted he didn't want to get admitted.

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Age-Friendly Health System

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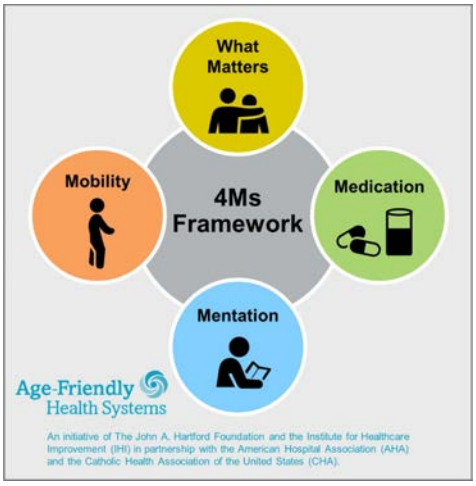
- Applying four evidence-based elements of high-quality care to all older adults in your health system
- The 4Ms
  - What **Matters**
  - **Medication**
  - **Mentation**
  - **Mobility**



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Business Case for Age-Friendly Healthsystem

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- Value-Based Purchasing
- Increase AWV
- ACP coding
- Decrease Length of Stay for Hospital
- Decrease Readmissions

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Age-Friendly Health Systems

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- 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" [1]
- Medication
  - "Use Age-Friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care." [1]

[1] Institute for Healthcare Improvement. (2019, April). *Age-Friendly Health Systems: Guide to Using the 4Ms in the Care of Older Adults.*

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What Matters

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- Patient-centered care
  - "Care that is respectful of and responsive to individual patient preferences, needs, and values" [2]
  - Ensures "that patient values guide all clinical decisions." [2]

[2] Institute of Medicine. (2001). *Crossing the quality chasm: a new health system for the 21st century.* Washington: National Acad. Press.

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New Approach:

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- Relationship-Centered Care:
  - *n* health care that honors and focuses on relation-ships including those between the practitioner and self,practitioner and patient, practitioner and practitioner, and practitioner and community.

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How to Approach: What Matters?

Need to Understand the Concept of Multimorbidity.

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INTRODUCTION TO MULTIMORBIDITY (1 of 2)

- Defined as ≥3 chronic diseases: **Affects more than 50% of older adults**
- Has distinctive cumulative effects for each individual
- Associated with increased rates of:
  - Death
  - Disability
  - Adverse treatment effects
  - Institutionalization
  - Use of health care resources
  - Decreased QOL

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INTRODUCTION TO MULTIMORBIDITY (2 of 2)

- Older adults with multimorbidity are heterogeneous in terms of:
  - Illness severity
  - Functional status
  - Prognosis
  - Personal priorities
  - Risk of adverse events

- **Multimorbidity requires a flexible approach to care**
  - Individuals are heterogenous, even with the same conditions
  - Treatment Options vary

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WHO NEEDS A GERIATRICS APPROACH TO CARE? (1 of 2)

RELEVANT TERMS

Multimorbidity	The presence of multiple chronic conditions in one individual, variously referred to as ≥2 or ≥3 conditions. The phrase "multiple chronic conditions" is often used as well, particularly because the term multimorbidity may have negative associations for older adults and their families. In some contexts, multimorbidity implies that no single condition is primary or dominant. Depending on how the definition is used, even older adults without serious illness may be considered to have multimorbidity. Older adults with multiple chronic conditions who have condition-condition, condition-treatment, or treatment-treatment interactions may benefit from the approach outlined in this chapter, even when they do not meet criteria for serious illness.

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WHO NEEDS A GERIATRICS APPROACH TO CARE ? (2 of 2)

Comorbidity	The presence of an additional condition in relation to an index condition in one individual.
Complexity	The overall impact of different conditions in an individual, taking into account their severity as well as other health-related attributes, such as serving in a caregiver role, cultural background, etc.
Frailty	A condition of reduced strength, endurance, and physiologic reserve, characterized by an enhanced vulnerability to minor stressors. Specific definitions of frailty vary.
Disability	An impairment that results in activity limitations (eg, affecting mobility, manual dexterity, continence, and other ADL functions) or restricted participation in life. It reflects the interaction between a person and his or her social and physical environment.

