Hidden Dangers and Costs Behind Geriatric Malnutrition
October 1, 2018

Logistics

The audio for today’s session will play over your computer speakers. There is NO dial-in telephone number.

To ask questions or share comments, access the group chat by clicking on the dark blue square that has a chat icon.

You may view the handouts for today’s session by clicking the green square with the sheet of paper.
In his role as chief medical officer and executive vice president of clinical research, medical informatics, and telehealth, Dr. Zia Agha advances West Health’s mission to enable seniors to successfully age in place, with access to high-quality, affordable health and support services that preserve and protect their dignity, quality of life and independence.

Dr. Agha serves as physician leader for West Health, which includes the West Health Institute, Gary and Mary West Health Policy Center and Gary and Mary West Foundation, ensuring its research portfolio and initiatives are translated into clinical practice, policy reform and scalable innovations that will allow seniors to successfully age in place. Dr. Agha leads the development and execution of clinical research activities and brings a comprehensive understanding of the evolving field of clinical informatics such as clinical information systems, telehealth and data science.

Dr. Agha joined the West Health Institute in 2014 and leads the organization’s clinical research and medical informatics initiatives, focused on creating and advancing senior-appropriate acute and chronic care models, and improving access to long-term services and supports.

Prior to joining West Health, Dr. Agha was director for the Health Services Research and Development (HSRD) division at VA San Diego Healthcare System and Professor of Medicine at the University of California, San Diego where he currently holds an appointment as a part-time professor.

A practicing physician, Dr. Agha received his MD degree from Aga Khan University in Karachi, Pakistan and a MS degree in Clinical Epidemiology and General Internal Medicine fellowship in Health Services Research from the Medical College of Wisconsin. He is a Diplomat of the American Board of Internal Medicine.
Senior Malnutrition: A Public Health Crisis Impacting Successful Aging - Why It Should Matter

Dr. Zia Agha, Chief Medical Officer

October 1, 2018

Senior Malnutrition: Overview

- Prevalence and impact of malnutrition
- Tools and approaches to identify and address malnutrition
- Advancing malnutrition care through innovative, senior-centered care models
Human and Financial Impact of Malnutrition

Disease-associated malnutrition estimated to cost $51.3 billion annually

Prevalence Across Care Settings

- **Acute Care:**
  - 20%-50% of adults are malnourished or at risk - only 7% diagnosed
  - 5X more likely to have an in-hospital death
  - 54% higher likelihood of hospital 30-day readmissions
  - Cost per readmission for patients with malnutrition 26-34% higher

- **Post-Acute Care:**
  - 14%-51% of seniors are malnourished

- **In Community:**
  - Estimated 6%-30% of seniors are malnourished
Risk Factors

The risk factors associated with malnutrition are multifaceted and are often synergistic or bidirectional

- Clinical
- Social
- Psychosocial

Clinical Management of Malnutrition

Disease States:
- Poor intake
- Chronic disease
- Acute disease or injury-related

Malnutrition Diagnosis:
- Insufficient energy intake
- Weight loss
- Loss of muscle mass
- Loss of subcutaneous fat
- Localized or generalized fluid accumulation
- Diminished functional status
Consequences of Malnutrition

Consequences of malnutrition are significant:

- Functional
- Clinical
- Healthcare System

Identify: Screening Tools for Malnutrition

Screening tools most often used in the clinical setting:

- Mini Nutritional Assessment Short Form (MNA-SF)
- Malnutrition Screening Tool (MST)
- Malnutrition Universal Screening Tool (MUST)
- Seniors in the Community: Risk Evaluation for Eating and Nutrition II (SCREEN-II)
- Subjective Global Assessment (SGA)
Identify: Screening Tools for Social Risk Factors

- Social needs screeners:
  - Accountable Health Communities (AHC) Health-Related Social Needs (HRSN) Screening Tool
  - Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE)
  - Health Leads: 2018 Social Needs Screening Toolkit
Addressing Malnutrition

