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Together for Tomorrow

Geriatric Syndrome

# Malnutrition

# Learning Objectives

## Malnutrition

At the conclusion of the module on malnutrition and the older adult, the learner should:

### KNOW

- Risk factors for older adult undernutrition
- Etiologies of undernutrition in older adults
- Treatment options for older adults with undernutrition

### DO

- Screen and assess older adults for undernutrition
- Implement a treatment plan
- Refer to community resources

## Case 1

# Mrs. Trujillo

Mrs. Trujillo is an 82-year-old Hispanic female with a past medical history significant for osteoarthritis. She lives alone and is on a fixed income. She comes in to see her primary care provider and is noted to have weight loss of 10 pounds (from 110 to 100lbs) over the past 6 months. She is 5'2" and now has a BMI of 18. She states that she has not been losing weight on purpose, though she is not surprised, as the bus stop in front of her house stopped running during the pandemic, has not resumed service and she can only get to the grocery store now when a friend from church drives her every month or so. "I try to eat up everything I have in the house to make it last. I don't like to bother my friend for a ride."

The provider replies, "Well, let's get some bloodwork and check some things out."

# Definitions

- Geriatric Syndrome
- Screenings
- Assessments
- Treatment
- Malnutrition

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# Definitions

## Geriatric Syndrome

- A multifactorial condition that is prevalent in older adults and develops when an individual experiences accumulated impairment in multiple systems that compromise their compensatory abilities.

- Common geriatric syndromes include Cognitive Impairment, Chronic/Persistent Pain, Delirium, Depression, Falls, Frailty, Incontinence, Polypharmacy, Pressure Injury(ies), Sleep Disturbance and **Malnutrition**.

# Definitions

## Screenings

- Screening tools are tests or measures to evaluate for diseases and health conditions before symptoms appear.
- Screenings allow for earlier management and referral to appropriate providers.
- An age-friendly provider conducts screenings for conditions that are prevalent in older adults.

# Definitions

## Assessments

- Assessment tools are tests and measures used to evaluate the patient's presenting problem, confirm a diagnosis, determine its severity, and aid in identifying specific treatment options.

- An age-friendly provider uses appropriate assessments, makes referrals, and communicates with the patient's care providers.

# Definitions

## Treatment

- An age-friendly care provider considers the 4Ms when making treatment recommendations so that what matters to the patient is always part of the plan of care.

- An age-friendly provider communicates with the patient, family, and interdisciplinary team.

# Definitions

## Malnutrition

- According to WHO:
- deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients.  The term covers two broad conditions- undernutrition and overnutrition (this includes overweight, obesity and diet-related noncommunicable disease (such as heart disease, stroke, diabetes and cancer)

## Undernutrition

- In most literature, undernutrition and malnutrition are used interchangeably, though malnutrition also includes overnutrition.
- Undernutrition suggests insufficient intake of energy and nutrients to meet an individual's needs to maintain good health.

# Malnutrition Epidemiology

## Prevalence[3]

- Depends on population, geography, and living situation
- Undernutrition is more common in older adults and more likely to have impact on physical function
- Food insecurity related to socioeconomic status can lead to undernutrition

# Malnutrition Epidemiology

## Impact [4]

- Estimated that malnutrition in older adults $51.3 billion per year.

- Undernutrition increases likelihood of:
  - Longer hospital stays
  - Decreased quality of life
  - Increased morbidity & mortality
  - Decreased immunocompetence
  - Depression

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# Undernutrition

## Etiology

- Inadequate dietary intake
- Inadequate absorption
- Appetite loss (Anorexia)
- Inflammatory effects of disease/ Increased metabolic demand

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# Undernutrition

## Risk Factors

- Poverty
- Low socioeconomic status
- Dysphagia
- Isolation
- Depression
- Edentulism
- Impaired Cognitive Function
- Endocrine Disorders
- Mobility Challenges
- Psychological Disorders
- Malignancy
- GI Disorders
- End Organ Chronic Disease

