Prioritizing and Targeting Nutrition Services to Address Nutritional Risk

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Nutrition
An Integral Part of Health Care

Need adequate nutrition to support:

- Health
- Functionality
- Ability to remain home in the community.

Inter-related Factors Affecting the Nutritional Well-Being of Older Adults

Older Americans Act
PART C Section 330

The purposes of this part are—

(1) to reduce hunger and food insecurity;

(2) to promote socialization of older individuals; and

(3) to promote the health and well-being of older individuals by assisting such individuals to gain access to nutrition and other disease prevention and health promotion services to delay the onset of adverse health conditions resulting from poor nutritional health or sedentary behavior.

Definitions Used:

- Hunger
  - a feeling of discomfort or weakness caused by lack of food, coupled with the desire to eat.
- Food Insecure
  - lacking reliable access to a sufficient quantity of affordable, nutritious food.
- Malnutrition
  - lack of proper nutrition, caused by not having enough to eat, not eating enough of the right things, or being unable to use the food that one does eat.
- Nutrition Risk
  - Quantifying an individuals risk of being at poor nutritional status or developing malnutrition
- Nutrition Screening
  - The process of identifying characteristics known to be associated with nutrition programs with purpose of identifying individuals who are malnourished or at nutrition risk.
- Nutritional Assessment
  - A comprehensive evaluations to define nutrition states, including medical history, dietary history, anthropometric measurements and laboratory data

Food Insecure Older Adults

More likely to have adverse health consequences than food secure older adults

- 50 % more likely to be diabetic
- 14 % more likely to have high blood pressure
- 60% more likely to have congestive heart failure or have had a heart attack
- 2 times more likely to report fair/poor general health
- 3 times more likely to suffer depression
- 2 times more likely to report gum disease or asthma

The Health Consequences of Senior Hunger in the US: Evidence from the 1999-2010 NHANES. NFESH

Nutrition Services
OAA Title III, Part C

- Services required to be provided:
  - Meals,
  - nutrition education and
  - nutrition counseling
  - Other nutrition services based on needs of participants
- Services that may be provided:
  - Nutrition screening and assessment , if appropriate
- Services that cannot be funded:
  - Vitamin/mineral supplements

Federal Requirement:
State Program Report Data Definitions

High Nutritional Risk (person) – An individual who scores six (6) or higher on the DETERMINE Your Nutritional Risk checklist published by the Nutrition Screening Initiative.

Determine Your Nutritional Health

The warning signs of poor nutritional health are often overlooked. Use this checklist to find out if you or someone you know is at nutritional risk.

Read the statements below. Circle the number in the yes column for those that apply to you or someone you know. For each yes answer, score the number in the box. Total your nutritional score.

	YES
I have an illness or condition that made me change the kind and /or amount of food I eat.	2
I eat fewer than two meals per day.	3
I eat few fruits or vegetables, or milk products.	2
I have three or more drinks of beer, liquor or wine almost every day.	2
I have tooth or mouth problems that make it hard for me to eat.	2
I don't always have enough money to buy the food I need.	4
I eat alone most of the time.	1
I take three or more different prescribed or over-the-counter drugs a day.	1
Without wanting to, I have lost or gained 10 pounds in the last six months.	2
I am not always physically able to shop, cook and/or feed myself.	2
TOTAL	

Total your nutritional score. If it's --

0-2 **Good!** Recheck your nutritional score in 6 months.

3-5 **You are at moderate nutritional risk.** See what can be done to improve your eating habits and lifestyle. Your office on aging, senior nutrition program, senior citizens center or health department can help. Recheck your nutritional score in 3 months.

6 or more **You are at high nutritional risk.** Bring this checklist the next time you see your doctor, dietitian or other qualified health or social service professional. Talk with them about any problems you may have. Ask for help to improve your nutritional health.

Remember that warning signs suggest risk, but do not represent diagnosis of any condition. Turn the page to learn more about the Warning Signs of poor nutritional health.

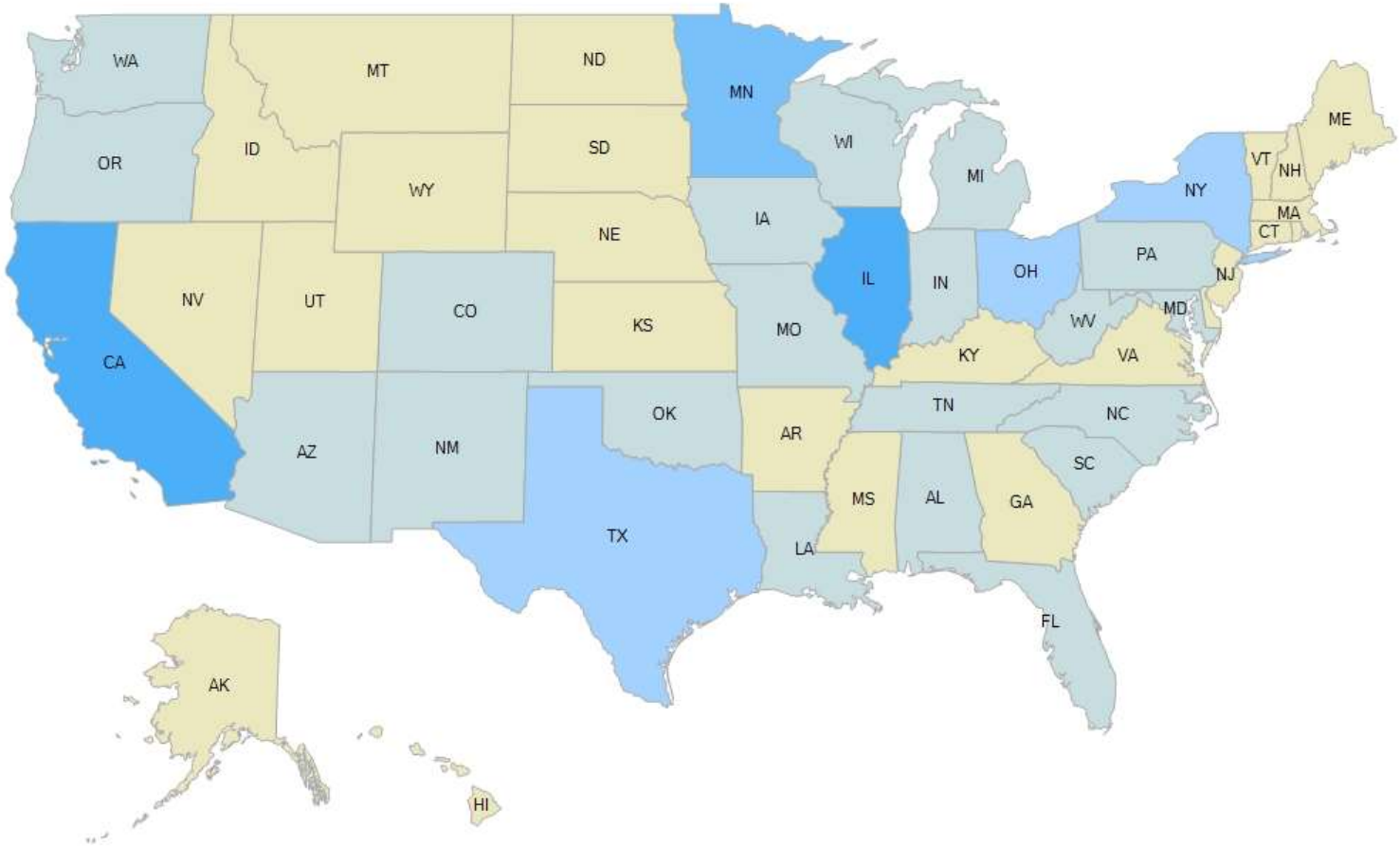
DETERMINE Your Nutritional Risk checklist

	YES
I have an illness or condition that made me change the kind and /or amount of food I eat.	2
I eat fewer than two meals per day.	3
I eat few fruits or vegetables, or milk products.	2
I have three or more drinks of beer, liquor or wine almost every day.	2
I have tooth or mouth problems that make it hard for me to eat.	2
I don't always have enough money to buy the food I need.	4
I eat alone most of the time.	1
I take three or more different prescribed or over-the-counter drugs a day.	1
Without wanting to, I have lost or gained 10 pounds in the last six months.	2
I am not always physically able to shop, cook and/or feed myself.	2
TOTAL	