Defeat Malnutrition Today Coalition
Advancing comprehensive malnutrition care

National Efforts to Address and Prevent Malnutrition

Strategy: Comprehensive Malnutrition Care

Senior Malnutrition Visioning Session
West Health: Advancing Senior-Appropriate Care Models

Collaborating with Healthcare and Community-based Organizations to Identify, Intervene, Evaluate

Senior-appropriate acute care models
- Geriatric Emergency Department
- Senior Dental Center

Senior-appropriate chronic care models
- Home-based Primary Care
- Palliative Care

Long-term services and supports delivery models
- Senior Nutritional & Malnutrition
- Medical and Social Care Integration

Identify, Intervene and Evaluate: UCSD Senior Emergency Care Unit

**Identify:** GENIE screens for risks that threaten health, safety and wellbeing

**Intervene:** Referrals for follow up in both the health and social domains to address risk

**Evaluate:** Measure results and outcomes
Identify, Intervene and Evaluate: Gary and Mary West Senior Wellness and Dental Center

Food Insecurity

Over 13 million seniors face hunger every year!

Seniors who are food insecure are at significant risk for malnutrition and increased health care utilization and costs:

- Food-insecure patients in the top 10% of healthcare expenditures
- **Significantly more** ED visits, inpatient hospitalizations and number of days hospitalized
- **Higher rates** of outpatient visits
- Healthcare systems **challenged to address the social factors** that worsen the health for food-insecure patients
Identify: Comprehensive Geriatric Assessment
Gary and Mary West Senior Wellness Center

Food insecurity is a common problem for seniors who come to the wellness center seeking dental care.

Intervene and Evaluate: Oral Health and Malnutrition Risk
Gary and Mary West Senior Dental Center

A senior’s ability to achieve adequate nutrition is impacted by their oral health status.
Call to Action: Senior Malnutrition, A Silent and Costly Epidemic

- **Identify**: Screen for malnutrition and food insecurity across care settings
- **Intervene**: Address the full range of associated risks
- **Evaluate**: Develop, test and evaluate senior-appropriate care models across the care continuum

Q & A

westhealth.org | @West Health

Contact: Brenda Schmitthenner, Senior Director, Successful Aging
bschmitthenner@westhealth.org
### Maryland Statewide Malnutrition Data

**Timeline:** Q2-2015 to Q1-2018

Number of Maryland beneficiaries with malnutrition codes* billed over a 3-year period from Q2-2015 to Q1-2018: 17,717