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LIMITATIONS OF CLINICAL PRACTICE GUIDELINES (CPGs)

- Most CPG focus on management of only **one** disease
- Older adults with multimorbidity are regularly excluded or under-represented in clinical trials and observational studies, which translates to less representation in meta-analyses, systematic reviews, and guidelines
- **CPG-based care may be cumulatively impractical, irrelevant, or even harmful for individuals with multimorbidity**

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APPROACH TO EVALUATION AND MANAGEMENT

Five domains:

- Patient preferences
- Interpreting the evidence
- Prognosis
- Clinical feasibility
- Optimizing therapies and care plans

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GUIDING PRINCIPLES (1 of 2)

Inquire about the patient's *primary concern* (and that of family and/or friends if applicable) and any additional objectives for visit

↓

Conduct a *complete review* of care plan for person with multimorbidity

or

Focus on *specific aspect* of care for person with multimorbidity

↓

What are the current medical conditions and interventions?

Is there adherence/comfort with treatment plan?

↓

Consider patient preferences

↓

Is relevant *evidence* available regarding important outcomes?

↓

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GUIDING PRINCIPLES (2 of 2)

Consider *prognosis*

↓

Consider *interactions* within and among treatments and conditions

↓

Weigh *benefits* and *harms* of components of the treatment plan

↓

Communicate and *decide* for or against implementation or continuation of intervention/treatment

↓

Reassess at selected intervals for benefit, feasibility, adherence, alignment with preferences

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GUIDING PRINCIPLES: #1 PATIENT PREFERENCES

- *Guiding principle:* Elicit and incorporate patient preferences into medical decision-making
- Care provided in accordance with CPGs may not adequately address patients' individual preferences
- Older adults with multimorbidity should have the opportunity to evaluate choices and prioritize their preferences for care, within personal and cultural contexts

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GUIDING PRINCIPLE #2: INTERPRETING THE EVIDENCE

- *Guiding principle:* Recognize the limitations of the evidence base, and interpret and apply medical literature specifically to older adults with multimorbidity
- Key element of interpreting evidence-based medicine: whether the information applies to the individual under consideration
  - Significant evidence gaps exist concerning condition and treatment interactions, particularly in older adults with multimorbidity

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GUIDING PRINCIPLE #3: PROGNOSIS (1 of 2)

- *Guiding principle:* Frame management decisions within the context of risks, burdens, benefits, and prognosis
- Prognosis = remaining life expectancy, functional status, QOL
- Discussion of prognosis can serve as an introduction to difficult conversations
  - Facilitate decision-making, advance care planning
  - Address patient preferences, treatment rationales, and therapy prioritization

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GUIDING PRINCIPLE #3: PROGNOSIS (2 of 2)

- Prognosis informs, but does not dictate, management decisions within the context of patient preferences
  - **The time horizon to benefit for a treatment may be longer than the individual's projected life span,** raising the risk of polypharmacy and drug-drug and drug-disease interactions
  - **Screening tests, too, may be non-beneficial or could be harmful if the time horizon to benefit exceeds remaining life expectancy,** especially because associated harms and burdens increase with age and comorbidity

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GUIDING PRINCIPLE #4: CLINICAL FEASIBILITY

- Guiding principle: Consider treatment complexity and feasibility
- Complex regimen → higher risk of nonadherence, adverse reactions, impaired QOL, economic burden, and caregiver strain and depression
- Education and assessments must be ongoing, multifaceted, and individualized, and delivered via a variety of methods and settings, because patients generally do not recall discussion with clinicians.

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GUIDING PRINCIPLE #5: OPTIMIZING THERAPIES AND CARE PLANS

- *Guiding principle:* Choose therapies that maximize benefit, minimize harm, enhance QOL
- Older adults with multimorbidity are at risk of:
  - Polypharmacy
  - Suboptimal medication use
  - Potential harms from various interventions
- Reducing the number of meds can lower the risk of adverse drug reactions
- Nonpharmacologic interventions (e.g. Implantable cardiac devices) may be more burdensome than beneficial, if inconsistent with patient preferences

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CONTROVERSIES AND CHALLENGES (1 of 2)

