Innovations in Nutrition Programs and Services

Final Performance Report

1. **Project Title:** Bridging High Quality Malnutrition Screening, Assessment, and Intervention for Older Adults from Hospital to Home: Impact of Nutrition Home Visitations

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A. Implementation of a malnutrition protocol, training, and resources for nutrition home visitation programs
Executive Summary

Malnutrition, a common condition among older adults, is highly under-recognized and subsequently undertreated.\textsuperscript{8} It is associated with negative circumstances surrounding the social determinants of health, quality and quantity of food intake, food insecurity, poor functionality, and acute or chronic physical or mental health conditions.\textsuperscript{9-12} Homebound older adults are thought to be at a much higher risk of malnutrition due to vulnerability stemming from social isolation, poverty, high dependency on instrumental activities of daily living, and activities of daily living.\textsuperscript{13} Homebound older adults transitioning back to their homes after a hospitalization are particularly vulnerable to malnutrition. It has been estimated that malnutrition among post-hospital discharge may be as high as 49\%.\textsuperscript{14} However, detailed interventional studies on the impact of home delivered meals (HDM) on nutritional status are limited and require more rigorous study designs. Evidence is lacking in elucidating the complex, interrelated factors contributing to malnutrition as well as the effectiveness of these programs in improving health and wellbeing through individualized interventions or therapies.\textsuperscript{24}

This pilot project report provides an evidence-based study design targeting nutrition home visitation assessments and care planning on the health outcomes of recently discharged HDM recipients at malnutrition risk. The nutrition home visitations assessed nutritional status based on the standardized characteristics recommended in the diagnosis of malnutrition as well as the interfacing medical and environmental factors impacting the older adult, family and caregivers health. The report provides insight into the coordination of services required during the transition from the hospital to home setting and propose a community nutrition care process model.
**Introduction**

As the United States health services and healthcare move towards a value-based system, there will be financial incentives to understand their intersecting influences. The aim of positive health outcomes is beyond the singular medical event, condition, or situation and is highly dependent on a supportive client-family approach in conjunction with community engagement. High-value health services and healthcare emphasize better health and wellbeing. This type of health service requires an additional appreciation of the powerful effects of social, behavioral, and environmental factors on health and longevity. Community health services that include older adult are now recognized as a crucial component in reducing health care costs and improving quality of life.\(^1\) This trend adds a new financial leverage for community health services partnering with healthcare systems. Community health assessments that include nutrition, must encompass more than biological factors. The underlying behavior, environment, and socioeconomic factors along with other societal based influences must be targeted as well. All populations will be influenced by this transformation and it will be particularly impactful for the vulnerable older adult.

The older population is growing rapidly as the Baby Boomer generation ages. In addition, the oldest-old (85-99 years) and the elite old (≥100 years), have seen a dramatic growth rate and are considered the fastest growing segments of the older population. The state of Utah has followed this trend with a growth rate comparable to the rest of the United States. Utah has seen a 50% increase in persons 65 years and older from 2000 to 2015 and a 155% growth rate is projected by 2030.\(^2\) Another striking demographic wave is the high proportion of people over 65 years of age living in rural rather than urban areas. This older, rural population is expected to increase over
While the older population as a whole is at risk for inadequate health services and healthcare, older adults living in rural or frontier areas are thought to be at higher risk. Even the more affluent older adults in rural areas still face access issues as rurality exacerbates limited services including healthcare, transportation, home and community-based services (HCBS), and long-term care (LTC). Previous studies have found physical, social, and emotional health is worse in rural populations when compared to urban. These health vulnerabilities can translate into increased nutritional vulnerabilities to include risk of malnutrition.

Malnutrition, a common condition among older adults, is highly under-recognized and subsequently undertreated. It has been estimated that one in every two older adults is at risk for malnutrition. Malnutrition is a complex syndrome impacted by multiple and interrelated factors. It is associated with negative circumstances surrounding the social determinants of health, quality and quantity of food intake, food insecurity, poor functionality, and acute or chronic physical or mental health conditions. Adverse health outcomes of malnutrition include higher hospitalization and readmission rates, increased healthcare costs, and increased mortality for older adults across care settings. Consequently, malnutrition is both a significant public and patient health safety concern.

The actual prevalence of malnutrition varies depending on the setting and method of diagnosis. Fortunately, standardized malnutrition diagnostic characteristics have been recently established. Although the prevalence of community malnutrition is thought to be low, the particular setting, health circumstances, and support systems can yield a highly variable prevalence. Homebound older adults are thought to be at a much higher risk of malnutrition due to vulnerability stemming from social isolation, poverty, high dependency on instrumental
activities of daily living, and activities of daily living. Homebound older adults transitioning back to their homes after a hospitalization are particularly vulnerable to malnutrition. It has been estimated that malnutrition among post-hospital discharge may be as high as 49%. Homebound older adults receiving home delivered meals (HDM) are screened for malnutrition risk using the DETERMINE Checklist, an awareness tool, and the Six-Item Food Security questionnaire. Validated nutrition risk screening tools are not currently being utilized in this screening process and may limit the identification of malnutrition risk. Observational evidence has shown HDM recipients have reduced falls, hospital readmissions, and nursing home admissions while increasing food security, self-reported health, and emotional wellbeing. While 70% of homebound older adults have been found to under-eat, HDM recipients have shown improvement in their nutritional status including protein and energy intake. However, detailed interventional studies on the impact of HDM on nutritional status are limited. Evidence is lacking in elucidating the complex, interrelated factors contributing to malnutrition as well as the effectiveness of these programs in improving health and wellbeing through individualized interventions or therapies. Therefore, more rigorous study designs are needed to support an evidence-based justification and support Older Americans Act programs to include home delivered meals.

The purpose of the proposed pilot project was to demonstrate an evidence-based relationship of targeted nutrition home visitation assessments and care planning on the health outcomes of recently discharged HDM recipients at malnutrition risk. The nutrition home visitations assessed nutritional status based on the standardized characteristics recommended in the diagnosis of malnutrition. It also interfaced medical and environmental factors impacting the older adult,
family and caregivers health. This approach to assessing the interrelated factors contributing to malnutrition risk did include assessment of functionality, social supports, home safety, mental health, and quality of life. Hospital re-admission rates and change of residence will be tracked. This project provided insight into the coordination of services required during the transition from the hospital to home setting and used a community nutrition care process model.

References:


Activities and Accomplishments

1. What measurable outcomes did you establish for this project and what indicators did you use to measure performance? To what extent did your project achieve the outcomes?

The following were the 5 expected **outcomes and indicators for measurable performance:**

A. *Implementation of a malnutrition protocol, training, and resources for nutrition home visitation programs.*

The development of study protocols, training in-services and resource materials were essential to the development and implementation of a home visitation model.

Working with both the AAA partners as well as the University of Utah Hospital and Clinics, malnutrition referral protocols were devised to account for each partner’s unique situation. This process involved analyzing potential methods for recruitment and referrals and creating flowcharts delineating the process. As the flowcharts were developed, staff involved were trained in the referral process. This training provided not only the referral process but information on malnutrition and the need for coordinated care to effectively address this condition. In addition, resources for both the staff and the older adult study participant were identified and/or created to reinforce the education. See Appendix A.

B. *Demonstrate a transferable home visitation model program.*

The home visitation model developed for this project can be implemented in numerous settings addressing the nutrition care of older adults. It provides a detailed assessment form that can easily be tailored to the individual site and older population receiving nutrition services. The home visitation PowerPoint product reinforces the
steps needed to successfully collect nutrition information needed to assess the older adult for nutritional risk. See Appendix B-1 and B-2.

