Best practices for malnutrition screening to decrease malnutrition risk in community-dwelling older adults

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Disclosures

Lauren Roberson is under contract with the Nutrition and Dietetics Educators and Preceptors (NDEP) dietetic practice group (DPG) to develop a food-drug interaction pocket guide to be released Spring 2025. Hannah Boeh-Sobtaguim does not have any disclosures to report.

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Agenda

01 **Setting the Stage**
Rates of malnutrition & malnutrition risk

02 **Malnutrition Screening Tools**
AND gold standard (MST) and others (DETERMINE checklist, MNA-SF)

03 **Comparison of Screening Tools**
Study protocol, early findings

04 **Best Practices**
Focus groups with case managers, discussion - what insights do *you* have?

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Session Objectives

Identify Risk.
After participation in the session, attendees will be able to *articulate* why older adults are at increased risk for malnutrition.

Determine Best Screening Tool.
After participation in the session, attendees will be able to *synthesize* information in order to determine the best screening tool for assessing malnutrition risk among community-dwelling older adults.

Share Best Practices.
After participation in the session, attendees will be able to *discuss* best practices for screening community-dwelling older adults for malnutrition risk.

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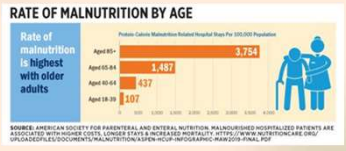
01

Setting the Stage

Rates of malnutrition & malnutrition risk



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Malnutrition:

- Undernutrition - micronutrient deficiency & weight loss[1]
- Overnutrition - **excess** intake of macro- or micronutrients contributing to development of chronic disease[1]

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Malnutrition risk among older adults

- 1 in every 2 older adults are *at-risk* for malnutrition[2]

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??? %

Older adults in **IN** are ***at-risk*** for malnutrition

~50%

Older adults in the **U.S.** are malnourished[3]

13-54%

Older adults **globally** are malnourished[4]

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Root Causes

Psychosocial Factors

Living alone, isolation, depression[5]

Poor Appetite

Could be secondary to psychosocial factors, poor dentition, dysphagia, cognitive decline[5]

Cost

Fresh fruits & vegetables are expensive[1]

Accessibility

Securing healthy food is difficult for many reasons[1]

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Accessibility, or food insecurity (hunger), is directly linked to malnutrition risk.[6]

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Defining some terms

Food Insecurity

"A household-level economic and social condition of limited or uncertain access to adequate food." - USDA[7]

Hunger

"Individual-level physiological condition that may result from food insecurity." - USDA[7]

Food Desert

"Neighborhoods and communities that have limited access to affordable and nutritious foods." - National Research Council[8]

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Older adults living in food deserts in central Indiana[9]

Older old adults are more likely to live in food deserts.

Older adults living in food deserts in Central Indiana.

Young old (55-64)	9.8%
Middle old (65-84)	9.4%
Older old (85+)	11.7%

Source: Miguel Andres, U. 2023. Indiana 2023 Food Deserts by Block Group (Dataset); Graphic by the Polis Center

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Older adults in central Indiana living in food deserts[9]

Increase of the older adult population living in food deserts in all Central Indiana counties but Marion from 2022 to 2023

County	Number of older adults in FD in 2023	Percent of older adults in FD in 2023	Number of older adults in FD in 2022	Percent of older adults in FD in 2022	Percent change	Percent point change
Boone	53	0.3%	37	0.2%	43.2%	0.1%
Hamilton	2,034	2.4%	1,235	1.6%	64.7%	0.9%
Hancock	1,083	4.6%	221	1.0%	390.0%	3.7%
Hendricks	1,094	2.4%	743	1.7%	47.2%	0.7%
Johnson	3,451	8.0%	2,918	7.0%	18.3%	1.0%
Marion	36,174	15.3%	39,528	16.9%	-8.5%	-1.6%
Morgan	1,695	7.4%	1,383	6.2%	22.6%	1.2%
Shelby	1,944	13.6%	1,874	13.3%	3.7%	0.4%
Central Indiana	47,528	9.8%	47,939	10.1%	-0.9%	-0.3%

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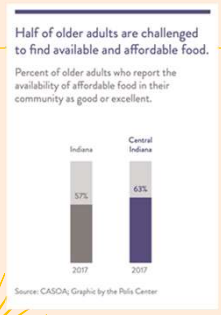
Food affordability in central Indiana[9]



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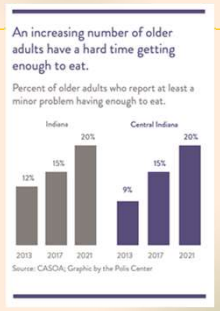
Getting enough to eat in central Indiana[9]