- Ever-changing health status of the patient
- Multiple clinicians and settings
- Need for multiple simultaneous decisions
- Inadequacy of evidence base
- Scarcity of prognostic tools; conflicting results
- Treatments meant to improve one outcome may worsen another

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CONTROVERSIES AND CHALLENGES (2 of 2)

- Many clinical management regimens are too complex to be feasible in this population
- Yet as clinicians attempt to reduce polypharmacy and unnecessary interventions, they may fear liability regarding underuse of therapies
- Patient-centered approaches may be too time-consuming for the already overwhelmed clinician within the current reimbursement structure and without an effective interprofessional team

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SUMMARY (1 of 2)

- More than 50% of older adults have 3 or more chronic diseases, referred to as "multimorbidity"
- Multimorbidity is associated with increased rates of death, disability, adverse effects, institutionalization, use of healthcare resources, and impaired QOL
- Older adults with multimorbidity are heterogeneous in terms of illness severity, functional status, prognosis, personal priorities, and risk of adverse events

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SUMMARY (2 of 2)

- Treatment of older adults with multimorbidity requires a flexible approach because of heterogeneity among patients and inadequacy of most clinical practice guidelines
- The 5 domains of evaluating and managing older adults with multimorbidity are to:
  - Consider patient preferences
  - Interpret relevant evidence
  - Consider prognosis
  - Consider clinical feasibility
  - Optimize therapies and care plans

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What Matters

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- Establishing what matters to the patient should occur *before* initiating care
- Ask the question, "What matters to you?" in addition to the question, "What is the matter?"

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What Matters

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- Tools
  - Physician Orders for Life-Sustaining Treatment
  - Advance Directives
    - Living Wills
    - Durable Power of Attorney for Healthcare or Healthcare Proxy
  - Oral statements

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What Matters Tools

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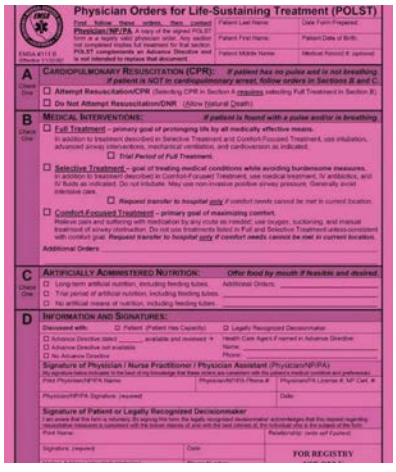
- Physician Orders for Life-Sustaining Treatment (POLST)
  - Cardiopulmonary Resuscitation Status (Attempt or do not attempt resuscitation)
  - Medical Intervention Status (full, selective, and comfort-focused treatment)
  - Artificially administered nutrition


Physician Orders for Life-Sustaining Treatment (POLST)

A CARDIOPULMONARY RESUSCITATION (CPR): If patient has no pulse and is not breathing. If patient is NOT in cardiopulmonary arrest, follow orders in Sections B and C.
☐ Attempt Resuscitation/CPR
☐ Do Not Attempt Resuscitation/DNR (Allow Natural Death)

B MEDICAL INTERVENTIONS: If patient is found with a pulse and/or is breathing
☐ Full Treatment – primary goal of prolonging life by all medically effective means.
☐ Selective Treatment – goal of treating medical conditions while avoiding burdensome measures.
☐ Comfort-Focused Treatment – primary goal of maximizing comfort.
Additional Orders

C ARTIFICIALLY ADMINISTERED NUTRITION: Offer food by mouth if feasible and desired.
☐ Long-term artificial nutrition, including feeding tubes.
☐ Trial period of artificial nutrition, including feeding tubes.
☐ No artificial means of nutrition, including feeding tubes.
Additional Orders

D INFORMATION AND SIGNATURES:
Discussed with: ☐ Patient (Patient has Capacity) ☐ Legally Recognized Decisionmaker
Signature of Physician / Nurse Practitioner / Physician Assistant (Physician/NP/PA)
Signature of Patient or Legally Recognized Decisionmaker
FOR REGISTRY

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What Matters Tools

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- Advance Directives and Living Wills
  - Designed to respect the patient's autonomy and determine his/her wishes about future life sustaining medical treatment if unable to indicate wishes
  - Written by patient and documented
  - Legal validity varies from state to state