C. Provide RDN directed nutritional assessment and interventions supporting program justification and funding.

Health care services and programs are being evaluated for their evidence-based protocols that directly associate an intervention with positive outcomes. Potentially this type of information will determine program financial support. Currently, detailed interventional studies on the impact of HDM on nutritional health is limited. Evidence is lacking in elucidating the complex, interrelated factors contributing to malnutrition as well as the effectiveness of these programs in improving health and well-being through individualized interventions or therapies. Therefore, more rigorous study designs are needed to support an evidence-based justification and support of the Older Americans Act programs to include home delivered meals. This project provided this type of study design with an assessment that evaluates the complexities of malnutrition. Several client/caregiver nutrition handouts were also identified to assist the RDN during the individualized nutrition interventions. An ACL continuation grant has been recently funded so this project can continue to strengthen the support of this type of intervention. See Appendix B1 and C.

D. Improve coordination of home and community-based services (HCBS) to address malnutrition risk factors.

Improved knowledge of the specific factors that are associated with malnutrition resulting in impaired health of older adults can clarify what type of HCBS that are
needed. This clarity can also streamline services; therefore, providing funding to expand services to more clients. See Appendix D.

E. Tailor nutrition home visitation programs for urban, rural, or frontier residing older adults.

Due to limited recruitment this outcome was not fully determined. However, the information gathered in this study has provide guidance in developing the funded malnutrition continuation grant.

2. What, if any, challenges did you face during the project and what actions did you take to address these challenges?

Recruitment was the most significant challenge during this project. The implementation of regular attendance at staff meetings and detailed analysis of the recruitment process provided in depth information to better understand these challenges. Through trial and error various improvements were tested and improved recruitment.

3. What impact do you think this project has had to date? What are the lessons you learned from undertaking this project?

The most significant impact of this project was the improved understanding of malnutrition by health services workers, clients and their families. This improved understanding included the multiple factors that cause malnutrition and the differences between assessment versus screening. This elucidated the need for coordinated services.

4. What will happen to the project after this grant has ended? Will project activities be sustained? Will project activities be replicated? If the project will be sustained or
replicated what other funding sources will allow this to occur? Please note your significant partners in this project and if/how you will continue to work on this activity.

This project was continue as additional grant funding has been acquired. However, the project has made an impact on the care provided by the AAAs involved. The benefit of the project was noted at all sites. The goal is with further research, this project can independently replicated in various different sites.

5. Over the entire project period, what were the key publications and communications activities? How were they disseminated or communicated? Products and communications activities may include articles, issue briefs, fact sheets, newsletters, survey instruments, sponsored conferences and workshops, websites, audiovisuals, and other informational resources.

This project has had a broad reach of multi-media dissemination and communication to include national professional webinars as well as national nutrition conference presentations to include Administration for Community Living, National Association of Nutrition and Aging Programs, Meal on Wheels America, Health West Institute and the Academy of Nutrition and Dietetics. Numerous lectures have been provided at area agency on aging and University of Utah-based nutrition and medical departments to include nutrition, Internal Medicine, Family Medicine and Physician Assistant. Written dissemination includes malnutrition education materials and newspaper articles. Last, we have participated in community engagement activities to include a health fair a newspaper articles. See Appendix E.
Appendix A

Health Services and Health Care Malnutrition Training Materials

PowerPoint Presentation: “Bridging High Quality Malnutrition Screening, Assessment, and Intervention for Older Adults from Hospital to Home: Impact of Nutrition Home Visitations”
Bridging High Quality Malnutrition Screening, Assessment, and Intervention for Older Adults from Hospital to Home: Impact of Nutrition Home Visitations

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Charlotte Vincent, PhD, RDN
Amy Covington, MS, RDN
Person- and family-centered care (PFCC) is defined as care that is “respectful of and responsive to individual patient preferences, needs, and values, and ensures that patient values guide all clinical decisions.” PFCC processes into are grouped into three components, which consist of holistic care, collaborative care, and responsive care. (Backman, C., Chartrand, J., Dingwall, O., & Shea, B. (2017). Effectiveness of person- and family-centered care transition interventions: a systematic review protocol. *Systematic reviews, 6*(1), 158. doi:10.1186/s13643-017-0554-z)

PFCC helps increase quality of life and relieve caregiver strain. Failure to employ PFCC may result in higher level of care placement and higher costs.
Objectives

• Understand the impact of malnutrition on healthcare and health services
• Appreciate the challenges of care coordination and services
• Recognize the role of Aging Services in combating malnutrition
• Identify signs of malnutrition
The prevalence of malnutrition ranges significantly among different populations of older adults but there is also discrepancies within populations as well. A good rule of thumb is the more functional deficits the more at risk a person is for malnutrition. How do you determine functional risk? ADL/IADL

Malnutrition

• An acute, subacute or chronic state of nutrition in which varying degrees of overnutrition or undernutrition have led to a change in body composition and diminished function.
Malnutrition

• 1 in 2 of older adults risk or malnourished
• 3.7 million malnourished
• $51.3 billion annually disease associated malnutrition costs
• 20-50% malnourished or at risk on hospital admission
  • Increased hospital length of stay (4-6 days)
  • Increase risk for complications, falls, readmissions
  • Increased health care cost (300%)
  • Increase complications, falls, & readmission
  • 7% diagnosed

There is a benefit to identifying & treating malnutrition early.
<table>
<thead>
<tr>
<th>Benefits</th>
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<tr>
<td>28% decrease in avoidable readmissions</td>
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<tr>
<td>25% reduction in pressure ulcer incidence</td>
</tr>
<tr>
<td>14% fewer overall complications</td>
</tr>
<tr>
<td>Reduced length of stay by 4-6 days</td>
</tr>
<tr>
<td>Decreased mortality rates</td>
</tr>
<tr>
<td>Improved quality of life</td>
</tr>
<tr>
<td>Improved functionality</td>
</tr>
</tbody>
</table>

There are several benefits for providing high quality malnutrition care.
Estimates of the prevalence of malnutrition vary, as methods for detection are not standardized. However, the prevalence of malnutrition is undeniably high: the overall prevalence is 22.6%. Nearly 40% of hospitalized elderly and 50% of those in rehabilitation facilities are malnourished. 86% of hospitalized elderly are either malnourished or at risk for malnutrition. Up to 67% of elderly in nursing homes are malnourished or at risk for malnutrition. Of elderly living the community, 38% are malnourished or at risk of malnutrition.

http://www.mna-elderly.com/the_problem_malnutrition.html

Aging in place blurs these categories
Another key concept of malnutrition and transitions of care is the cyclic nature of transitions. As mentioned earlier, the cycle can reverse itself at anytime in the care of the older adult as conditions change.
Coordination of care needs to be part of each transition from home to community services to institutions.
Person-Centered Value-Based Care

- Delivery model based on patient health outcomes
- Promotes healthy lifestyle
- Improves overall health
- Reduces chronic disease effects and incidence
- Evidence-based
The dilemma of healthcare and health care services not coordinating together is that many important components are missed.
Health Systems “Silo” Problem

• Health systems “silos” often do not communicate well:
  • Financial silos
    • e.g. government/private insurance
  • Professional silos
    • e.g. hospital/clinics/community services/providers
  • Technological silos
    • e.g. non-interoperable electronic health records

Health systems often get stuck in their own silos which leads to lack of communication and undesirable health outcomes.
Social Determinants of Health

Social determinants of health are conditions in the environment in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.