# ”Meals on Wheels”

## Mnemonic for Treatable Causes of Unintentional Weight Loss in Elderly

| | |
|---|---|
| **M** | Medication Effects (e.g.- digoxin, SSRIs, antibiotics) |
| **E** | Emotional Problems (e.g.- depression, anxiety) |
| **A** | Alcoholism, Older Adult Abuse |
| **L** | Late-Life Paranoia or Bereavement |
| **S** | Swallowing Problems |
| | |
| **O** | Oral Factors (e.g.- tooth loss, xerostomia) |
| **N** | Nosocomial Infections (e.g.- TB, pneumonia) |
| | |
| **W** | Wandering and Other Dementia Related Behaviors |
| **H** | Hyperthyroidisms, Hypercalcemia, Hypoadrenalism |
| **E** | Enteral Problems (e.g.- esophageal strictures) |
| **E** | Eating Problems |
| **L** | Low Salt, Low Cholesterol, and Other Therapeutic Diets |
| **S** | Social Isolation, Stones (e.g.- chronic cholecystitis) |

Screening

Assessment

Treatment

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# Screening

- Serial weight measurements is most simple screen.
- Unintentional weight loss of 4-5% over 6-12 months is clinically significant and associated with increased risk of mortality.

# Mini Nutritional Assessment (MNA) [7]

## Screening

**A Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing or swallowing difficulties?**

0 = severe decrease in food intake
1 = moderate decrease in food intake
2 = no decrease in food intake ☐

**B Weight loss during the last 3 months**

0 = weight loss greater than 3kg (6.6lbs)
1 = does not know
2 = weight loss between 1 and 3kg (2.2 and 6.6 lbs)
3 = no weight loss ☐

**C Mobility**

0 = bed or chair bound
1 = able to get out of bed / chair but does not go out
2 = goes out ☐

**D Has suffered psychological stress or acute disease in the past 3 months?**

0 = yes 2 = no ☐

**E Neuropsychological problems**

0 = severe dementia or depression
1 = mild dementia
2 = no psychological problems ☐

**F Body Mass Index (BMI) = weight in kg / (height in m)$^2$** ☐

0 = BMI less than 19
1 = BMI 19 to less than 21
2 = BMI 21 to less than 23
3 = BMI 23 or greater ☐

**Screening score (subtotal max. 14 points)** ☐☐

12-14 points: ☐ Normal nutritional status
8-11 points: ☐ At risk of malnutrition
0-7 points: ☐ Malnourished

For a more in-depth assessment, continue with questions G-R

# Mini Nutritional Assessment (MNA)





## Assessment

**G Lives independently (not in nursing home or hospital)**
1 = yes 0 = no ☐

**H Takes more than 3 prescription drugs per day**
0 = yes 1 = no ☐

**I Pressure sores or skin ulcers**
0 = yes 1 = no ☐

**J How many full meals does the patient eat daily?**
0 = 1 meal
1 = 2 meals
2 = 3 meals ☐

**K Selected consumption markers for protein intake**
- At least one serving of dairy products (milk, cheese, yoghurt) per day — yes ☐ no ☐
- Two or more servings of legumes or eggs per week — yes ☐ no ☐
- Meat, fish or poultry every day — yes ☐ no ☐

0.0 = if 0 or 1 yes
0.5 = if 2 yes
1.0 = if 3 yes ☐.☐

**L Consumes two or more servings of fruit or vegetables per day?**
0 = no 1 = yes ☐

**M How much fluid (water, juice, coffee, tea, milk...) is consumed per day?**
0.0 = less than 3 cups
0.5 = 3 to 5 cups
1.0 = more than 5 cups ☐.☐

**N Mode of feeding**
0 = unable to eat without assistance
1 = self-fed with some difficulty
2 = self-fed without any problem ☐

**O Self view of nutritional status**
0 = views self as being malnourished
1 = is uncertain of nutritional state
2 = views self as having no nutritional problem ☐

**P In comparison with other people of the same age, how does the patient consider his / her health status?**
0.0 = not as good
0.5 = does not know
1.0 = as good
2.0 = better ☐.☐

**Q Mid-arm circumference (MAC) in cm**
0.0 = MAC less than 21
0.5 = MAC 21 to 22
1.0 = MAC greater than 22 ☐.☐

**R Calf circumference (CC) in cm**
0 = CC less than 31
1 = CC 31 or greater ☐

**Malnutrition Indicator Score**

| | | |
|---|---|---|
| 24 to 30 points | ☐ | Normal nutritional status |
| 17 to 23.5 points | ☐ | At risk of malnutrition |
| Less than 17 points | ☐ | Malnourished |

# Requires A Team Approach

- Food Journal
- Dentist
- Speech Therapy Consultation
- Registered Dietitian Consultation
- Social Services- local senior centers, meals on wheels etc.