High Nutritional Risk (person) – An individual who scores six (6) or higher

SPR 2012, Clients

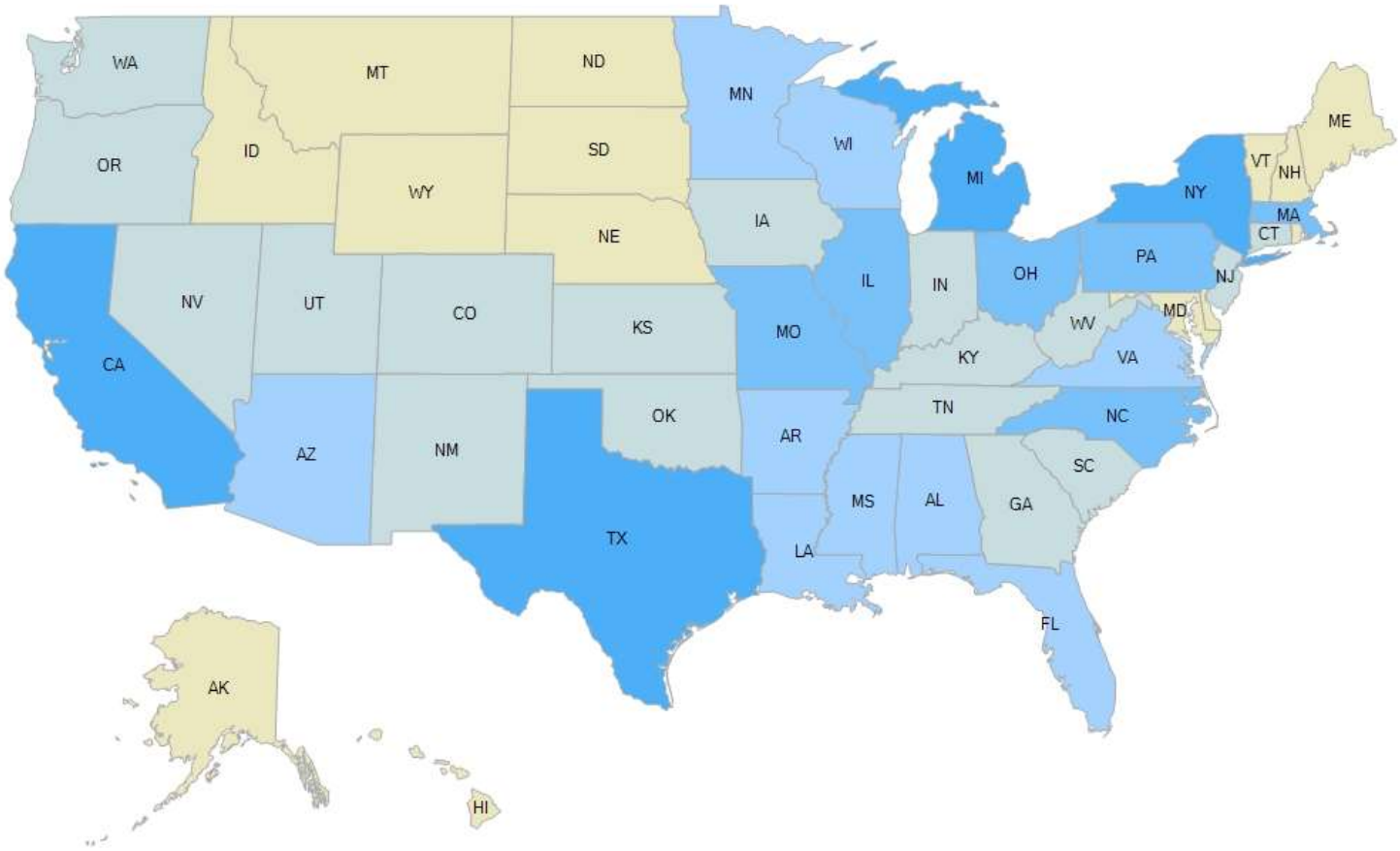
Number of Persons Served at High Nutrition Risk: Congregate Meals



State Program Reports 2012

SPR 2012, Clients

Number of Persons Served at High Nutrition Risk: Home Delivered Meals



DETERMINE Your Nutritional Risk checklist

- AoA uses the DETERMINE Your Nutritional Risk checklist to characterize the population served
- AoA does not use the DETERMINE Your Nutritional Risk checklist to determine malnutrition
- AoA does not use the DETERMINE Your Nutritional Risk checklist as a Performance Measurement Tool

DETERMINE Your Nutritional Risk checklist Attributes

- It is easily scored
- It is brief
- It provides a snapshot of a person’s nutritional risk
- Inexpensive
- Reliable
- Validated

DETERMINE Your Nutritional Risk checklist Limitations

- Some questions yield discordant responses
- Some questions are not clearly stated
- It was not intended to be used as a reassessment tool
- It was not intended to be a prioritization tool

Targeting Criteria in the OAA

- Greatest economic need
- Greatest social need
- Low-income
- Low-income minorities
- Rural individuals
- Limited English proficiency
- Those at risk of institutionalization

Can Your Agency Serve Everyone in Need?

- YES
  - Fantastic
- NO
  - Wait list
  - Reprioritizing, if so what tool do you use?

Prioritization often Includes

- Age
- Lives alone
- Income
- ADLs and IADLs
- Nutrition Screening
- Chronic health problems
- Assistance in the home (Reliable)
- Other services

Prioritization

- What entity developed your prioritization policy?
  - State
    - Example: California
  - AAA
    - Example: Oklahoma
  - Local Level
    - Example: Tarrant County, TX

WE ARE
Meals On Wheels
ASSOCIATION OF AMERICA
So no senior goes hungry.

Prioritizing and Targeting Nutrition Services to Address Nutritional Risk

Ucheoma Akobundu, PhD, RD
Director of Project Management and Impact
Meals on Wheels Association of America

AAA Example: Oklahoma

Current assessment tool is:

- *Part I is 5 pages*
  - All services; includes Determine Your Nutritional Health
- *Part II is 2 pages*
  - In-home services; ADLs & IADLs to determine if home bound)
- *Change of Status is 2 pages*
  - All services; bi-annually for home bound and annually for others

Tool is used for

- Intake
- Reassessment
- Update

AAA Example: Oklahoma

New method (SFY 2015)

- Unbundle services (AAA RFPs)
- Increase competition (develop new potential providers)
- Use one standardized intake form (all OR service providers)
  - All program participants will be updated *annually*
  - Responsibility will lie with participant to inform the program of changes
  - Nutrition programs will utilize a *Red Flag policy
  - OR service providers will enter units into AIM database and will make referrals through AIM to OAA services

    ~ Report and track referrals to other services for follow up

Texas Department of Aging and Disability Services

- Require nutrition programs funded by the Older Americans Act and Area Agencies on Aging (AAA) providing nutrition counseling to identify persons at high nutritional risk.

- Individuals at high nutritional risk are defined by AoA as individuals who score “six (6) or higher on the DETERMINE Your Nutritional Health checklist published by the Nutrition Screen Initiative.”

- The DETERMINE Your Nutritional Health checklist must be completed annually for all consumers receiving congregate meals, home delivered meals or nutrition counseling.

Local Example: Meals on Wheels of Tarrant County, TX

- Nutrition risk screening is facilitated by registered dietitians and a Mini Nutrition Assessment Short Form is used to screen each enrolled participant.

Prioritization Practices Used by Selected States

- Discussion webinars are hosted quarterly by the National Resource Center on Nutrition and Aging to encourage the sharing of both successes and challenges regarding nutrition program administration faced at the state levels.

- The first discussion webinar, “Prioritization and Targeting Nutrition Services” was offered on April 22, 2014.

- Current practice among State Unit staff was assessed specific to assessing eligibility for home-delivered meals.

Prioritization Practices Used by Selected States

Table 2: All sources that can screen and assess clients for home-delivered meals in your state.

Answer Options	Screening	Assess
Local home-delivered meal program	76%	76%
Area Agency on Aging (AAA)	76%	52%
Aging and Disability Resource Center (ADRC)	62%	48%
Medicaid Home and Community-Based Services (HCBS) Waiver Agency	52%	29%
Acute Care Facilities (Hospitals and Medical Centers)	29%	-
Long-term Care Facilities (Nursing and Rehab Centers)	29%	-
Home Health Agencies	29%	-
Physicians and other health care providers	24%	-
Health Departments	19%	-
Food Assistance Agencies (Food Banks/Pantries, SNAP)	14%	-
Other (please specify)	0%	33%

Table 5: Criteria gathered by the state during the screening or assessment process for home-delivered meals	
Answer Options	**Response Percent**
Low income	100%
Lives alone	95%
ADL cut-off	91%
Homebound	91%
IADL cut-off	91%
Nutrition Risk Assessment	91%
Racial/ethnic minority	86%
Social isolation	86%
Advanced age	81%
Marital status	76%
Dementia/Cognitive Impairment	71%
Geographic isolation	67%
Lack of informal/family support	67%
Food insecure/hungry	62%
Frailty	62%
Chronic health condition	57%
Long-term need for service	57%
Limited English Proficiency	48%
Poor housing/lack kitchen access	43%
Adult day care participation	38%
Other (please specify)	33%

Prioritization Practices Used by Selected States

- The principal methods used for screening for home-delivered meal (HDM) eligibility is an in-person contact, followed by telephone call. Similar results seen for HDM assessment.

- The majority of respondents noted that client reassessment occurs annually (62%) – fewer states reassess for HDM semi-annually (33%) or quarterly (5%).