Advance Directive

PART 1: MY HEALTH CARE AGENT

1. I want my agent to make decisions for me: (choose one statement below*)
   ____ when I am no longer able to make health care decisions for myself, or
   ____ immediately, allowing my agent to make decisions for me right now, or
   ____ when the following condition or event occurs (to be determined as follows)
   _____
   *Normally these statements are separate choices, but it is conceivable that they could be concurrent.
2. I appoint _____ as my health care Agent to make any and all health care decisions for me, except to the extent that I state otherwise in this Advance Directive. (You may cross out the italicized phrase if authority is unrestricted.)
   Address: _____
   Relationship (optional): _____
   Tel. (daytime): _____ (evening) _____
   cellphone: _____ email: _____
3. If this health care agent is unavailable, unable or unwilling to do this for me, I appoint _____ to be my Alternate Agent.
   Address: _____
   Relationship (optional): _____
   Tel. (daytime): _____ (evening) _____
   cellphone: _____ email: _____

   And if my Alternate Agent is unavailable, unable or unwilling to do this, I appoint _____ as my Next Alternate Agent.

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What Matters Tools

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- Oral statements
  - Conversations with relatives, friends, and clinicians are most common form
  - Should be thoroughly documented in the medical record
  - Properly verified oral statements carry same ethical and legal weight as written documents

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Approach to 2nd M: Medication

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Medication

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- "Use Age-Friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care." [1]

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Medication

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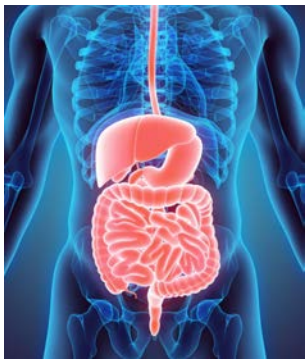

- With aging, metabolism of drugs changes
  - Small intestines
    - Moderate villus atrophy
    - Decrease in receptor content (e.g. ↓Vitamin D receptors leads to ↓ calcium absorption
  - Liver
    - Cytochrome P 450 content decreases
    - Decreased synthesis of vitamin-K-dependent clotting factors
  - Kidneys
    - Renal mass decreases by 25-30%
    - Renal plasma blood flow decreases by 40%

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Medication

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- Polypharmacy
  - Increasing number of comorbidities contributes to increasing number of medications
  - Increasing potential for drug-drug interactions
  - Increasing potential for medication non-adherence
- Deprescribing
  - Evaluate the risks vs. benefits

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Medication

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- AGS Beers Criteria ® for Potentially Inappropriate Medication Use in Older Adults
  - Medications in the Beers Criteria are potentially inappropriate, not definitely inappropriate.
  - Consider What Matters to the patient.
  - Are mobility or mentation effected?

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2019 AGS Beers Criteria Update

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- 30 Medications or medication classes to be avoided in older adults in general.
- 40 Medications or medication classes that should be used with caution.
- Two criteria were added in response to worsening opioids crisis: not prescribing opioids with benzodiazepines or gabapentinoids.

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2019 AGS Beers Criteria Update

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- Criteria dropped 8 seizure medications, 8 drugs for insomnia, and vasodilators for syncope.
- These drugs were dropped either because no longer available in US or are not unique to older patients.

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2019 AGS Beers Criteria Update

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- Removed From the Criteria:
  - H2 Receptor antagonists were removed from the criteria for dementia because the evidence that they harm people with dementia is weak.
  - Chemotherapeutic drugs carboplatin, cisplatin, vincristine, and cyclophosphamide were removed from the criteria. Panel felt "highly specialized" outside the scope of criteria.

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2019 AGS Beers Criteria Update

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- Use with Caution:
  - Dextromethorphan/quinidine should be used with caution because it has limited efficacy in alleviating behavioral symptoms of dementia unless they have Pseudobulbar affect.
  - Rivaroxaban is used with caution with venous thromboembolism or atrial fibrillation in patients older than 75 years
  - Trimethoprim and Sulfamethoxazole: increase risk of hyperkalemia in patients on ACE-I or ARB.