Social determinants of health provide a nice framework to address all aspects of one's health.
The percentage that the various areas affect health, functioning, and quality-of-life outcomes and risks.
Malnutrition is affected by or affects each area of the Social Determinants of Health.
# Malnutrition Care Goals

- Ensure high-quality monitoring for malnutrition across settings
  - Prevention
  - Screening
  - Assessment
    - Diagnostic criteria
    - AND/ASPEN
    - Recognize multifactorial causes
    - Intervention/plan of care
- Emphasize at transitions of care
  - High risk of malnutrition
  - Reduce health care costs
  - Improve health outcomes
Decreased functional capacity = Hand Grip Strength
What is missing from this slide- labs? Albumin? Albumin and prealbumin are no longer seen as good markers for malnutrition.
Registered Dietitian Nutritionist assess each of these parameters during a home visit to determine malnutrition risk or diagnosis.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy intake</td>
<td>Food access, food present in home, IADLs, family and caregiver input</td>
</tr>
<tr>
<td>Weight loss within time frame</td>
<td>Self-reported, family and caregiver input, past photos, ill-fitting clothes</td>
</tr>
<tr>
<td><strong>Physical Findings</strong></td>
<td></td>
</tr>
<tr>
<td>Muscle mass &amp; body fat</td>
<td>Nutrition focused physical exam</td>
</tr>
<tr>
<td>Fluid accumulation</td>
<td>Nutrition focused physical exam</td>
</tr>
<tr>
<td>Functional muscle strength</td>
<td>Hand grip strength, Get Up and Go Test, functional status</td>
</tr>
<tr>
<td>Micronutrient exam</td>
<td>Hair, tongue, teeth, swallowing, taste, fractures, skin</td>
</tr>
</tbody>
</table>
Various Social Determinants of Health can hinder nutrition intake by affecting these areas.

Nutrition Indicators

- Food access
- Adequate intake
- Financial status
- Food safety
- Cooking ability
- Working appliances
- Memory
- Transportation
- Social isolation
- Abuse
What is Adequate Nutritional Intake?

• **Recommended Daily Food Group Intake**
  • **Protein**
    • 5-7 oz. meat or meat alternative
    • 3 oz. Fits in palm of hand
  • **Dairy**
    • 3 servings
    • 3 cups
  • **Fruits**
    • 2-4 servings
    • 1 1/2 – 2 1/2 cups
  • **Vegetables**
    • 3-5 serving
    • 2 – 3 1/2 cups
  • **Grains**
    • 5-10 servings
    • 5-10 oz.

• **Number of Meals Eaten Daily**

• Many nutrients older adults are low in are found in protein and dairy sources (Protein, Vit B12, B6, Calcium, Vit D)
• Fiber (low in many older adults diets) is found in fruit & vegetables
• https://www.nia.nih.gov/health/serving-and-portion-sizes-how-much-should-i-eat
Nutrition focused physical exam is an important component to the nutrition assessment.
Various areas of the body that are assessed during the exam.
Nutrition-Focused Physical Exam: Where Do We Look?

- Fat loss
  - Orbital region (eye)
  - Triceps
  - Ribs/lower back
- Muscle loss
  - Temporalis (pitting)
  - Clavicle
  - Deltoid
  - Interosseous (hand)
- Edema
  - Ankles
- Functional decline
  - Chair rise
  - Grip strength
  - Get Up and Go test
- Hair quality
- Mouth, teeth, tongue, swallowing
Looking at and feeling the fat pads under the eyes to assess amount of fat.
Temporal Muscle Loss

Looking at and touching the temporalis muscle to assess amount of muscle definition.
Clavicle and Deltoid & Muscle Loss

Looking at and touching the area underneath and above the clavicle and all around the shoulder to assess amount of muscle.
Tricep Fat Loss

Normal | Moderate | Severe

Tricep fat loss can be assessed by pinching or using calipers.
Think about fat distribution as you age. There is an increase visceral/truncal fat with a decrease hip/thigh region.
Knee Muscle Loss

Looking for muscle around knee bone.
Looking for well developed thigh muscle.
Gastrocnemius (calf muscle)

Touching calf muscle to look for well developed bulb of muscle.
Nutrition Plan of Care

• Summarize Findings-Make Recommendations-Identify Resources
  • Intake
    • Kitchen assessment
    • Weight indicators
    • IADL: food shopping, preparation, cooking
  • Physical function
    • IADLs
    • Current living situation deficits
  • Physical exam
    • Identified signs of malnutrition
    • Physical abuse
  • Social/psych/environmental
    • Support systems
    • Memory
    • Financial and/or emotional abuse
  • Person-centered health wishes

This is the structure and contents of a well developed nutrition care plan.
Brainstorming

“A group problem-solving technique that involves the spontaneous contribution of ideas from all members of the group.”

Merriam-webster.com

• Brainstorming is a great way to determine how to implement the information from the previous slides into your specific site.
• The following slides detail how to perform a brainstorming session followed by an example.

Now that you have a good understanding of how to recognize malnutrition, let’s consider how you might address malnutrition in your own work setting. One approach is to start with brainstorming. This slide defines this concept.
# Brainstorming

<table>
<thead>
<tr>
<th>Guidelines</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin with a problem to solve.</td>
<td>How to identify malnutrition in clients and benefits to them and staff?</td>
</tr>
<tr>
<td>A group with potential to work as a team. 5-10 people however, no limitations are imposed as long as everybody follows the rules. Background diversity is a great plus!!</td>
<td>Each team member has an important perspective and help to round out the activity nicely.</td>
</tr>
<tr>
<td>A board, some large sheets of paper, something else that can be seen easily be all, some large markers to write on it. A flipchart would suit that purpose well.</td>
<td>Be prepared with appropriate tools to capture all ideas from the brainstorming session.</td>
</tr>
<tr>
<td>A leader. That would be someone who’s task it is to draw out the suggestions from the participants, neutral, not to impose her or his own opinions, while still using leadership skills to maintain the order and purpose of the session.</td>
<td>Choose a leader ahead of time that fits these criteria.</td>
</tr>
</tbody>
</table>
### AAA Brainstorming Example

#### Benefits to Clients
- Improved cognition
- Improved healing
- Reduce falls
- Kidney health
- Improve independence
- Healthy eyes
- Improve quality of life
- Improve disease symptoms
- Improve physical health
- Improve strength

#### Benefits to Salt Lake County Programs
- Socialization/prevention of isolation in clients
- Individualized nutrition services for clients
- Understand importance of nutrition
- Communication of falls, etc
- Improved economics
- Help keep clients active and independent
- Funding opportunities
- Relationship with Registered Dietitians

Here is an example of a brainstorming session with Area Agency on Aging. The purpose was to determine the benefits to their clients and programs in referring clients to a RDN led malnutrition study.
Helpful Brainstorming References

https://www.winthrop.edu/uploadedFiles/clubsorgs/leadership/Brainstorming.pdf


https://images.search.yahoo.com/yhs/search;_ylt=AwrXkEuzzNZdIEQAVjoPxQt.;_ylu=X3oDMTByNWU4cGh1BGNvbG8DZ3ExBHvcwMxBHZ0aWQDBHNlYwNzYw--?p=brainstorming+techniques&fr=yhs-adk-adk_sbnt&hspart=adk&hsimp=yhs-adk_sbnt
Now you are empowered to make a difference in addressing malnutrition among your older clients. Typically we think of malnutrition as someone without fat accumulation. After this presentation we know that someone may be at risk or have malnutrition without looking like they do. High quality nutrition assessments are important.
Appendix B

Home Visitation Program Model Guide

1. Home Visit Preparation with HDM Initial Malnutrition Assessment

Home Visit Preparation

1. Review past patient records (medical, AAA, HH)
2. Discuss, when appropriate, with other providers
3. Call to remind patient you are coming
4. Review “Home Visitation” power point presentation

Name: ________________________ Assessment Date: ________ DOB: ________ Age: __ Sex: M/F
Address: ________________________ apt# __ City: __________ Zip: ______ County: ______
Phone: (__) ______ - ______ Email: ___________________________
Referred by: ___________________________

HDM Initial Malnutrition Assessment

Demographic/Social

Marital status: Married □ Single □ Widowed □ Divorced □ Other □ _____________
Caregiver/ Contact Person: ________________________________ Relation: ___________ Phone: (__) ______ - ________
Household Composition:
   Alone □  Spouse/partner □  Spouse and children □  Child/children □  Relative □  Non-relative □
   Other □ _______________ 
Medical benefits:
   Medicare □  Medicaid □  None □  Other □ _______________ 
Finances: Below national poverty level? Yes □  No □
   □ Independently manages all finances and money
Independently manages daily purchases but needs assistance with paying bills/ banking/ large transactions