Rationale for Targeting and Prioritization

- **Targeting**: Guided by the requirements of the Older Americans Act, providers are to target older consumers with the greatest economic and social need, and those at risk of institutional placement.

- **Prioritizing**: Making services available to high risk groups – facilitated by **screening**. Preference may be given to targeted groups with particular attention to:
  - Low-income older individuals, including low-income minority older adults
  - Older individuals with limited English proficiency
  - Older individuals residing in rural areas

- Ensure adequate resources for program implementation and the ability to continually address the needs of vulnerable older adults (through periodic **assessment**).

Nutrition Screening /Nutrition Assessment

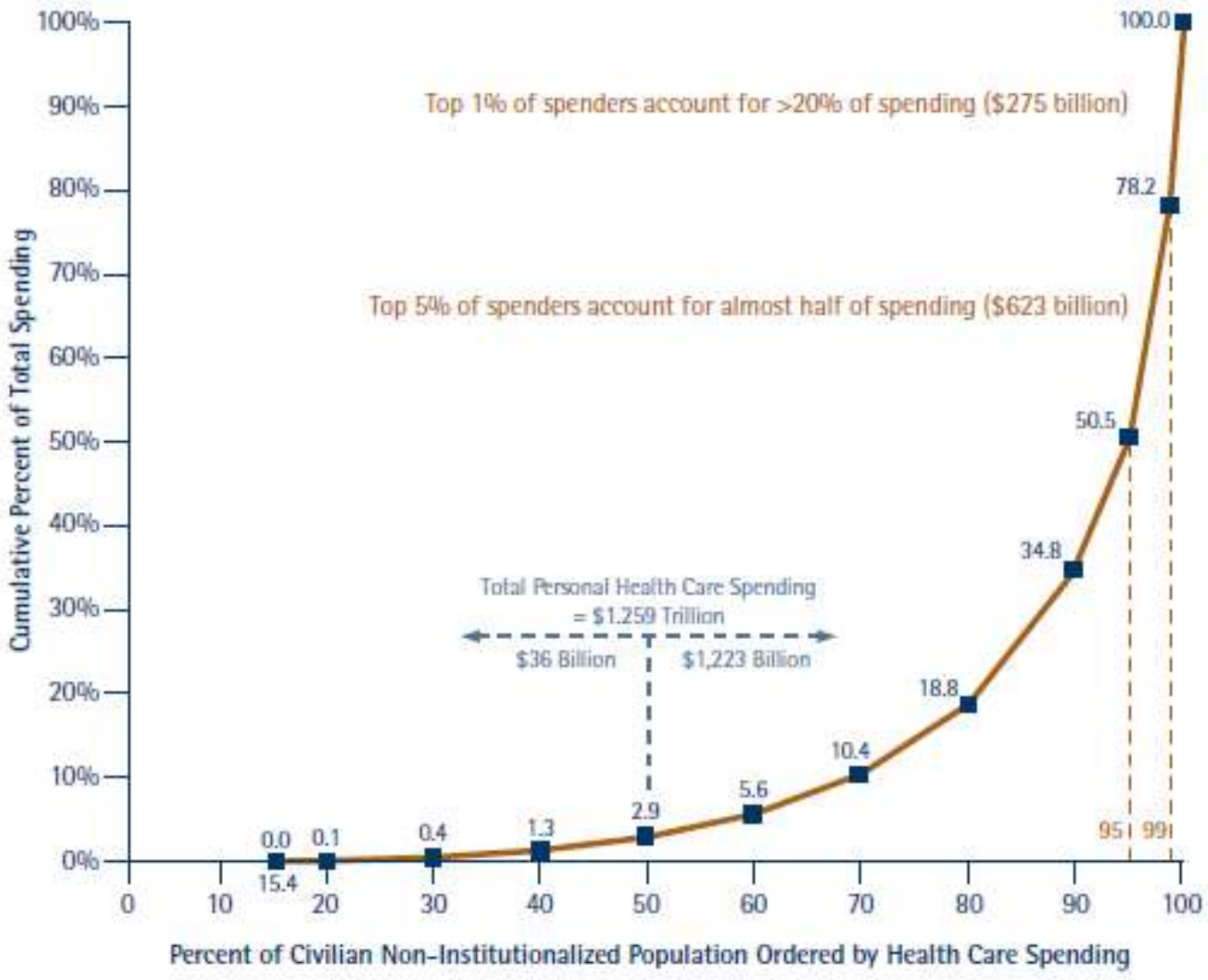
- Nutrition Screening
  - Process of identifying individuals at risk for poor nutritional status
  - Short process, limited prioritized questions
  - Performed by non healthcare professional

- Nutrition Assessment
  - Process of determining an individuals' nutritional status
  - Long process, includes medical history, diet history, physical examination, anthropometric parameters, laboratory values, economic, food access, IADL/ADL impairments, individual /family information
  - Performed by a healthcare professional e.g. dietitian

Changing Healthcare Environment & Need for Business Acumen

- Demographics
- Client base
- Societal demands
- Resources: government/public funding
- Technology
- Sustainability

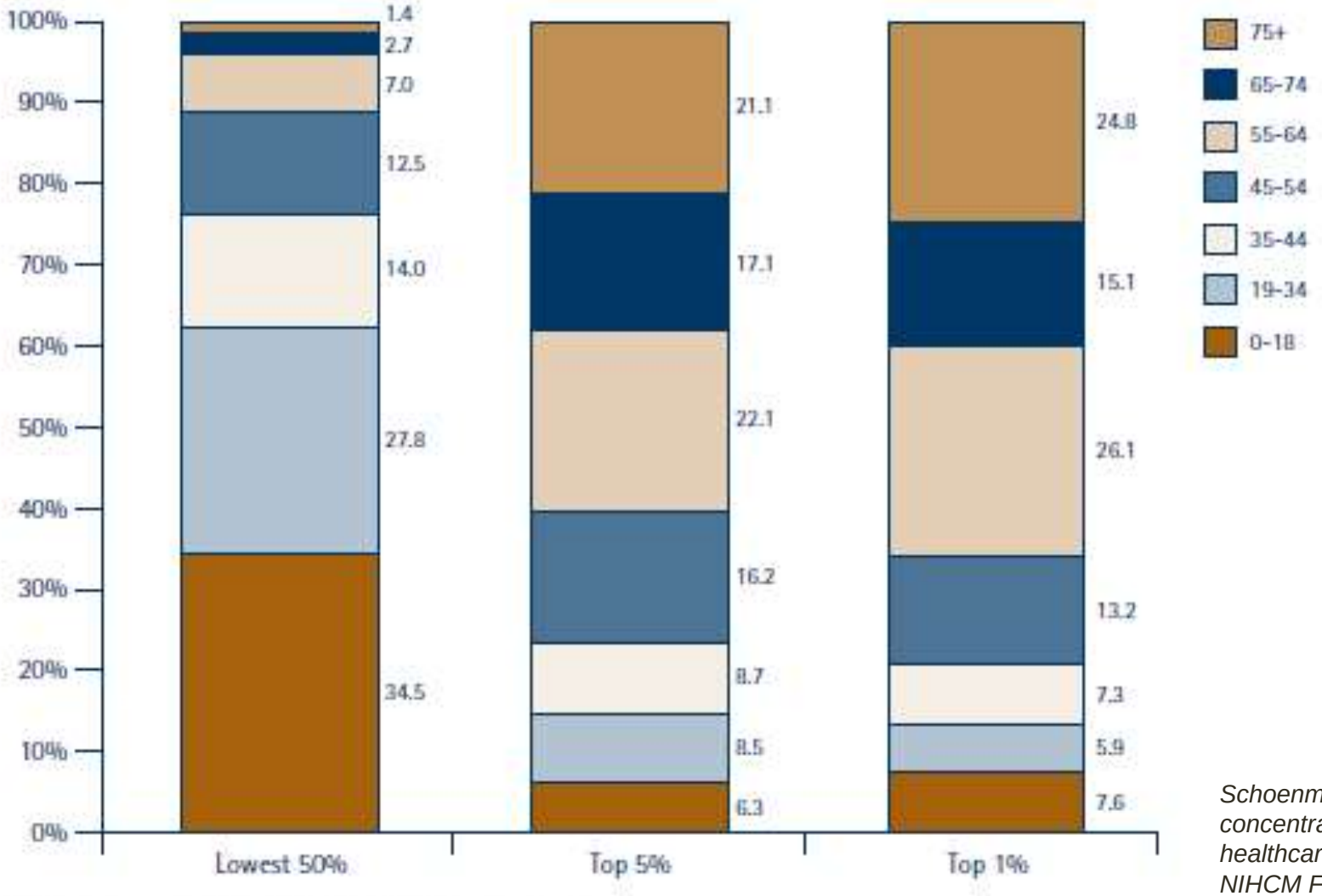
FIGURE 1. CUMULATIVE DISTRIBUTION OF PERSONAL HEALTH CARE SPENDING, 2009



NIHCM Foundation analysis of data from the 2009 Medical Expenditure Panel Survey

Schoenman, JA. The concentration of healthcare spending. NIHCM Foundation Data Brief, 2012. http://www.nihcm.org/images/stories/DataBrief3_Final.pdf