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Hunger & accessibility in Indiana[10]

- 12.7% of older adults are marginally food-insecure (experience hunger) (12.8% nationally) (Central Indiana Senior Fund)
  - 8% at-risk of food insecurity (experiencing hunger)
- 3.6% of older adults have very low food security (5.1% nationally, Central Indiana Senior Fund)
- Central Indiana
  - 7.7% age 60 and older experience food insecurity (Central Indiana Senior Fund)
  - Barriers to food access:
    - Transportation
    - Money
  - <10% live in a food desert
    - *Highest rates in Marion and Shelby counties*

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Consequences

01 Sarcopenia / Cachexia
"progressive loss of muscle mass"[11]

02 Chronic Disease
Increased risk[11]

03 Impaired Healing
Depressed immune system, recovery from illness or surgery takes longer[12]

04 Quality of Life
Loss of independence due to decreased mobility & fall risk[12]

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"High-quality nutrition & malnutrition care for older adults should be at the top of the U.S. national agenda as we develop population health strategies to improve health & to deliver consistent quality healthcare at an affordable cost."

- The Malnutrition Quality Collaborative[13]

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02

Malnutrition Screening Tools

AND gold standard (MST) and others (DETERMINE checklist, MNA-SF)

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AND's Gold Standard: The MST[14]

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DETERMINE Checklist[15]

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DETERMINE Checklist, cont'd[15]

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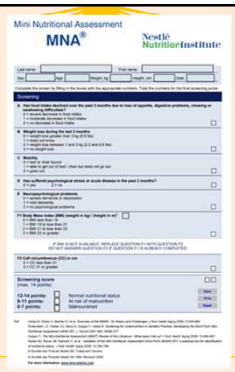
MNA-SF[16-18]



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According to AND, MST is the Gold Standard.[19]

However, it is still unclear whether the MNA-SF might be ***more appropriate*** in community-dwelling older adults.[20]

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Literature Consensus

Clinical Setting
- MST[21-24]

Community Setting
- MNA-SF[18]

Comparisons between malnutrition screening tools have been done in the clinical setting.[25] However, there is a gap in the literature when it comes to comparing malnutrition screening tools in the community. This study serves to fill that gap.

Hospitalized or institutionalized patients are different from community-dwelling older adults. As such, the proper malnutrition screening tool should be used with each population, respectively, even if that means two different tools are identified as gold standards.

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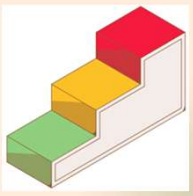
03
Comparison of Screening Tools

Study protocol, early findings



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Aim

#1

Compare 3 existing malnutrition screening tools (MST, MNA-SF, DETERMINE Checklist) in order to develop standardized malnutrition screening protocol for RD's and other healthcare providers working with community-dwelling older adults.

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Hypotheses

H1

Age is ***positively*** associated with malnutrition risk.

H2

The MST is ***comparable*** to the MNA-SF for detecting malnutrition risk in community-dwelling older adults.

H3

The DETERMINE Checklist is ***comparable*** to the MST for detecting malnutrition risk in community-dwelling older adults.

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Study Population (*n*=100)

Inclusion Criteria:
- Men and women ≥ 60 years of age
- Community-dwelling

Exclusion Criteria:
- Age < 60
- Residence in a nursing home, hospital, or other institutional setting

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Study Design

- **Procedure:** Screen *each* participant with the 3 selected malnutrition screening tools.
  - Record data in a centralized location
- **Goal:** Compare 3 malnutrition screening tools to determine areas of agreement

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Statistical Analysis

- Malnutrition risk scores on each screening tool will be presented as mean +/- standard deviation.
- A table will be utilized to compare risk across all three measures for individual participants.
- Independent samples t-tests, intraclass correlation coefficients, and Bland-Altman plots will be utilized to compare differences in individual scores across the three malnutrition measures, and agreement for malnutrition risk categories will be evaluated using Cochran-Mantel-Haenszel chi-square tests for stratified data and kappa statistics.
- Binary logistic regression will be used to assess the association of malnutrition risk with demographic variables known to be associated with nutritional risk such as age, sex, and BMI.
- Compare findings from one screening tool to another to determine the most feasible one to incorporate in the community setting.
  - This will be achieved by comparing the level of agreement (Kappa) in the categorization of nutritional status (not at-risk for malnutrition, at-risk for malnutrition, and malnourished) between all three screening tools.[26]

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04

Best Practices

Focus groups with case managers, discussion - what insights do *you* have?

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Background on malnutrition screening of SNP participants

A Case Study in Kentucky:

1. Upon enrollment into the SNP, case managers complete a series of assessment paperwork, including the MST and DETERMINE Checklist.
2. Data are entered into a centralized database.
3. Individuals that score at-risk for malnutrition are referred to a registered dietitian or other qualified healthcare professional.
4. At 6 months, SNP participants are re-screened for malnutrition using the same tools.