Unable to manage finances

Currently receiving the following services:
- Food stamps
- Weatherization
- Lifeline
- Food Bank/Pantry
- Medicaid Waiver
- Subsidized Housing
- Homemaker program
- Veteran
- Spouse of Veteran
- Home Health Aide
- Nursing Speech Therapy
- Occupational Therapy
- Physical Therapy
- Senior Companion
- Other

Race or ethnic background:
- Caucasian
- Asian, Pacific Islander
- African American
- Hispanic
- American Indian/native Alaskan
- Other

Legal Guardian? Yes □ No □ Name: __________________________ Phone: (__) ___ - ______

Pets? Yes □ No □ If yes describe: ________________________________

Pets provided with: Pet food □ Table scraps □ Both □

Perceived Wellbeing

Would you say your physical health over the past year has: Improved □ Stayed same □ Become worse □

Explain why:__________________________________________________

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

Would you say your mental health or emotional state over the past year has: Improved □ Stayed same □ Become worse □

Explain why:__________________________________________________

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

Would you say your ability to get around and take care of yourself, and to do things for yourself and other people over the past year has: Improved □ Stayed same □ Become worse □

Explain why:__________________________________________________

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

Medical/Physical
Primary Doctor: Name: ____________________________ Phone: (__) ______ - ________

Recent hospital discharge date: _______ Admission Diagnosis: ____________________________

History of hospitalization (past 3 years):

<table>
<thead>
<tr>
<th>Admission date</th>
<th>Admission Diagnosis</th>
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Current medical diagnosis: _________________________________________________________

Self-assessed pain scale: Are you dealing with any pain? Yes ☐ No ☐

Location: ____________________________

If yes rate your pain on a scale 1-10 (1 no pain, 10 worst pain)

1 ………… 2 ………… 3 ………… 4 ………… 5 ………… 6 ………… 7 ………… 8 ………… 9 ………… 10

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<td>Antacids</td>
<td>Insulin/hypoglycemic Agents</td>
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<td>Antibiotics</td>
<td>H₂ Blockers</td>
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<td>Anticoagulants</td>
<td>Laxatives</td>
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<td>Anticonvulsants</td>
<td>Lipid Lowering</td>
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<td>Antihypertensive</td>
<td>Non-Steroidal</td>
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<tr>
<td>Anti-Parkinsonian</td>
<td>Psychotherapeutic Drugs</td>
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<tr>
<td>Cardiac Glycosides</td>
<td>Steroids</td>
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<tr>
<th>Dietary Supplements/Herbals</th>
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</table>

Additional details / notes

(Check most appropriate box)
Independently takes medications as prescribed (correct dose and times)
☐ Ability to take medications independently from prefilled daily pill dispenser
☐ Unable to take medications independently

Risk factors for fall and injury, i.e., identify any conditions about this patient that increase his/her risk of falling or injury (check all that apply)

☐ Orthostatic hypotension  ☐ osteoporosis  ☐ gait problem  ☐ impaired balance  ☐ confusion  ☐ Parkinsonism  ☐ pain  ☐ inadequate assistive device(s)  ☐ other  ☐

Additional details / notes

History of falls, trip, and/or stumble? Yes ☐ No ☐ _______ # in the past 6 months _____ # GLF (explain)

Bone fractures in the past 6 month? Yes ☐ No ☐ _______ # in the past 6 months (explain/location)

Sensory impairments affecting functioning (check all that apply)

Hearing: Conversation difficulties ☐ deaf ☐ uses corrective aid ☐

Vision:   Uses corrective lenses ☐ Blind ☐

Additional details / notes

Cognitive/Behavioral

Mini-Cognitive Test

a. Ask patient to repeat three unrelated nouns. Then tell them you will be asking them to repeat the words later.

b. Instruct patient to draw a clock. Have patient perform task after each instruction item.
   i. Draw clock face
   ii. Place numbers on face
   iii. Place hands on clock to read 11:10
   iv. Repeat the three nouns.

c. Interpretation:
   i. Give one point for each recalled word after the clock draw distracter
   ii. A score of zero indicates positive screen for dementia
   iii. A score of one or two with an abnormal CDT* indicates positive screen for dementia
   iv. A score of one or two with a normal CDT* indicates negative screen for dementia
   v. A score of three indicates negative screen for dementia

(*CDT – clock drawing test)

Date:__________ Score: _______

d. Past Scores
   Date:__________ Score: _______
   Date:__________ Score: _______
Anxiety  □ Yes □ No  How long? (Days/Weeks/ Months/Years)

Depression: □ Yes □ No  How long? (Days/Weeks/Months/Years)

Mood changes: □ Yes □ No  How long? (Days/Weeks/Months/Years)

Patient Health Questionnaire (PHQ-2):

Over the past two weeks, how often has the patient been bothered by any of the following problems?

e. Little interest or pleasure in doing things
   0 = not at all
   1 = several days
   2 = more than half the days
   3 = nearly every day

f. Feeling down, depressed, or hopeless
   0 = not at all
   1 = several days
   2 = more than half the days
   3 = nearly every day

Date: _______________  Score: ______

Functional

Shopping:
Grocery shopping provided by:  Spouse/Family □  Friend □  Other □ ________________________________
Frequency: __________ per (Week/Month)

Food Preparation:
(Choose most appropriate box)
□ Able to plan, prepare, and serve balanced meals if supplied with ingredients

□ Able to heat and serve pre-made meals

□ Unable to prepare, heat or serve meals

Cooking Facilities (check all that apply):  Stove □  Microwave □  Refrigeration □  Plumbing/water □

Kitchen stocked with adequate food preparation equipment/tools?  Yes □ No □ ________________________________

Able to independently use all food preparation equipment/tools?  Yes □ No □ ________________________________

Kitchen is clean and tidy?  Yes □ No □ ________________________________

Fridge is well stocked?  Yes □ No □ ________________________________

Pantry is well stocked?  Yes □ No □ ________________________________

Foods in kitchen are within expiration dates?  Yes □ No □ ________________________________

Safely reaches items on low and high shelves?  Yes □ No □ ________________________________

Meal preparation:  Self (times/week____) □  Other person (times/week____) □  Nutrition services (times/week____) □

Additional details / notes
Home environment

Living room:
- ☐ Cluttered
- ☐ Couch/chair - patient able to stand from:
- ☐ Rugs
- ☐ Adequate Lighting

Bedroom:
- Patient able to get on and off of bed? Yes ☐ No ☐

Bathroom: (check all that apply)
- ☐ Shower handles
- ☐ Hand held shower
- ☐ Shower chair
- ☐ Commode
- ☐ Raised toilet seat
- ☐ Floor condition good
- ☐ Rugs
- ☐ Shower/Tub
- ☐ Walk-in

Additional details / notes

Safety considerations:

Physical Self-Maintenance Scale (PSMS)
Activities of Daily Living

Descending numbered items represent worsening states of function. Choose the item that best describes the resident’s functional status. Scores in all categories should then be totaled. The higher the final score, the greater the degree of impairment.

A. Toileting
1. ☐ Cares for self at toilet completely, no incontinence.
2. ☐ Needs to be reminded or needs help in cleaning self, or has rare (weekly at most) accidents.
3. ☐ Soiling or wetting while asleep more than once a week.
4. ☐ Soiling or wetting while awake more than once a week.
5. ☐ No control of bowels or bladder.

B. Feeding
1. ☐ Eats without assistance.
2. ☐ Eats with minor assistance at mealtimes and/or with special preparation of food, or help in cleaning up after meals.
3. ☐ Feeds self with moderate assistance and is untidy.
4. ☐ Requires extensive assistance for all meals.
5. ☐ Does not feed self at all and resists efforts of others to feed him/her.