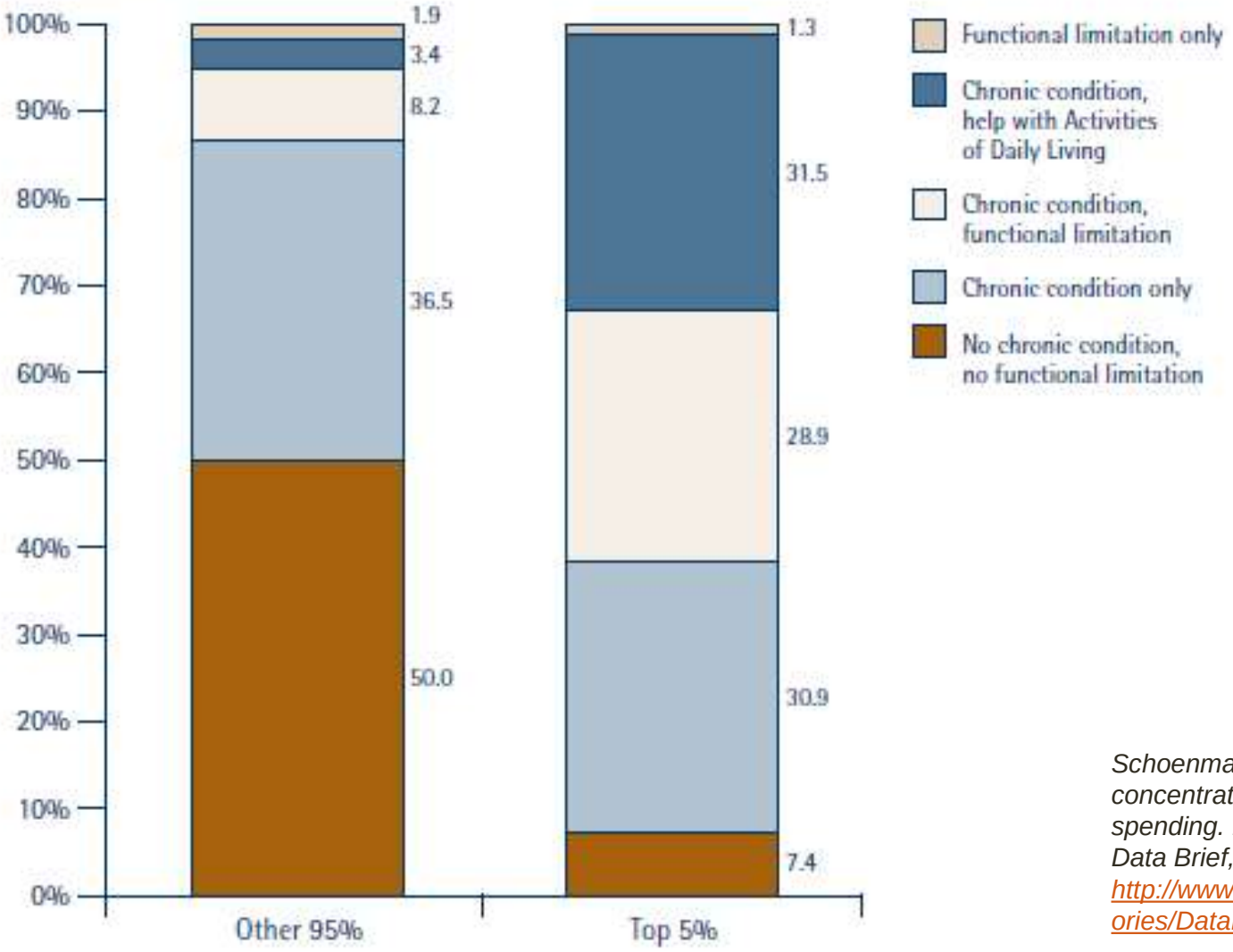
FIGURE 3. AGE DISTRIBUTION OF LOW VS. HIGH SPENDING GROUPS, 2009



NIHCM Foundation analysis of data from the 2009 Medical Expenditure Panel Survey.

Schoenman, JA. The concentration of healthcare spending. NIHCM Foundation Data Brief, 2012. http://www.nihcm.org/images/stories/DataBrief3_Final.pdf

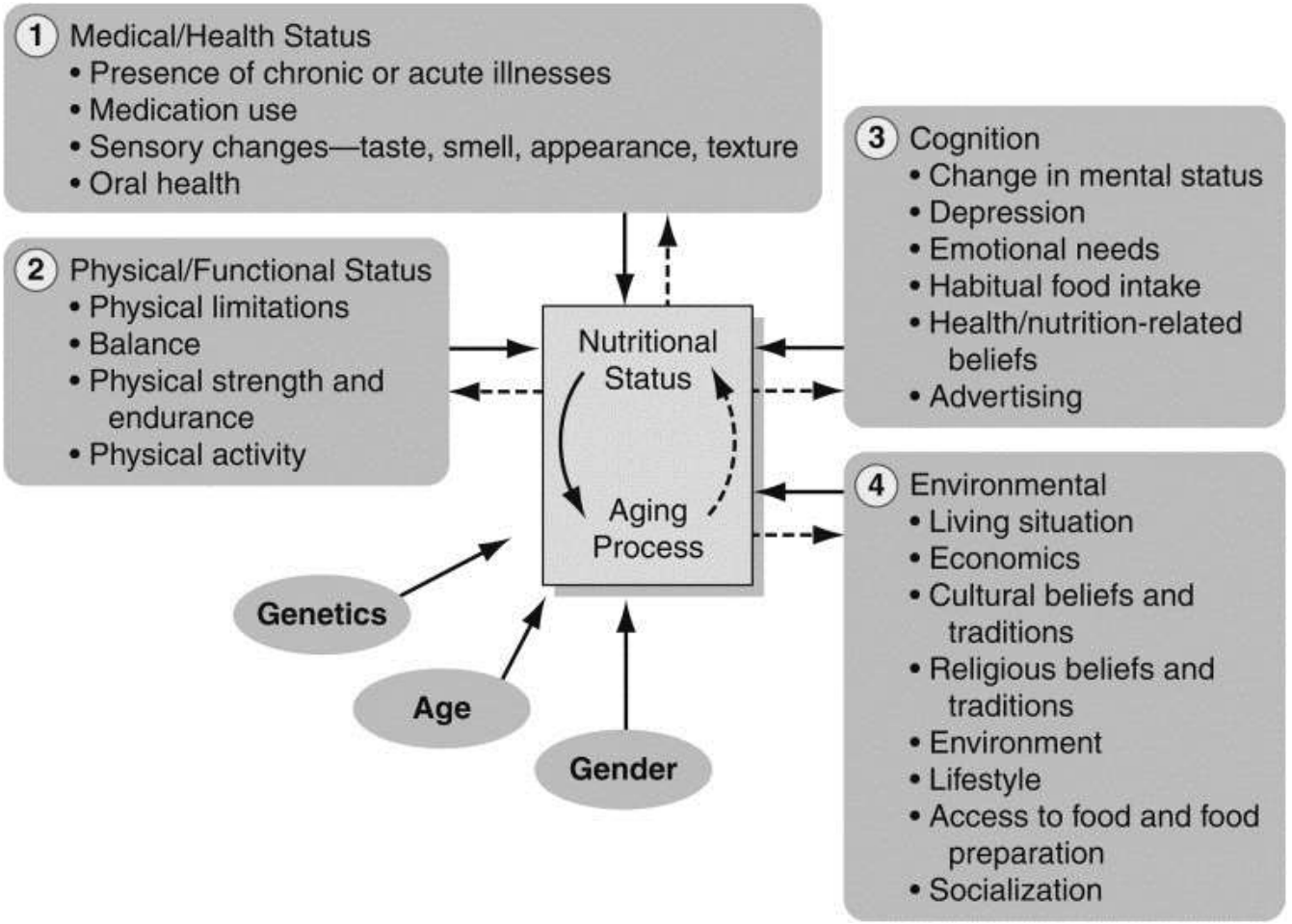
FIGURE 5. CHRONIC CONDITIONS AND FUNCTIONAL LIMITS AMONG LOW VS. HIGH SPENDING GROUPS, 2006



NIHCM Foundation analysis of data contained in The Lewin Group, "Individuals Living in the Community with Chronic Conditions and Functional Limitations: A Closer Look," January 2010.