# Malnutrition Treatment

- Treat underlying cause
  - (i.e., depression, malignancy, chewing/swallowing issues)
- If Inadequate Food Intake:
  - screen for mobility problems (getting food to mouth)
  - lift dietary restrictions if possible
  - community resources
  - provide shopping assistance
  - supplement diet or consider liquid supplement
  - give multivitamin
  - consider appetite stimulant (megestrol acetate, dronabinol, mirtazapine)

# Appetite Stimulant Medications

## None labeled by FDA for treatment of weight loss in elderly

| Medication Name | | Potential Adverse Effect |
|---|---|---|
| Megestrol Acetate (Megace) | Mechanism of action is unknown | Thromboembolism, insomnia, N/V, edema, constipation |
| Dronabinol (Marinol) | Cannabinoid indicated for treatment of anorexia associated weight loss in AIDS patients. | Dizziness, confusion, euphoria, hallucinations |
| Mirtazapine (Remeron) | Antidepressant that has side effects of increased appetite and drowsiness (dose at bedtime!) | Dizziness, somnolence, xerostomia, confusion |

# Remember Mrs. Trujillo?


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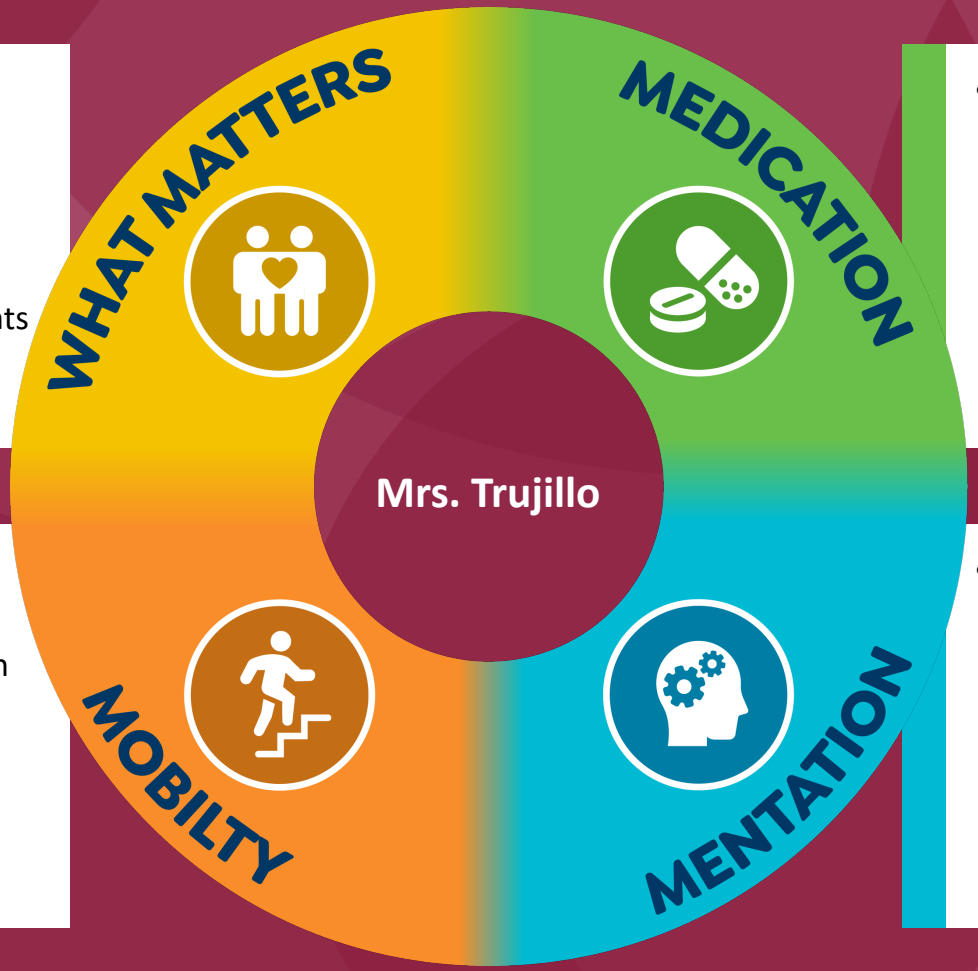
# Unfriendly Care (4Ms)

- Provider says "Well, you have always been small, right?"
- Regarding not going to the grocery often, "That is one way to save money on groceries!”
- Provider does not acknowledge patients challenges or offer community resources.