C. Dressing
1. ☐ Dresses, undresses, and selects close from own wardrobe.

Score:
2 ☐ Dresses and undresses self with minor assistance.
3 ☐ Needs moderate assistance in dressing or selection of clothes.
4 ☐ Needs major assistance in dressing, but cooperates with efforts of others to help.
5 ☐ Completely unable to dress self and resists efforts of others to help.

Score:

D. Grooming
1 ☐ Always neatly dressed, well groomed, without assistance.
2 ☐ Grooms self adequately with occasional minor assistance, e.g., shaving.
3 ☐ Needs moderate and regular assistance or supervision in grooming.
4. ☐ Needs total grooming care, but remain well-groomed after help from others.
5. ☐ ACTively negates all efforts of others to maintain grooming.

Score:

E. Physical Ambulation
1 ☐ Goes about grounds and surrounding area (e.g., town or city) on their own.
2 ☐ Ambulates within residence or about one block distances.
3 ☐ Ambulates with assistance of (check one)
   ☐ Another person ☐ railing ☐ cane ☐ walker
   ☐ Wheelchair – gets in and out without help
   ☐ Wheelchair – needs help getting in and out
4 ☐ Sits unsupported in chair or wheelchair, but cannot propel self without help.
5 ☐ Bedridden more than half the time.

Score:

F. Bathing
1 ☐ Bathes self (tub, shower, sponge bath) without help.
2 ☐ Bathes self with help in getting in and out of tub.
3 ☐ Washes face and hands only, but cannot bathe rest of body.
4 ☐ Does not wash self but is cooperative with those who bathe him/her.
5 ☐ Does not try to wash self, and resists efforts to keep him/her clean.

Score:

Total of all scores:

The higher the final score, the greater the degree of impairment with a total score of seven representing the lowest level of impairment, and a total score of 30 representing the highest level of impairment.

Additional details / notes

Nutrition

Weight: ___________ Height: ___________

(a) Any unintentional weight change in the past six months? ☐ Yes ☐ No ☐ Loss ☐ Gain ☐
(b) How much weight change? ___________ lbs/kg in the past ___________ weeks/months
(c) Appetite: Good ☐ Fair ☐ Poor ☐

Estimated Requirements:
Calories: ________ - ________ kcal/day  
Protein: ________ - ________ g/day

Based on: ________ - ________ kcal/kg  
Based on: ________ - ________ g/kg

<table>
<thead>
<tr>
<th>Meal</th>
<th>Food Item</th>
<th>Quantity</th>
<th>Calories</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AM Snack</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PM snack</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dinner</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Before Bed

<table>
<thead>
<tr>
<th>Total</th>
</tr>
</thead>
</table>

Are you following any specific diet at home? Yes ☐ No ☐ (if yes explain)________________________

---

**NFPE Checklist**

<table>
<thead>
<tr>
<th>Region</th>
<th>Location</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skin</strong></td>
<td>Globally</td>
<td>• Dermatitis, rashes, petechiae, ecchymosis, scaliness, dryness.</td>
</tr>
<tr>
<td><strong>Head</strong></td>
<td>Hair</td>
<td>• Touch and observe for the following: thinness, dullness, dryness, brittleness, patchy growth and easily pluck able.</td>
</tr>
<tr>
<td></td>
<td>Temporalis</td>
<td>• Palpate temporal muscles. Check for fullness and firmness. Observe for depression, hollowing.</td>
</tr>
<tr>
<td></td>
<td>Eyes</td>
<td>• Orbital pads: Gently palpate area below eyes. Observe for darkness, hollowness, and/or loose skin.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Observe for cracked or reddened corners of eyes, foamy (Bitot’s Spots) areas on sclera; dull, dry or rough sclera; dull, milky, opaque cornea.</td>
</tr>
<tr>
<td><strong>Mouth</strong></td>
<td>Have patient open mouth and shine penlight into oral cavity. Next, have patient stick out tongue. Observe:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Mucosa: pallor, dryness, decreased salivary flow, ulcerations (mucositis)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Tongue: magenta or beefy red color; smooth, slick appearance (glossitis) (Swallowing Impaired? Yes ☐ No ☐) (Chewing Impaired? Yes ☐ No ☐)</td>
</tr>
<tr>
<td><strong>Teeth</strong></td>
<td>• Observe for tooth decay, missing teeth. (Dentition: Teeth ☐ Edentulous ☐) (Dentures: Upper ☐ Lower ☐)</td>
<td></td>
</tr>
<tr>
<td><strong>Gums</strong></td>
<td>• Observe for sponginess, bleeding; swollen, red, receding gums.</td>
<td></td>
</tr>
<tr>
<td><strong>Lips</strong></td>
<td>• Observe for bilateral cracks at corners of mouth, redness (angular stomatitis/cheilosis).</td>
<td></td>
</tr>
<tr>
<td><strong>Upper Body</strong></td>
<td>Deltoid</td>
<td>• Palpate muscles around the shoulders (deltoid muscles) for fullness and firmness. Observe for squaring of shoulders.</td>
</tr>
<tr>
<td><strong>Clavicle</strong></td>
<td>• Gently palpate above and below the clavicle for fullness and firmness. Observe for prominence of clavicle.</td>
<td></td>
</tr>
<tr>
<td><strong>Ribs</strong></td>
<td>• Have patient sit forward and palpate ribs.</td>
<td></td>
</tr>
</tbody>
</table>

| **Triceps** | • Have patient bend arm at 90 degree angle with upper arm perpendicular to body; if patient unable to cooperate, bend elbow at 90 degrees and place forearm horizontally across body if possible; grasp upper arm midway between shoulder and elbow with palm and fingers and gradually pull skin away from arm with fingers while wiggling slightly to separate fat from muscle. |

| **Skinfold** | • Have patient make okay sign with thumb and first finger and while palpating interosseous muscle between thumb and first finger and the interosseous muscles between remaining fingers. Check for fullness and firmness. Observe for depression. • Observe fingernails for missing, misshapen (spoon shaped), splintered, transverse ridging, discoloration, dullness, lackluster appearance, mottling. |

| **Interosseous** | |

---

**Grip Strength**

<table>
<thead>
<tr>
<th>Dominant Hand: Right ☐ Left ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Hand:</td>
</tr>
<tr>
<td>☐ ☐ ☐ ☐ ☐</td>
</tr>
</tbody>
</table>

Avg. Avg.

---

Nutrition Diagnosis:

__________________________

Functional Deficits:

__________________________

__________________________

Care Plan:

__________________________
Goals:

1) 

2) 

3)
References


Guide to a Successful Nutrition Home Visit

Susan Saffel-Shrier, MS, RDN, CD, Cert. Gerontologist
Professor, Division of Family Medicine
Department of Family and Preventive Medicine
University of Utah School of Medicine
What is the ideal environment to assess a client? I would like to point out that we use all our senses when evaluating a situation. Sight being a primary source. In my experience in nutritional counseling, being present and seeing the environment in question provides ideal information. Thus, being in one’s home can provide a wealth of information in a much shorter amount of time in comparison to an office type environment. One typical argument against performing home visit is the cost of travel plus time in the home. However, I have found one home visit can prevent continual visit to determine the nutritional factors. Thus home visit can actually save time and money.
Why Home Visits Work!

So further support home visits can be explained by the story of the Blind Men and the Elephant. When there are multiple factors being assessed by multiple professionals, there is a higher risk of poor communication; therefore, inadequate recommendations. Home visit can assist the observer in understanding multiple factors and improve sharing of pertinent findings.
Why Home Visits Work….

Is it sufficient to address older adults health and nutrition without changing the conditions that made them unhealthy in the first place?