Schoenman, JA. The concentration of healthcare spending. NIHCM Foundation Data Brief, 2012. http://www.nihcm.org/images/stories/DataBrief3_Final.pdf

Factors that influence health-related quality of life and the aging process



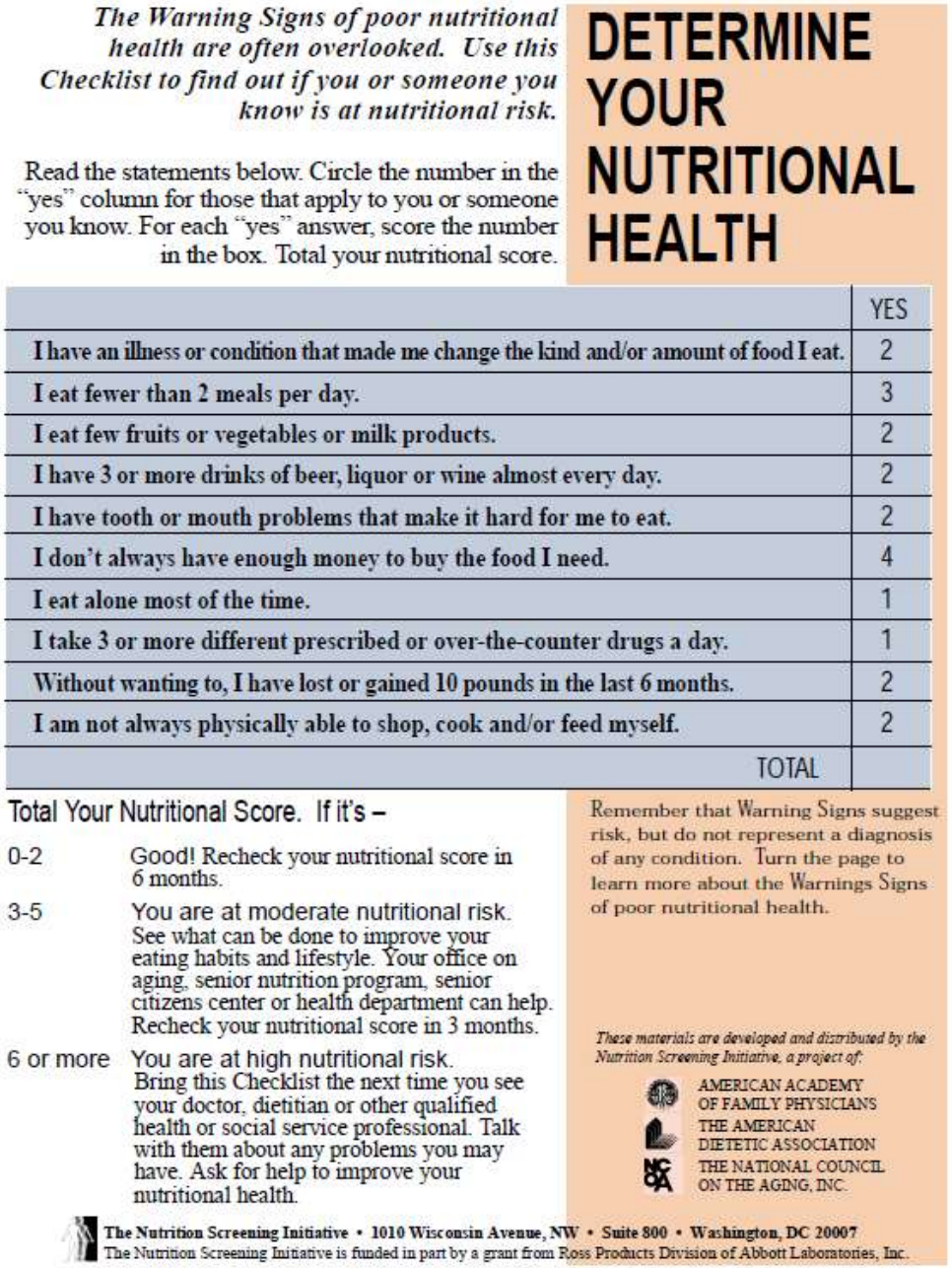
Bernstein, Munuoz, 2012. Position of the Academy of Nutrition and Dietetics: Food and Nutrition for Older Adults: Promoting Health and Wellness. Journal of the Academy of Nutrition and Dietetics. 112(8):1255-1277.

Risk Factors for Institutionalization/Hospital Admission

- Demographic
  - Older age
- Medical/Health
  - Stroke
  - Incontinence
  - Functional limitations (ADLs/IADLs)
  - History of falls
  - Self-rated health
  - Polypharmacy
- Health service use
  - >6 Doctor visits/year
- Nutrition
  - Eating problems: chewing and swallowing

Nutrition Screening and Assessment Tools

- Malnutrition Screening Tool (MST)
- Malnutrition Universal Screening Tool (MUST)
- Mini-Nutritional Assessment/Short-Form (MNA/MNA-SF)
- Nutrition Screening Initiative (NSI)
  - DETERMINE Your Nutritional Risk Checklist
  - Level I and II Assessment
- Seniors in the Community: Risk Evaluation for Eating and Nutrition (SCREEN II)



The Warning Signs of poor nutritional health are often overlooked. Use this Checklist to find out if you or someone you know is at nutritional risk.

DETERMINE YOUR NUTRITIONAL HEALTH

Read the statements below. Circle the number in the "yes" column for those that apply to you or someone you know. For each "yes" answer, score the number in the box. Total your nutritional score.

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I eat fewer than 2 meals per day.	3
I eat few fruits or vegetables or milk products.	2
I have 3 or more drinks of beer, liquor or wine almost every day.	2
I have tooth or mouth problems that make it hard for me to eat.	2
I don't always have enough money to buy the food I need.	4
I eat alone most of the time.	1
I take 3 or more different prescribed or over-the-counter drugs a day.	1
Without wanting to, I have lost or gained 10 pounds in the last 6 months.	2
I am not always physically able to shop, cook and/or feed myself.	2
TOTAL	

Total Your Nutritional Score. If it's –

0-2 Good! Recheck your nutritional score in 6 months.

3-5 You are at moderate nutritional risk. See what can be done to improve your eating habits and lifestyle. Your office on aging, senior nutrition program, senior citizens center or health department can help. Recheck your nutritional score in 3 months.

6 or more You are at high nutritional risk. Bring this Checklist the next time you see your doctor, dietitian or other qualified health or social service professional. Talk with them about any problems you may have. Ask for help to improve your nutritional health.

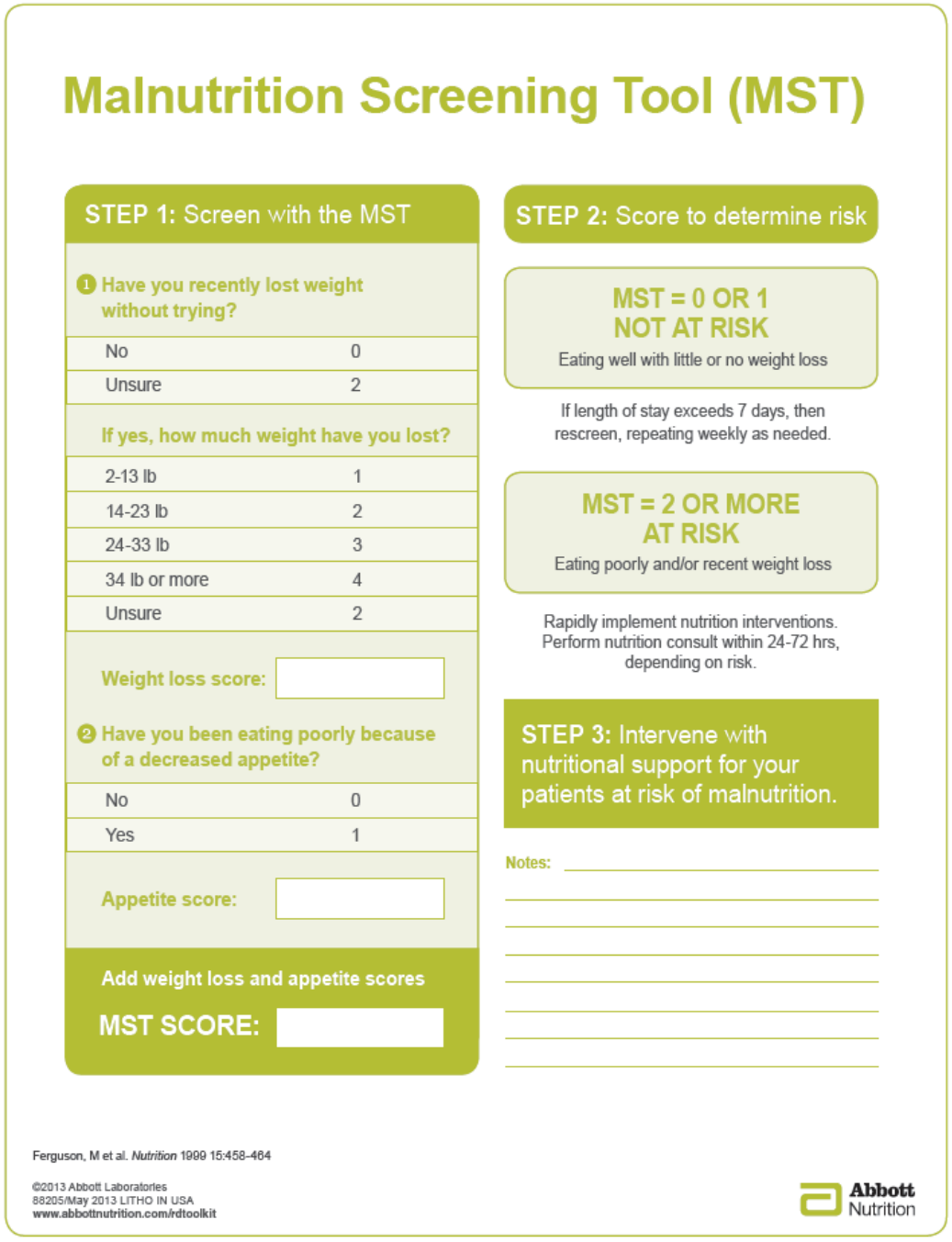
Remember that Warning Signs suggest risk, but do not represent a diagnosis of any condition. Turn the page to learn more about the Warnings Signs of poor nutritional health.