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Challenges associated with screening for malnutrition in the community setting

Individuals completing the screening have little to no formal nutrition background. Therefore...

They are unsure what probing questions to ask to better elicit malnutrition risk.

Lack of objective measures of malnutrition risk (lab values, NFPE, scale).

Questions rely on self-report.

Uncertainty about what to do once someone is flagged for being at-risk.

Inconsistency in entering malnutrition risk data.

Gaps in follow-up. Are individuals deemed at-risk re-assessed per protocol in 6 months?

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Aim

#2

Understand current malnutrition screening practices for Senior Nutrition Program (SNP) participants in an effort to understand what's working and areas for improvement.

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Study Population

Inclusion Criteria:

- Case managers working with SNP participants

Exclusion Criteria:

- Not a case manager working with SNP participants

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Study Design

- **Protocol:** A minimum of 3 focus groups will be scheduled with case managers to determine current malnutrition screening practices, knowledge, and referral gaps for those deemed at-risk, and process areas for improvement.
  - It is anticipated that there will be 8-12 case managers participating in *each* focus group (*n*=36).
- Focus groups will be conducted until saturation in the data is reached.[27]

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Analysis

- All focus group sessions will be audio-recorded and transcribed verbatim.
- Thematic analysis will be utilized to identify overarching themes.[28]

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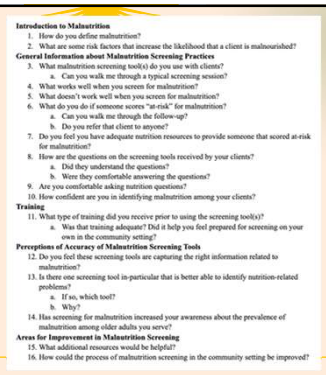
Focus Group Protocol



Introduction to Malnutrition

1. How do you define malnutrition?
2. What are some risk factors that increase the likelihood that a client is malnourished?

General Information about Malnutrition Screening Practices

3. What malnutrition screening tool(s) do you use with clients?
   a. Can you walk me through a typical screening session?
4. What works well when you screen for malnutrition?
5. What doesn't work well when you screen for malnutrition?
6. What do you do if someone scores "at-risk" for malnutrition?
   a. Can you walk me through the follow-up?
   b. Do you refer that client to anyone?
7. Do you feel you have adequate nutrition resources to provide someone that scored at-risk for malnutrition?
8. How are the questions on the screening tools received by your clients?
   a. Did they understand the questions?
   b. Were they comfortable answering the questions?
9. Are you comfortable asking nutrition questions?
10. How confident are you in identifying malnutrition among your clients?

Training

11. What type of training did you receive prior to using the screening tool(s)?
    a. Was that training adequate? Did it help you feel prepared for screening on your own in the community setting?

Perceptions of Accuracy of Malnutrition Screening Tools

12. Do you feel these screening tools are capturing the right information related to malnutrition?
13. Is there one screening tool in-particular that is better able to identify nutrition-related problems?
    a. If so, which tool?
    b. Why?
14. Has screening for malnutrition increased your awareness about the prevalence of malnutrition among older adults you serve?

Areas for Improvement in Malnutrition Screening

15. What additional resources would be helpful?
16. How could the process of malnutrition screening in the community setting be improved?

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In the works…

Funding
Foundation & federal sources

Implement screening tools
In KY and beyond, April-December, 2024

Focus groups
April & May, 2024

Training
Based on findings, develop onboarding and training for case managers that conduct the malnutrition screening

Best practices
Based on the findings, develop a set of best practices that can be incorporated into standard operating procedures in KY and beyond

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"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."
- Margaret Mead

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Discussion

Do you work with older adults in the community setting? If so, what malnutrition screening tools do you use?

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Discussion

What is your experience with the MST? MNA-SF? DETERMINE Checklist?

43

Discussion

How do you feel about non-nutrition professionals conducting malnutrition screening?

44

Discussion

What can be done to showcase the RD as the expert for screening for malnutrition risk in the community setting?

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Discussion

What are we missing? What other work is needed in this area?

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To wrap up…

Malnutrition can *impact* older adults' health in a serious way. But, *you* have the power to do something about it. **Take ownership of combating malnutrition in your community!**

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Don't forget

Tip 1
Know **warning signs** of malnutrition.

Tip 2
Select the most appropriate tool to **screen** for malnutrition.

Tip 3
Determine **best practices** for **malnutrition screening** in *your* community.

Tip 4
Tell other people about the **SNP** & all its **benefits**!

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Thanks

Do you have any questions?

Email me:

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