Utilizing the social determinants of health can enhance the understanding of the client’s health. Being present in a client’s home can support assessing the social determinants of health which has a significant contribution to a person's overall health.
Making an appointment might seem at face value a simple process. It is not! This is the first impression the client will receive. If the request is not presented appropriately, the appointment arrangement could fail. The second point on the slide is extremely important to the correct delivery of the request.

### The Call: Making the Appointment

- **Greetings and introduction**
- **State clearly your reason for the visit**
  - Reassure client you are wanting to help them stay in their home.
  - Example: Thank you for completing____. From your information, I would like to discuss potential resources that could assist you to more easily go about your day IN YOUR HOME.
- **Cost!!!**
- **Discuss if client would like other persons present at the visit.**
  - Family member
  - Home health
  - Friend
**Nutrition Home Visit Preparation**

- Most accurate information from observation and performance based activities
- Imbed pertinent questions in "conversation".
- Avoid too many direct questions.
- Always ask for permission. You are a visitor in the client’s home.
- Functional assessment
  - Instrumental Activities of Living (IADLS)
  - Determines ability to interact with the environment
- 8 IADLS:

<table>
<thead>
<tr>
<th>Meal Preparation</th>
<th>(Food) Shopping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode of transportation</td>
<td>Housekeeping</td>
</tr>
<tr>
<td>Laundry</td>
<td>Responsibility for own medication</td>
</tr>
<tr>
<td>Ability to use the telephone (text, email)</td>
<td>Ability to handle finances</td>
</tr>
</tbody>
</table>

This slide further supports home visitations and helpful hints on conducting one. Assessing function ability also supports being in the home environment and can provide insight into the clients social determinants of health.
There are multiple tools to assess function/IADLS. I particularly like this tool as it has gradation to further elucidate functional ability.
IADL- Functional Assessment

C. Food Preparation
1. Plans, prepares, and serves adequate meals independently .................. 1
2. Prepares adequate meals if supplied with ingredients ..................... 0
3. Heats and serves prepared meals or prepares meals but does not maintain adequate diet ................................................................. 0
4. Needs to have meals prepared and served .................................... 0

D. Housekeeping
1. Maintains house alone with occasion assistance (heavy work) .............. 1
2. Performs light daily tasks such as dishwashing, bed making ............. 1
3. Performs light daily tasks, but cannot maintain acceptable level of cleanliness ................................................................. 1
4. Needs help with all home maintenance tasks ................................. 1
5. Does not participate in any housekeeping tasks .............................. 0

Again, a gradation of IADLs.
### IADLs - Functional Assessment

**E. Laundry**
1. Does personal laundry completely ................................................................. 1
2. Launders small items, rinses socks, stockings, etc........................................... 1
3. All laundry must be done by others .................................................................. 0

**F. Mode of Transportation**
1. Travels independently on public transportation or drives own car ............... 1
2. Arranges own travel via taxi, but does not otherwise use public transportation.................................................................................................................. 1
3. Travels on public transportation when assisted or accompanied by another. 1
4. Travel limited to taxi or automobile with assistance of another .................. 0
5. Does not travel at all ......................................................................................... 0

Each IADL can be tight to nutrition directly or indirectly. Examples include ability to shop for food, home sanitation, contacting family for access of foods.
## IADLs - Functional Assessment

### G. Responsibility for Own Medications
1. Is responsible for taking medication in correct dosages at correct time ........1
2. Takes responsibility if medication is prepared in advance in separate dosages ................................................................. 0
3. Is not capable of dispensing own medication ................................................................. 0

### H. Ability to Handle Finances
1. Manages financial matters independently (budgets, writes checks, pays rent and bills, goes to bank); collects and keeps track of income ......................... 1
2. Manages day-to-day purchases, but needs help with banking, major purchases, etc ................................................................. 1
3. Incapable of handling money ................................................................. 0

Last of the IADLs
The Front Door: Introducing Yourself

• Make sure you have your name badge and introduce yourself
• Refresh the client’s memory about the appointment
  • Example: Mr. or Mrs.______, it is so nice to meet you in person. I’m pleased we were able to arrange a time talk about resources available to you.
  • If client has forgotten, gentle re-fresh their memory.
    • A potential indicator of a more significant memory issue

The next challenge is to be able to enter the home and assess the clients health. Following these simple suggestions, one can increase ability to be invited into the clients home.
The Couch: 
Making Your Way to a Comfortable Place to Sit and Talk

- When entering the home
  - Make pleasant comment(s) about home or neighborhood
    - Examples: lovely yard, easy parking etc.
- Observe family photos
  - Look for client at an earlier age: weight history
- Observe clients clothing & hygiene
  - Ill-fitting clothes
  - Soiling (food, urine, feces)
  - Clothing pairing
- Indicators: memory, incontinence, poor fluid intake, weight loss/gain, driving, safety, support systems

After entering the client’s house, the next step is to become very observant of the home environment. This slide has several pointers in doing this as well as health indicators that could be identified.
Sitting in a comfortable surrounding can result in the collection of many essential information about the client's current living situation. Getting to know the client through these questions can increase the possibility to tour the rest of the house.

**On the Couch**

- **Ask how long the client has lived in this setting**
  - Information you are wanting to gather
    - Any adjustment to living situation
    - Interactions with neighbors
    - Family living in area
    - Assess involvement
    - Other significant persons
  - **Ask permission to see how the client gets around their home**
    - Key rooms
      - Kitchen
      - Bath
      - Bedroom

Sitting in a comfortable surrounding can result in the collection of many essential information about the client's current living situation. Getting to know the client through these questions can increase the possibility to tour the rest of the house.
In the Kitchen: Dietary intake Assessment

• In conversation, ask about food choices & preparation.
  • Examples
    • I see you have both a stove and microwave. Which one do you like to use most?
    • If you don’t mind, can you show me how you reach items in your kitchen.
      • Please show me how high you can reach in your cupboards.
      • Could you show me how you reach food out of the bottom drawers of your refrigerator?
    • What is your favorite meal to prepare?
    • When did you prepare it last?
    • Where do you shop (for food)?
Of course the kitchen is a very telling room for understanding the nutrition of the client. It is also an opportunity to assess mobility as related to food preparation and storage. Also, it can provide information on pets and how they are fed.

In the Kitchen: What you see is what you get!

- **Observations**
  - Overall Cleanliness
  - Dirty dishes, appliances
  - Dish soap available
  - Easy in which clients physically maneuver
  - Pets
    - Love & hate
  - Kitchen/dining table
Kitchen Nutrition Indicators

- Food access
- Adequate intake
- Financial status
- Food safety
- Cooking ability
- Working appliances
- Memory
- Transportation
- Social isolation
- Abuse

Here is a list of potential nutrition indicators that can be identified from observing the kitchen.
Here is a list of nutrition related indicators that can be observed in the bath and bedroom.

In the Bath & Bedroom

- Unsanitary conditions
- Soiled clothing or bedding
- Safety & fall risk
- Maneuverability
- Toiletries
- Overall cleanliness
Let’s complete our discussion by reviewing the malnutrition assessment.
# Home Visit Malnutrition Assessment

<table>
<thead>
<tr>
<th>Energy intake</th>
<th>Food access, food present in home, IADLs, family and caregiver input</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight loss within time frame</td>
<td>Self-reported, family and caregiver input, past photos, ill-fitting clothes</td>
</tr>
<tr>
<td><strong>Physical Findings</strong></td>
<td></td>
</tr>
<tr>
<td>Muscle mass &amp; body fat</td>
<td>Nutrition focused physical exam</td>
</tr>
<tr>
<td>Fluid accumulation</td>
<td>Nutrition focused physical exam</td>
</tr>
<tr>
<td>Functional muscle strength</td>
<td>Hand grip strength, Get Up and Go Test, chair rise, functional status</td>
</tr>
<tr>
<td>Micronutrient exam</td>
<td>Hair, mouth, tongue, teeth, swallowing, taste, fractures, skin</td>
</tr>
</tbody>
</table>

This table covers the different areas of assessment for malnutrition and methods of determining adequacy.
The nutrition-focused physical exam assess fat and muscle composition as well as edema, functionality, hair quality (protein deficiency) and health of the mouth teeth, tongue and swallowing capabilities.