These materials are developed and distributed by the Nutrition Screening Initiative, a project of:

AMERICAN ACADEMY OF FAMILY PHYSICIANS
THE AMERICAN DIETETIC ASSOCIATION
THE NATIONAL COUNCIL ON THE AGING, INC.

The Nutrition Screening Initiative • 1010 Wisconsin Avenue, NW • Suite 800 • Washington, DC 20007
The Nutrition Screening Initiative is funded in part by a grant from Ross Products Division of Abbott Laboratories, Inc.

The Nutrition Screening Initiative (NSI) Checklist



Malnutrition Screening Tool (MST)

STEP 1: Screen with the MST

1 Have you recently lost weight without trying?

No	0
Unsure	2

If yes, how much weight have you lost?

2-13 lb	1
14-23 lb	2
24-33 lb	3
34 lb or more	4
Unsure	2

Weight loss score:

2 Have you been eating poorly because of a decreased appetite?

No	0
Yes	1

Appetite score:

Add weight loss and appetite scores

MST SCORE:

STEP 2: Score to determine risk

MST = 0 OR 1
NOT AT RISK
Eating well with little or no weight loss

If length of stay exceeds 7 days, then rescreen, repeating weekly as needed.

MST = 2 OR MORE
AT RISK
Eating poorly and/or recent weight loss

Rapidly implement nutrition interventions. Perform nutrition consult within 24-72 hrs, depending on risk.

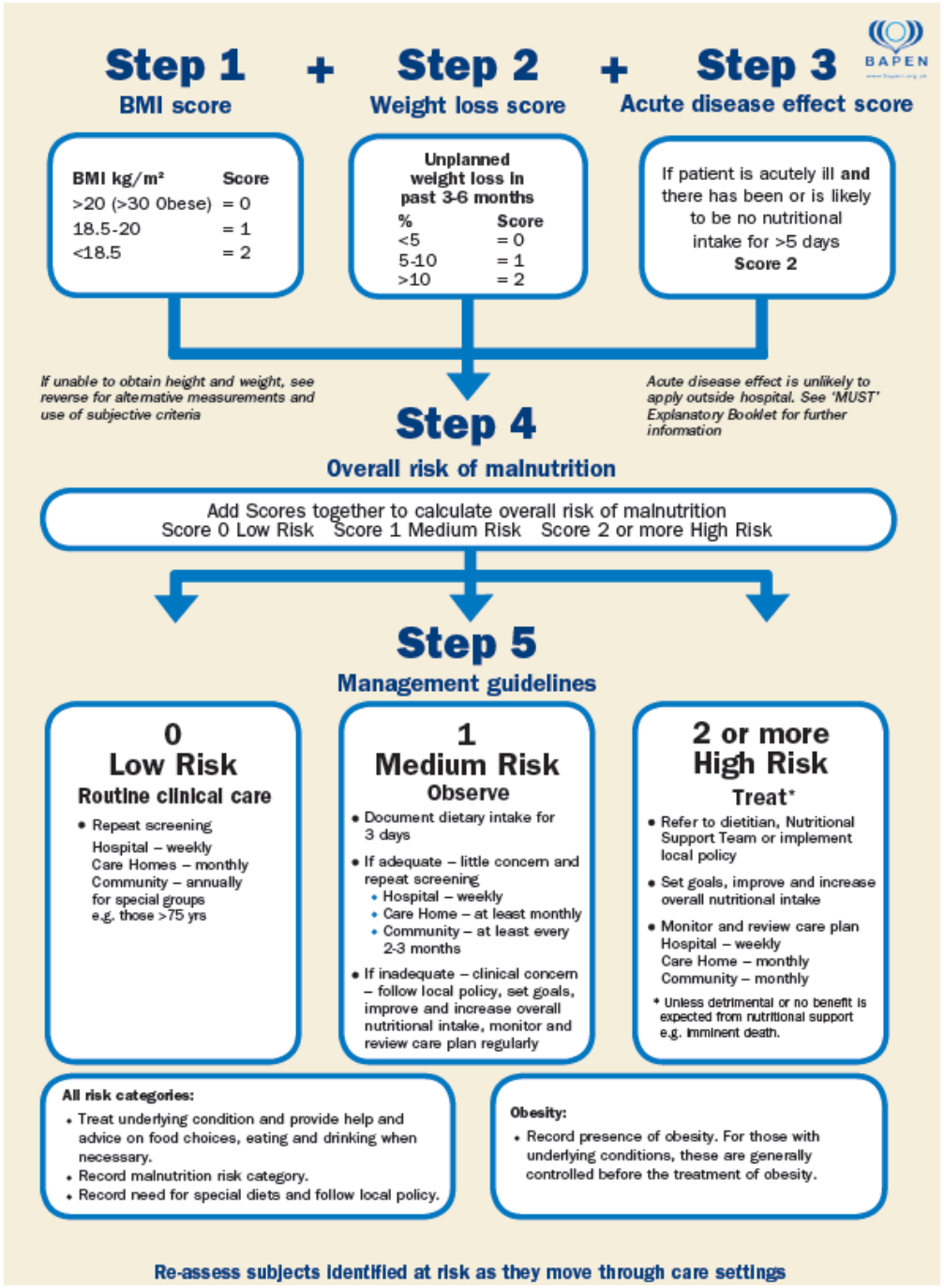
STEP 3: Intervene with nutritional support for your patients at risk of malnutrition.

Notes:

Ferguson, M et al. *Nutrition* 1999 15:458-464

Abbott Nutrition

Malnutrition Screening Tool (MST)



The Malnutrition Universal Screening Tool (MUST)

Mini Nutritional Assessment
MNA®

Nestlé Nutrition Institute

Last name: First name:

Sex: Age: Weight, kg: Height, cm: Date:

Complete the screen by filling in the boxes with the appropriate numbers. Total the numbers for the final screening score.

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 3 kg (6.6 lbs)
1 = does not know
2 = weight loss between 1 and 3 kg (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

F1 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

IF BMI IS NOT AVAILABLE, REPLACE QUESTION F1 WITH QUESTION F2.
DO NOT ANSWER QUESTION F2 IF QUESTION F1 IS ALREADY COMPLETED.

F2 Calf circumference (CC) in cm
0 = CC less than 31
3 = CC 31 or greater

Screening score (max. 14 points)

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

The Mini Nutritional Assessment Short Form (MNA-SF)

Nutrition Assessment Tools

- Nutrition Screening Initiative
  - Level 1, Level 2
- Mini Nutrition Assessment (Assessment Portion)

Nutrition Screening Initiative: Level I and Level II Screens

	LEVEL I SCREEN	LEVEL II SCREEN
Primary User	Social workers and health care professionals	Physicians and other qualified health care professionals
Data Evaluation	Height Weight Dietary data Daily food intake Living environment Functional status	Height Weight Dietary data Daily food intake Living environment Functional status Laboratory and anthropometric data Clinical features Mental/cognitive status Medication use

Source: Adapted from Nutrition Screening Initiative, *Nutrition Screening Manual for Professionals Caring for Older Americans* (Washington, D.C.: Nutrition Screening Initiative, 1991).

Exhibit 19–5 Level II Screen

Complete the following screen by interviewing the patient directly and/or by referring to the patient chart. If you do not routinely perform all of the described tests or ask all of the listed questions, please consider including them but do not be concerned if the entire screen is not completed. Please try to conduct a minimal screen on as many older patients as possible, and please try to collect serial measurements, which are extremely valuable in monitoring nutritional status.

Anthropometrics

Measure height to the nearest inch and weight to the nearest pound. Record the values below and mark them on the body mass index (BMI) scale to the right. Then use a straight edge (paper, ruler) to connect the two points and circle the spot where this straight line crosses the center line (body mass index). Record the number below; healthy older adults should have a BMI between 24 and 27; check the appropriate box to flag an abnormally high or low value.

Height (in):_____
Weight (lbs):_____
Body mass index (weight/height²):_____

Please place a check by any statement regarding BMI and recent weight loss that is true for the patient.