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AGS Beers Criteria ®

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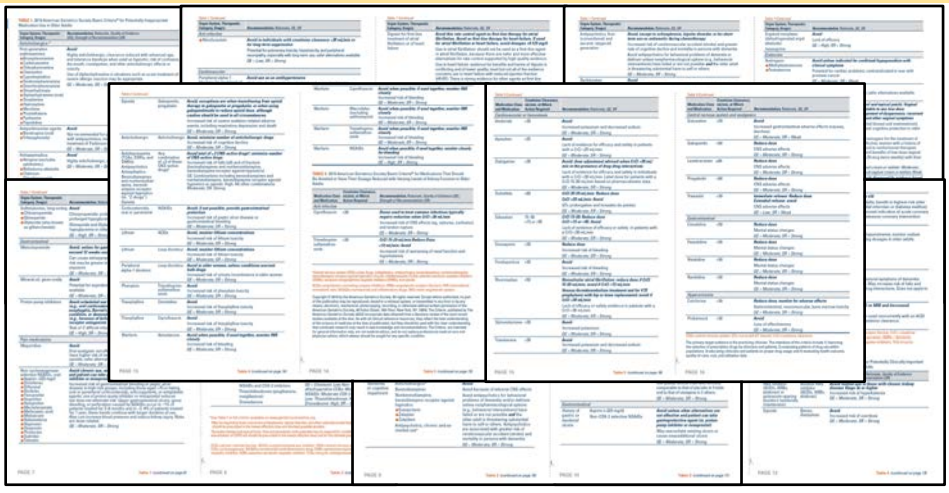

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AGS Beers Criteria® Summary

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- Avoid medications with anticholinergic properties
  - First-generation antihistamines
  - Benztropine, trihexyphenidyl
  - Atropine (excludes ophthalmic), dicyclomine, homatropine (excludes ophthalmic), hyoscyamine, methoscopolamine, propanthenline, scopolamine
- Avoid medications that have sedating effects, poor renal clearance, risk of orthostatic hypotension, risk of hypoglycemia, and/or high potential for toxicity

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Case Scenario

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- EF is an 82-year-old male who presents to the emergency department with his daughter who is concerned that the patient hasn't been himself lately. He had a reaction to an insect bite a week ago and started taking diphenhydramine to treat the swelling. Yesterday, he was supposed to attend a family gathering, but when he never showed up, his daughter got concerned and went to his home to check on him. He was found "fumbling around in the kitchen" looking for something that he couldn't remember. She noticed he was unsteady on his feet, and she had a difficult time getting him to come to the hospital because he insisted he didn't want to be admitted.
- Consider how you would approach this patient in an age-friendly manner.
  - What Matters?
  - Medications?

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Summary

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- Age-Friendly Health Systems apply the 4Ms while providing care to the older adult patient
  - What **Matters**
  - **Medication**
  - **Mentation**
  - **Mobility**
- What matters in the context of multimorbidity approach with the guiding principles that will lead to relationship-centered care
- Ask the question, "What matters to you?"
- Use the tools available to determine what matters to the older adult patient

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Summary

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- Age-friendly medication should not interfere with What Matters, Mentation, or Mobility
- Recognize polypharmacy and determine the risks vs. benefits of deprescribing
- The AGS Beers Criteria ® provides a guide to potentially inappropriate medication use

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References

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- Barry, M. J., & Edgman-Levitan, S. (2012). Shared Decision Making — The Pinnacle of Patient-Centered Care. *New England Journal of Medicine, 366*(9), 780-781.
- Institute for Healthcare Improvement. (2019, April). *Age-Friendly Health Systems: Guide to Using the 4Ms in the Care of Older Adults*.
- Institute of Medicine. (2001). *Crossing the quality chasm: a new health system for the 21st century*. Washington: National Acad. Press.
- Reuben, D. B., Herr, K., Pacala, J. T., Pollock, B. G., Potter, J. F., & Semla, T. P. (2017). *Geriatrics at your fingertips*. New York: American Geriatrics Society.
- Taffet, G. E. (2019, April 19). Normal Aging (K. E. Schmader & J. Givens, Eds.). Retrieved June 4, 2019, from https://www.uptodate.com/contents/normal-aging?source=history_widget

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