So let’s know focus on the PE. I would suggest you leave the eval of intake to the RDN. There is as much an art as a science to collecting dietary intake information.
Home Visit Malnutrition Assessment

The next 2 slides review the muscle and fat areas assessed in the nutrition-focused physical exam.
Nutrition Focused Physical Exam: Home-Style

- Upper Body
  - Temples
  - Orbital
  - Clavicle
  - Shoulders
  - Ribs
  - Arms
  - hands

- Lower Body
  - Thigh
  - Knee
  - Calf
  - Ankle
After the full nutrition assessment, a care plan needs to be created including all the components we have discussed in the presentations.
Thank you!
Appendix C

Client/Caregiver Malnutrition Educational Materials

**Diabetes:**

Type 2 DM Nutrition Therapy:


Ready Set Start Counting:

**Dysphagia/ Difficulty Swallowing:**

Dysphagia Diet Level 2:
https://www.nyp.org/documents/nutrition/resources/NationalDysphagiaDiet_Level2MechanicallyAltered

Dysphagia Diet Level 3:

**GI/ Digestive Tract:**


Inflammatory Bowel Disease Diet Guidelines:
https://www.uwhealth.org/healthfacts/nutrition/375.pdf
**Heat Disease:**


**Hydration:**

Drinking Enough Fluids: [http://www.nlmaging.state.nm.us/uploads/files/NIA%E2%80%94NIH%E2%80%94Drinking%20Enough%20Fluids.pdf](http://www.nlmaging.state.nm.us/uploads/files/NIA%E2%80%94NIH%E2%80%94Drinking%20Enough%20Fluids.pdf)

**Liver Disease:**

Cirrhosis Nutrition Therapy: [https://wiki.ucfilespace.uc.edu/sandbox/groups/livertransplantgroup/wiki/8f094/attachments/ce929/CirrhosisNutritionTherapy1.pdf?sessionID=1ce247051ff5374c30be1896bba7e54a8ad1da42](https://wiki.ucfilespace.uc.edu/sandbox/groups/livertransplantgroup/wiki/8f094/attachments/ce929/CirrhosisNutritionTherapy1.pdf?sessionID=1ce247051ff5374c30be1896bba7e54a8ad1da42)

NAFLD: [https://patienteducation.osumc.edu/Documents/NAFLD.pdf](https://patienteducation.osumc.edu/Documents/NAFLD.pdf)

**Look and Feel Better:**

Men: [https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet33GetTheFactsToFeelAndLookBetter.pdf](https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet33GetTheFactsToFeelAndLookBetter.pdf)

Women: [https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet35MakeBetterFoodChoices.pdf](https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet35MakeBetterFoodChoices.pdf)

**Malnutrition:**

Malnutrition an Older Adult Crisis: [https://www.defeatmalnutrition.today/sites/default/files/images/DMT_Malnutrition_Info_Graphic_OnePage_Update_2.pdf](https://www.defeatmalnutrition.today/sites/default/files/images/DMT_Malnutrition_Info_Graphic_OnePage_Update_2.pdf)
**Myplate:**

Myplate for Older Adults: https://hnrca.tufts.edu/myplate/files/MPFOA2015.pdf

Liven Up Your Meals With Vegetables and Fruit:

Find Your Healthy Eating Style: https://chooxygenplate-prod.azureedge.net/sites/default/files/misc/dietaryguidelines/MyPlateMyWins.pdf

Choosing Whole Grains: https://chooxygenplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet22ChoosingWholeGrainFoods_0.pdf

Smart Shopping Tips: https://chooxygenplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet9SmartShopping.pdf

Vary Your Protein: https://chooxygenplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet6ProteinFoods_0.pdf


**Nutrition Facts Label:**

Understanding and Using Nutrition Facts Label:
**Osteoporosis/ Porous and Fragile Bone:**


**Physical Activity:**

Be Active Adults: [https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet30BeActiveAdults.pdf](https://choosemyplate-prod.azureedge.net/sites/default/files/tentips/DGTipsheet30BeActiveAdults.pdf)

**Increasing Caloric Intake:**


Heart Healthy Power Packing: [https://intermountainhealthcare.org/ext/Dcmnt?ncid=522882060](https://intermountainhealthcare.org/ext/Dcmnt?ncid=522882060)

Let’s Talk About Power Packing: [https://intermountainhealthcare.org/ext/Dcmnt?ncid=520681019](https://intermountainhealthcare.org/ext/Dcmnt?ncid=520681019)

**Renal/ Kidney Disease:**

Kidney Health: [file:///C:/Users/covin/AppData/Local/Temp/eating-right-508.pdf](file:///C:/Users/covin/AppData/Local/Temp/eating-right-508.pdf)

Sodium: [file:///C:/Users/covin/AppData/Local/Temp/nutrition-sodium-508.pdf](file:///C:/Users/covin/AppData/Local/Temp/nutrition-sodium-508.pdf)

Phosphorus: [file:///C:/Users/covin/AppData/Local/Temp/nutrition-phosphorus-508.pdf](file:///C:/Users/covin/AppData/Local/Temp/nutrition-phosphorus-508.pdf)

Potassium: [file:///C:/Users/covin/AppData/Local/Temp/nutrition-potassium-508.pdf](file:///C:/Users/covin/AppData/Local/Temp/nutrition-potassium-508.pdf)

Protein: [file:///C:/Users/covin/AppData/Local/Temp/nutrition-protein-508.pdf](file:///C:/Users/covin/AppData/Local/Temp/nutrition-protein-508.pdf)
How to Read a Food Label: file:///C:/Users/covin/AppData/Local/Temp/nutrition-food-label-508.pdf

Appendix D

Aging Services Outreach Materials

PowerPoint Presentation: “Malnutrition: Impact of Transitions of Care”
This presentation highlights the interactions of the transitions of care and malnutrition. The presentation is part of an ACL funded project on malnutrition and hospital re-admissions.
Objectives:

- Understand transitions of care
- Define malnutrition
- Recognize key malnutrition indicators
- Appreciate the impact of transitions of care on malnutrition

There are four objectives for this presentation as listed above.
Before we can appropriately intervene in the prevention and/or treatment of malnutrition, it is important to understand its definition. Noted that key concepts are changes in body composition and reduced functionality.

Malnutrition Definition

• An acute, subacute or chronic state of nutrition in which a combination of varying degrees of overnutrition or undernutrition with or without inflammatory activity have led to a change in body composition and diminished function.

Undernutrition lack kcal in addition to protein and other nutrients

Malnutrition is a geriatric syndrome
Malnutrition is common, costly and increases the risk of hospital re-admissions. It has a significant impact on an older adults quality of life and functionality.

Malnutrition increase hospital stay by 2-4 days

Malnutrition is frequently unrecognized. Incidence and prevalence are difficult to determine.
It is also important to understand the definition of transitions of care. A key concept is that transitions vary from person to person and can reverse in progression. This results in many communication challenges.
Older adults frequently experience complications and re-admissions due to inadequate communications during the transitions of care. Both transitions of care and malnutrition are avoidable costs if addressed appropriately.
To illustrate the complexity of transitions of care and malnutrition, we can use the story of the Blind Men and the Elephant. In this story, different sections of the elephant are assessed by men who are visually impaired and are not aware of the other men. In essence, their assessment is incomplete due to lack of knowledge of the other men’s assessment and lack of communication.
Who are the Players?