- ❑ Body mass index <24
- ❑ Body mass index >27
- ❑ Has lost or gained 10 pounds (or more) of body weight in the past 6 months

Record the measurement of mid-arm circumference to the nearest 0.1 centimeter and of triceps skinfold to the nearest 2 millimeters.

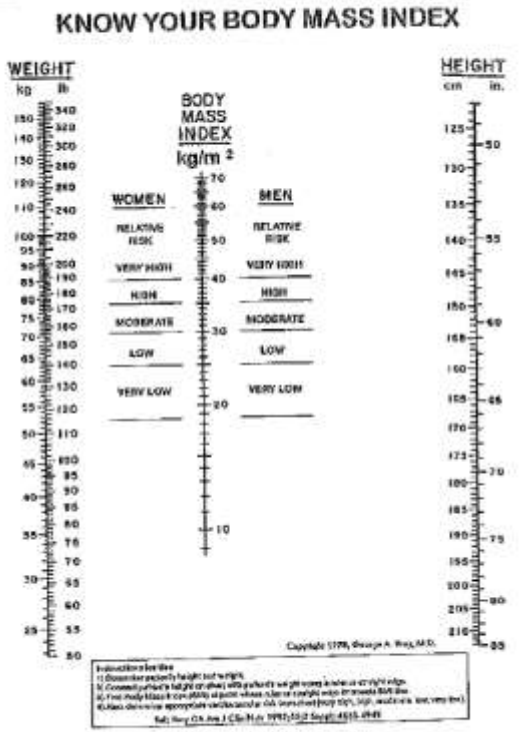
Mid-arm circumference (cm):_____
Triceps skinfold (mm):_____
Mid-arm muscle circumference (cm):_____

Refer to the table and check any abnormal values:

- ❑ Mid-arm muscle circumference <10th percentile
- ❑ Triceps skinfold <10th percentile
- ❑ Triceps skinfold >95th percentile

Note: Mid-arm circumference (cm) – [0.31× triceps skinfold (mm)] = Mid-arm muscle circumference (cm)

For the remaining sections, please place a check by any statements that are true for the patient.



Source: W/H-George Bray, M.D., copyright, 1998.

DETERMINE Your Nutritional Health Level 2, Page 1

Exhibit 19–5 continued

Laboratory Data

- ❑ Serum albumin below 3.5 g/dL
- ❑ Serum cholesterol below 160 mg/dL
- ❑ Serum cholesterol above 240 mg/dL

Drug Use

- ❑ Three or more prescription drugs, over-the-counter medications, and/or vitamin/mineral supplements daily

Clinical Features

Presence of (check each that applies):

- ❑ Problems with mouth, teeth, or gums
- ❑ Difficulty chewing
- ❑ Difficulty swallowing
- ❑ Angular stomatitis
- ❑ Glossitis
- ❑ History of bone pain
- ❑ History of bone fractures
- ❑ Skin changes (dry, loose, nonspecific lesions, edema)

Eating Habits

- ❑ Does not have enough food to eat each day
- ❑ Usually eats alone
- ❑ Does not eat anything on one or more days each month
- ❑ Has poor appetite
- ❑ Is on a special diet
- ❑ Eats vegetables two or fewer times daily
- ❑ Eats milk or milk products once or not at all daily
- ❑ Eats fruit or drinks fruit juice once or not at all daily
- ❑ Eats breads, cereals, pasta, rice, or other grains five or fewer times daily
- ❑ Has more than one alcoholic drink per day (if a woman); more than two drinks per day (if a man)

Living Environment

- ❑ Lives on an income of less than $6,000 per year (per individual in the household)
- ❑ Lives alone
- ❑ Is housebound
- ❑ Is concerned about home security
- ❑ Lives in a home with inadequate heating or cooling
- ❑ Does not have a stove and/or refrigerator
- ❑ Is unable or prefers not to spend money on food (<$25–$30 per person spent on food each week)

Functional Status

Usually or always needs assistance with (check each that applies):

- ❑ Bathing
- ❑ Dressing
- ❑ Grooming
- ❑ Toileting
- ❑ Eating
- ❑ Walking or moving about
- ❑ Traveling (outside the home)
- ❑ Preparing food
- ❑ Shopping for food or other necessities

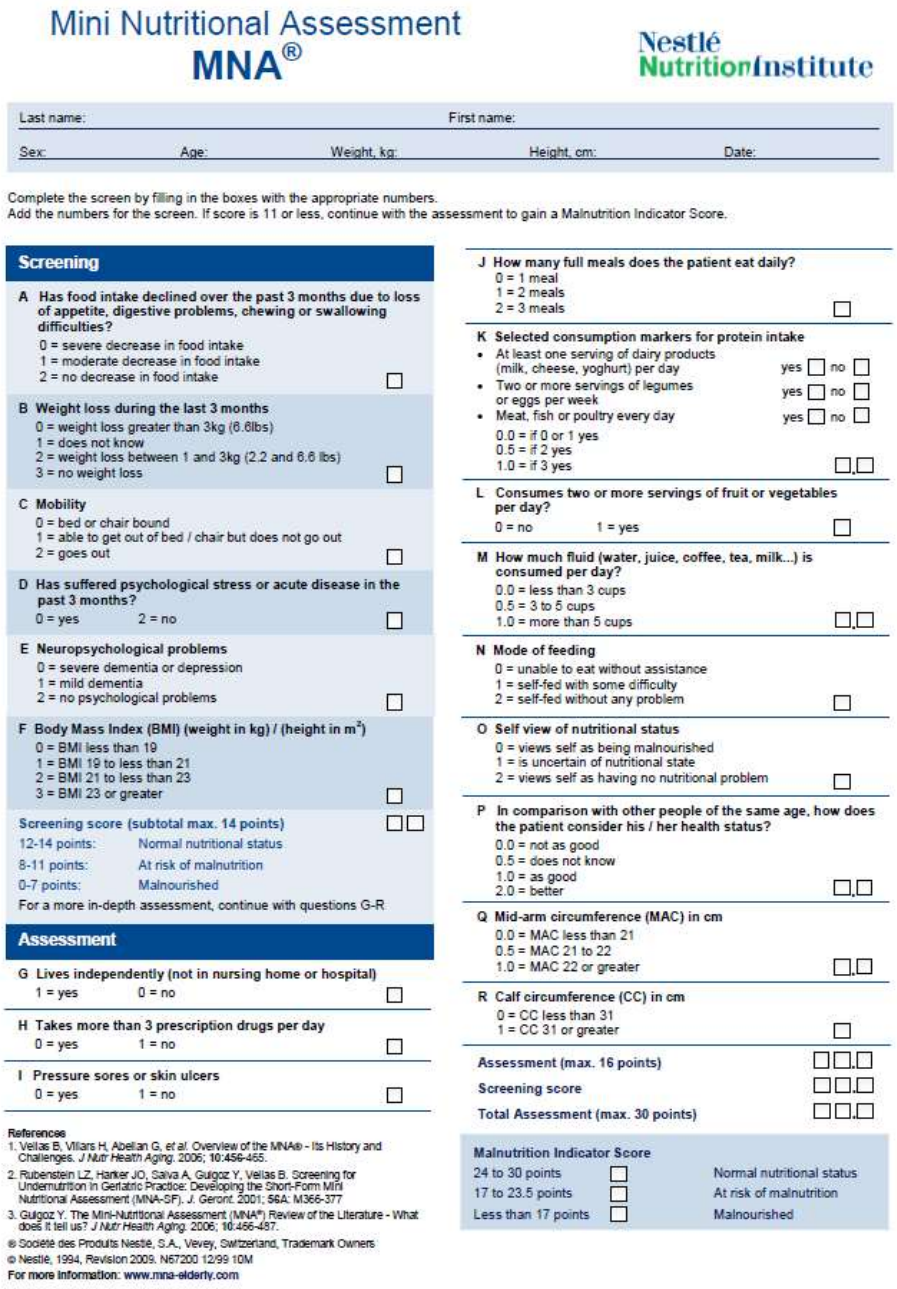
Mental/Cognitive Status

- ❑ Clinical evidence of impairment (eg, Folstein < 26)
- ❑ Clinical evidence of depressive illness (eg, Beck Depression Inventory > 15, Geriatric Depression Scale > 5)

Patients in whom you have identified one or more major indicator of poor nutritional status require immediate medical attention; if minor indicators are found, ensure that they are known to a health professional or to the patient's own care or social service professional (dietitian, nurse, dentist, case manager, etc).

Source: Reprinted with permission by the Nutrition Screening Initiative, a project of the American Academy of Family Physicians, the American Dietetic Association and the National Council on the Aging, Inc., and funded by a grant from Ross Products Division, Abbott Laboratories, Inc.

DETERMINE Your Nutritional Health Level 2, Page 2



Mini Nutritional Assessment
MNA®

Nestlé Nutrition Institute

Last name: First name:

Sex: Age: Weight, kg: Height, cm: Date:

Complete the screen by filling in the boxes with the appropriate numbers.
Add the numbers for the screen. If score is 11 or less, continue with the assessment to gain a Malnutrition Indicator Score.