<table>
<thead>
<tr>
<th>DATA</th>
<th>Q2-2015</th>
<th>Q3-2015</th>
<th>Q4-2015</th>
<th>Q2-2016</th>
<th>Q3-2016</th>
<th>Q4-2016</th>
<th>Q2-2017</th>
<th>Q3-2017</th>
<th>Q4-2017</th>
<th>Q2-2018</th>
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</thead>
<tbody>
<tr>
<td># Admissions</td>
<td>4,248</td>
<td>4,421</td>
<td>4,380</td>
<td>4,762</td>
<td>4,937</td>
<td>4,735</td>
<td>4,809</td>
<td>4,542</td>
<td>3,922</td>
<td>4,319</td>
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<tr>
<td># ED Visits</td>
<td>2,943</td>
<td>3,117</td>
<td>3,995</td>
<td>3,713</td>
<td>3,477</td>
<td>2,985</td>
<td>3,224</td>
<td>2,648</td>
<td>2,772</td>
<td>2,124</td>
</tr>
<tr>
<td># Observation Days population average of 85.63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># Discharges</td>
<td>1,411</td>
<td>1,427</td>
<td>1,424</td>
<td>1,306</td>
<td>1,454</td>
<td>1,604</td>
<td>1,572</td>
<td>1,746</td>
<td>1,977</td>
<td>2,226</td>
</tr>
<tr>
<td># Readmissions</td>
<td>1,299</td>
<td>1,069</td>
<td>1,370</td>
<td>1,374</td>
<td>1,414</td>
<td>1,546</td>
<td>1,674</td>
<td>1,425</td>
<td>1,523</td>
<td>1,482</td>
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<tr>
<td># Admissions per 1000 Beneficiaries</td>
<td>230.77</td>
<td>240.32</td>
<td>251.28</td>
<td>257.49</td>
<td>265.87</td>
<td>267.68</td>
<td>272.63</td>
<td>273.20</td>
<td>257.32</td>
<td>254.85</td>
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<tr>
<td># ED visits per 1000 Beneficiaries</td>
<td>186.11</td>
<td>177.62</td>
<td>166.92</td>
<td>133.13</td>
<td>103.69</td>
<td>106.05</td>
<td>109.17</td>
<td>146.50</td>
<td>154.65</td>
<td>154.82</td>
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<tr>
<td># Observation Days per 1000 Beneficiaries</td>
<td>77.20</td>
<td>77.82</td>
<td>53.99</td>
<td>36.83</td>
<td>36.14</td>
<td>38.93</td>
<td>38.44</td>
<td>35.33</td>
<td>35.73</td>
<td>36.90</td>
</tr>
<tr>
<td># Readmissions per 1000 Beneficiaries</td>
<td>37.52</td>
<td>77.27</td>
<td>16.20</td>
<td>77.53</td>
<td>79.81</td>
<td>81.62</td>
<td>80.20</td>
<td>80.43</td>
<td>14.67</td>
<td>83.07</td>
</tr>
<tr>
<td>% Line Discharges Resubmitted Within 30 Days</td>
<td>31.27%</td>
<td>22.06%</td>
<td>20.73%</td>
<td>31.40%</td>
<td>22.22%</td>
<td>31.63%</td>
<td>31.77%</td>
<td>31.12%</td>
<td>25.43%</td>
<td>23.12%</td>
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</tbody>
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**NOTES:**

In order to classify a Medicare FFS beneficiary as malnourished, all diagnosis positions in Part A and B claims were searched for relevant ICD-9/Codes* during the 3-year timeframe listed above. These beneficiaries were then matched to hospitalisation data by their Medicare ID numbers to identify volume of admits, discharges, readmits, ED visits and observation stays during each quarter.

*Malnutrition codes include the following:
- Mild Protein-Energy Malnutrition [ICD-9 Code: 264.0, ICD-10 Code: E44.1 ]
- Moderate Protein-Energy Malnutrition [ICD-9 Code: 264.0, ICD-10 Code: E44.0]
- Unspecified Severe Protein-Carbohydrate Malnutrition [ICD-9 Code: 262, ICD-10 Code: E44]
Maryland Living Well Center of Excellence, MAC. Inc
Who We Are/What We Do

- Statewide License for Evidence-Based Behavior Change/Healthy Aging Programs
- Centralized referral, workforce certification, and HIPPA-compliant training and processes
- EBP workshops on MDH statewide calendar/registration/referral website
- Quarterly reports on patient activation, engagement, and long term goals
- Participant satisfaction/engagement and quality assurance monitoring
- Expanded consent to collect individual and population health outcomes
- Tracking of pre-/post- clinical measures
- Referrals to home and community-based services that address social determinants of health

Evidence-Based Programs

- Diabetes Prevention Program
- PEARLS
- SMRC Self-Management Resource Center
- Chronic Disease Self-Management Education Programs
- Cancer Thriving and Surviving
- Chronic Disease
- Innovate Pain
- Move On
- Stepping On: Building Confidence and Reducing Falls
- Walking works with High Blood Pressure
- Mac