• Health care providers
  • Hospital readmissions
  • Population health
  • Nutrition services
• Administrators
• Insurance companies
• Community-based services
  • YOU
  • Home health
  • Skilled Nursing
  • Etc

So who are the players in the task of addressing malnutrition and transitions of care. The answer is all persons involved with the provision of health care and services of the individual older adult.
The “Silo” Problem

• Medical care & health care “silos” often do not communicate well with one another:
  • Financial silos
    • e.g. government/private insurance
  • Professional silos
    • e.g. hospital/clinics/community services/providers
  • Technological silos
    • e.g. non-interoperable electronic health records

This slide depicts the multitude of players and potential incomplete communications.
Another key concept of malnutrition and transitions of care is the cyclic nature of transitions. As mentioned earlier, the cycle can reverse itself at anytime in the care of the older adult as conditions change.
Transitions of Care Lessons Learner

• Stay in regular contact with service providers
  • Attend meetings as available
  • Identify contact person(s)
  • Provide your own findings when appropriate

Contribute to the care planning
  • Use multiple communication options
  • Set-up HIPPA compliant routes of communication
  • Maintain bi-directional communication
So I invite you to take the malnutrition challenge and consider all the points of care that you can impact. It will vary from situation to situation. It is important to think outside your immediate work arena and consider how others are impacting the care. Ask yourself how you can improve communication thus quality of life for the older adult.

Take the Malnutrition Challenge

• Awareness
• Recognition/identification
  • Screening
  • Assessment & treatment
• Coordination of services
  • Across continuum of care
  • Transitions of care
One of the first steps in addressing malnutrition during the transitions of care is to understand the difference between screening and assessment and purpose of each process.

First Steps in Addressing Malnutrition: Screening & Assessment

- The purpose of screening is to determine whether an assessment is needed. The purpose of assessment is to gather the detailed information needed for a treatment plan that meets the individual needs. Screening is a process for evaluating the possible presence of a particular problem.
### Malnutrition Screening Tools

<table>
<thead>
<tr>
<th>Tool</th>
<th>Validated</th>
<th>Population(s)</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine Checklist (NSI)</td>
<td>No</td>
<td>Older adults</td>
<td>10</td>
</tr>
<tr>
<td>Malnutrition Screening Tool (MST)</td>
<td>Yes</td>
<td>Hospitalized, care facility</td>
<td>2-3</td>
</tr>
<tr>
<td>Mini-Nutrition Assessment (MNA)</td>
<td>Yes</td>
<td>All settings</td>
<td>6</td>
</tr>
<tr>
<td>Malnutrition Universal Screening (MUST)</td>
<td>Yes</td>
<td>Acute, community multiple languages</td>
<td>3</td>
</tr>
<tr>
<td>Nutrition Risk Screening (NRS)</td>
<td>Yes</td>
<td>Hospitalized</td>
<td>4</td>
</tr>
<tr>
<td>Subjective Global Assessment (SGA)</td>
<td>Yes</td>
<td>All</td>
<td>6 sections</td>
</tr>
<tr>
<td>Seniors in the Community (copyright)</td>
<td>Yes</td>
<td>All</td>
<td>14</td>
</tr>
</tbody>
</table>

Malnutrition screening vary widely and range from a simple assessment of appetite and unintentional weight loss to more complex protocols that include measurements of a variety of anthropometric and laboratory parameters.

A comprehensive nutrition assessment included multiple components that assess the biological, social and psychological impact on nutritional health. RDN’s are trained to perform this type of assessment.
A component of the nutrition assessment is the physical exam. This type of exam assess body composition and risk of malnutrition.
In conclusion, it is important to understand that the recovery period for malnutrition can be lengthy. It requires multiple aspects of good nutrition be provided continually over an extended period of time. This requires an appreciation of the role of all factors involved in malnutrition and the need for continually communication between health care and services professionals.
Appendix E

Dissemination Through Multi-Media Outlets

National Professional Webinars

1. Health West Institute for Successful Aging:
   a. “Bridging High Quality Malnutrition Screening, Assessment, and Intervention for Older Adults from Hospital to Home”

2. Department of Health and Human Services, Administration on Aging, Administration for Community Living:
   a. “Bridging High Quality Malnutrition Screening, Assessment, and Intervention for Older Adults from Hospital to Home: Impact of Nutrition Home Visitations” prt. 1
   b. “Bridging High Quality Malnutrition Screening, Assessment, and Intervention for Older Adults from Hospital to Home: Impact of Nutrition Home Visitations” prt. 2

3. Academy of Nutrition and Dietetics Healthy Aging DPG:
   a. “Opportunities for Expanding the Role of the Community Dietitian”
   b. Invitation to submit malnutrition article for their newsletter.

National Conference Presentations

1. National Association of Nutrition and Aging Services Program:
   a. “Home nutrition visits: Maximizing Nutritional Assessment, Linking to the Healthcare Arena”
   b. ACL Innovations in Nutrition Grant Panel Discussion/Presentation

2. Meals on Wheels America:
Professional Lectures

1. Area Agency on Aging:
   a. “Malnutrition Clinical Guidelines: Older Adults”
   b. “Malnutrition: Senior Companion Program”
   c. “Malnutrition Assessment”
   d. “Nutrition and the Older Adult”

2. Utah Division of Aging and Adult Services Board on Aging:
   a. “Bridging High Quality Malnutrition Screening, Assessment, and Intervention for Older Adults from Hospital to Home”

3. University of Utah School of Medicine and Nutrition Department:
   a. Nutrition Department
      i. “Geriatric Malnutrition”
   b. Internal Medicine Geriatric Division Grand Rounds
      i. “Malnutrition: New Diagnostic Criteria”
   c. Family Medicine Residency Program
      i. “Malnutrition Physical Examination”
   d. Physician Assistants Program
      i. “Geriatric Malnutrition”

Community Engagement Activities

1. Newspaper Articles:
a. Davis County Clipper

   i. “Hydration Situation”

   ii. “Older Adults and Malnutrition: Should We Be Concerned?”

2. Aging and Adult Services Health Fair:

   a. Invited to provide information on malnutrition and older adults through brief presentation and having a booth.
Addendum A

The recruitment process was the most challenging aspect of administering the project. Introduction and incorporation of a new protocol into already demanding work schedules for our partner organizations required in-depth discussion and planning. Analysis of each organization structure was necessary as each site had distinct task allocation, coordination, and supervision. Introduction of the research project recruitment required re-evaluating this structure with regular assessments of its effectiveness. Frequently the optimal process was not intuitive. In many cases, creating a team-based approach within and across programs was found to be most ideal. This was definitely the case for the larger AAA. The following processes were common areas needing evaluation:

1. Determination of personnel within the organization who would send referrals to an identified research team member
2. Determination of the method in which the referrals would be sent considering privacy, security and confidentiality
3. Educate personnel on study recruitment messaging containing key points to discuss with potential participants

Creation of the team-based recruitment processes that were not routine for the partner organizations required the introduction of added staff responsibilities. This meant team input and buy-in was essential to recruitment success. The research team was prompt in offering their assistance in identifying potential participants. This was not always received positively for multiple reasons. The two most frequently observed responses to the research teams offer to assist were related to the perceived threat to staff job security and lack of understanding of the requested tasks from management and the research team.
The research team proposed attendance at regularly scheduled staff meetings to resolve these issues. This idea was first discussed with each organization’s management prior to attending meetings. One research team member was assigned to attend several of the partner organizations’ monthly team meetings. To ensure the management would be receptive to our attendance, we made clear the need for only 5 minutes of their meeting time. Our goals were to briefly refresh awareness of the project, answer recruitment questions, provide requested information, and update staff on general nutritional findings. Attendance at these meetings provided the research team opportunities to develop positive working relationships and a better understanding of each group’s goals, responsibilities and tasks. In return, these meetings provided opportunities for the staff to personalize the project with individual team members, to enhance their knowledge of the nutritional needs of older adults and the provision of high quality nutrition therapy.