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 m²)
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

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 22 or greater ☐.☐

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

Assessment (max. 16 points) ☐☐.☐
Screening score ☐☐.☐
Total Assessment (max. 30 points) ☐☐.☐

Malnutrition Indicator Score
24 to 30 points ☐ Normal nutritional status
17 to 23.5 points ☐ At risk of malnutrition
Less than 17 points ☐ Malnourished

References
1. Vellas B, Villars H, Abellan G, *et al.* Overview of the MNA® - Its History and Challenges. *J Nutr Health Aging.* 2006; 10:456-465.
2. Rubenstein LZ, Harker JO, Salva A, Guigoz Y, Vellas B. Screening for Undernutrition in Geriatric Practice: Developing the Short-Form MINI Nutritional Assessment (MNA-SF). *J. Geront.* 2001; 56A: M366-377
3. Guigoz Y. The Mini-Nutritional Assessment (MNA®) Review of the Literature - What does it tell us? *J Nutr Health Aging.* 2006; 10:466-487.

For more information: www.mna-elderly.com

The Mini Nutritional Assessment: Screening and Assessment Tool

Comparison of Nutrition Risk Assessment Tools

Tool	Population	Rater	Setting	Evidence of validity/reliability/ sensitivity/ specificity
Nutrition Screening Initiative: DETERMINE Your Nutritional Health Checklist	Older adults	Self/caregiver/ health-worker	Community	Valid and widely accepted tool.
Nutrition Screening Initiative: Levels I & 2	Older adults	Health worker	Community	N/A
Malnutrition Screening Tool (MST)	Older adults	Healthcare worker	Hospital or community	Validity and reliability tested.
Mini-Nutritional Assessment/ Short-Form (MNA/MNA-SF)	Older adults	Nurse Doctor Dietitian	Hospital or community	Validity and reliability extensively tested.
Malnutrition Universal Screening Tool (MUST)	Older adults	Health-care worker	Hospitals, community and other care settings	Validity and reliability tested.
Seniors in the Community: Risk Evaluation for Eating and Nutrition (SCREEN II)*	Community-dwelling older adults	Older person/ interviewer	Community	Robust evidence available.

**Handout*

Tools In Development and Use

2013-2014 “More Than a Meal” Research Study

Funding from AARP Foundation to the Meals on Wheels Association of America

Lead Researcher: Dr. Kali Thomas, Brown University

Goal:

Assess the effectiveness of HDM delivery modalities on a variety of client outcomes

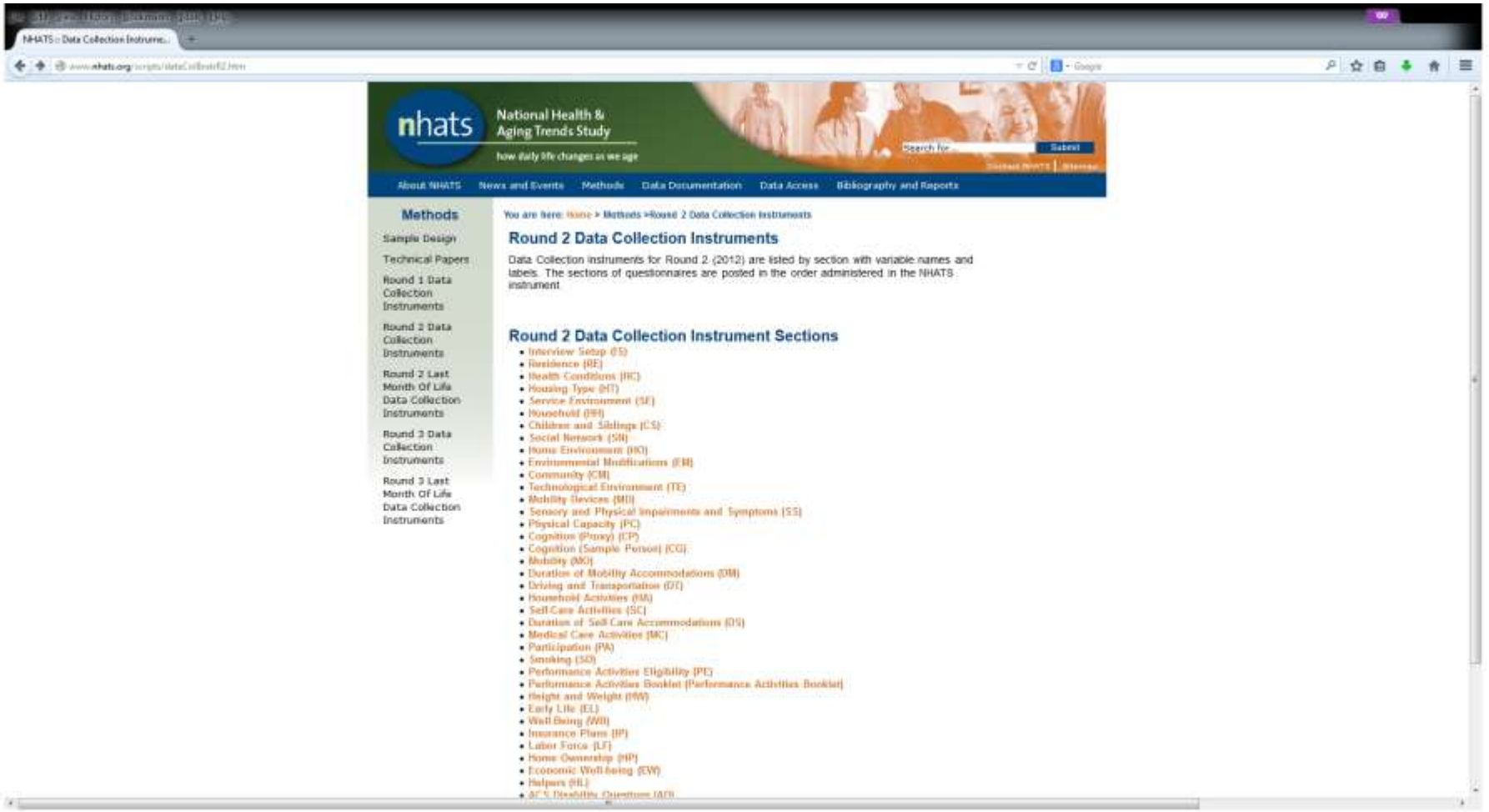
Questions were taken from:

- 2012 National Health and Aging Trends Survey (NHATS)
- 2012 Health and Retirement Survey (HRS)

Measures

- Self-Rated Health
- Fear of Falling
- Loneliness & Depression
- Difficulty Shopping and Cooking

Data Collection Instruments are Publically Available



Sample questions from NHATS

- Are there times when you are not physically able to shop for groceries?
  - Yes, No, Refused, Don't Know

- In the last month, did you worry about falling down?
  - Yes, No, Refused, Don't Know

- Do you take 3 or more prescribed or over-the-counter drugs each day?
  - Yes, No, Refused, Don't Know

- Would you say that in general your health is…
  - Excellent, Very Good, Good, Fair, Poor, Refused, Don't Know

Meals on Wheels of Tarrant County – Current Tools

Client Assessment Tools include:

- ✓ 2011 National Health Interview Survey – Family Access to Healthcare & Utilization
- ✓ Healthy Days Core Module
  - *Centers for Disease Control and Prevention*
- ✓ Group's EQ-5D
  - *EuroQol*
- ✓ Risk Factors for Hospitalization and Emergent Care Assessment Tool
  - *Georgia QIO – the Medicare Quality Improvement Organization*

- How many different times did you stay in the hospital DURING THE PAST 6 MONTHS? _____

- I feel confident in my ability to manage my health.
  - 7-item Likert scale: Not true at all – somewhat true – very true

- Risk Factors Checklist (check all that apply)
  - ❑ 9 or more medications
  - ❑ More than 2 secondary diagnoses
  - ❑ Low socioeconomic status or financial concerns
  - ❑ Lives alone
  - ❑ Open wound (stasis, pressure, diabetic ulcer, open surgical wound)
  - ❑ Help with managing medication
  - ❑ Confusion any level
  - ❑ Dyspnea any level
  - ❑ Short life expectancy

Discussion

- A variety of health and nutrition risk screening and assessment tools are available to support targeting and prioritization objectives.

- States have the opportunity to advance the state of current practice mandated at the federal level to best suit the needs of the populations they serve.

- A diversity of resources is available via the National Resource Center on Nutrition and Aging (NRC) - supported by a grant award from the Administration Aging to the Meals on Wheels Association of America.

- Available resources:
  - Online Resource Library
  - Webinars (upcoming: September 23, 2014 | Safe foods for seniors begin at home
  - State Unit on Aging staff Listserv

Thank You

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Administration on Aging

Administration for Community Living

U.S. Department of Health and Human Services

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Meals on Wheels Association of America