- No consideration of medications as possible etiology of weight loss or other physiologic possible etiologies.

- No assessment of ability to prepare food or feed herself
- No discussion regarding problems with obtaining transportation to store.

- No screening for cognitive impairment and adequacy of social support systems.

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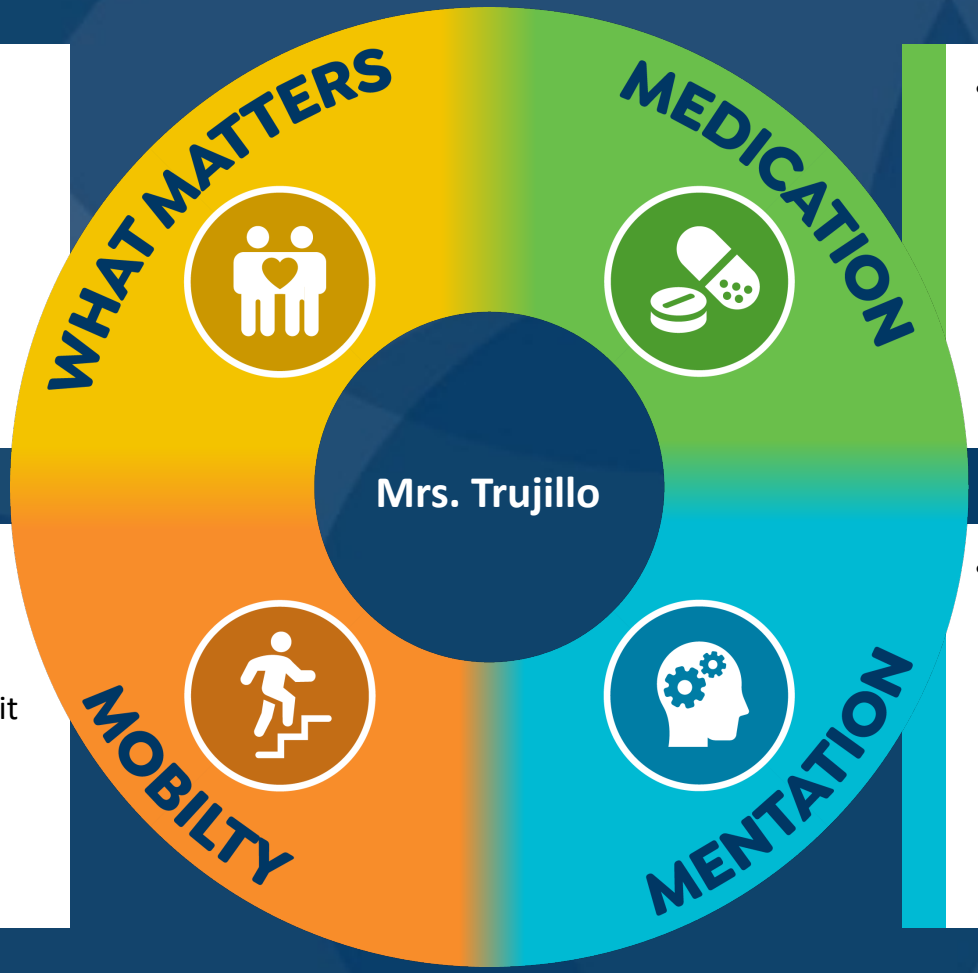
# Age-Friendly Care (4Ms)

- Full interview regarding weight loss

- Community resources  for support of food insecure individuals shared with patient (i.e.- Meals on Wheels etc.)
- Reviewed options for free public transit with patient




- Referral to pharmacist for medication review

- Screening for cognitive impairment performed

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# Malnutrition

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## Clinical Pearls

### Evaluating Malnutrition

- Malnutrition
- Undernutrition
- Weight loss should trigger a more in-depth assessment of a patient's food intake and ability to obtain, prepare, chew/swallow/absorb food and nutrients  or potential physiologic etiology

### Managing Malnutrition

- Lift dietary restrictions if possible and supplement as needed
- Provide referral for social support services, speech therapy, registered dietician as appropriate

# About Engage

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ENGAGING FOR BETTER HEALTH

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