CHRONIC DISEASE SELF-MANAGEMENT PROGRAMS:
- Cancer Thriving and Surviving
- Chronic Disease
- Chronic Pain
- Diabetes
- Home Toolkit
- Spanish Chronic Disease: Tomando Cuidado
- Spanish Diabetes: Programa De Manejo
- Walk With Ease
Joint collaboration between MAC LWCE, Maryland Department of Aging and Abbott Pharmaceuticals to develop curriculum
Winner of ICAA Innovations Award 2017 and n4a Innovative Program Award 2018
Identification of malnutrition and food insecurity risk
Action plan for healthy nutrition shared with provider
Pre/Post measure of knowledge, behavior change and handgrip strength

Target Population: Community-Dwelling Older Adults

Workshop Goal:
Participants will understand the importance of balanced nutrition for the prevention of falls and be able to identify the key warning signs of poor nutrition.

Key Messages:
- How nutrition status, and muscle strength are linked to falls risk
- How exercise and protein are key to maintaining strong muscles
- Location of local resources for food/nutrition services
Stepping Up Your Nutrition Agenda

- How Nutrition Affects Falls
- Why Muscle Matters
- Nutrients to Know: Protein and Fluid
- Your Personal Nutrition Risk Score – Validated Assessment Tool
- Action Planning

Measuring Malnutrition Risk Level

<table>
<thead>
<tr>
<th>High Nutrition Risk: Score below 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consult with your healthcare team as soon as possible to address the areas of nutrition concern and improve your nutrition status. Identify resources to help you reduce your risk.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Moderate Nutrition Risk: Score 50-54</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take Action to improve your nutrition health. Discuss options with your healthcare team and identify resources to help you reduce your risk.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low Nutrition Risk: Score above 54</th>
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</thead>
<tbody>
<tr>
<td>Keep up the good work! Your eating habits are working to keep you healthy and strong.</td>
</tr>
</tbody>
</table>
Stepping Up Your Nutrition Evaluation

- Documentation of Nutritional Risk Assessment
- Referral to provider/services for at risk individuals
- Referral to Food Banks and other community resources for food insecurity
- Screening for social determinants/social isolation
- Referral to appropriate evidence-based programs
- Pre/Post Knowledge and Behavior change Assessment (week 1 and week 7)
- Grip Strength measurement (week 1 and end of week 7); potential follow-up at 3 months
- Nutrition Risk, Grip Strength and Action Plan shared with provider

Stepping Up Your Nutrition Action Plan Ideas

- Weigh myself weekly
- Eat more protein
- Eat more fruits/vegetables
- Eat at least 3 meals a day
- Drink more fluid
- Eat with others
- Get help with shopping
- Try new foods
- Talk with my doctor or a dietitian about my nutrition concerns

**MY PLAN** for week:
- What I will do: _____________________________
- How much I will do: _______________________
- When I will do it: _________________________
- How many times I will do it: _______________
Early Results 149 participants – 8 counties

<table>
<thead>
<tr>
<th>NUTRITION PRACTICES</th>
<th>PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER OR RARELY EAT WITH SOMEONE</td>
<td>12%</td>
</tr>
<tr>
<td>SOMETIMES HAVE PROBLEMS GETTING FOOD (HEALTH, INCOME, TRANSPORTATION, ETC.)</td>
<td>50%</td>
</tr>
<tr>
<td>FOOD DIDN'T LAST/NO FUNDS FOR MORE</td>
<td>10%</td>
</tr>
<tr>
<td>OFTEN SKIPPED MEALS</td>
<td>11%</td>
</tr>
<tr>
<td>SOMETIMES SKIPPED MEALS</td>
<td>78%</td>
</tr>
</tbody>
</table>

Pre-/Post- Change in Knowledge

- ID PROTEIN
- NUTRITION PREVENTS FALLS
- KNOW HOW MUCH FLUID
- UNDERSTAND MY RISK
MAC, Inc. – Maintaining Active Citizens Area Agency on Aging

Community-Based Interventions to Address Malnutrition

Goals for Community-Based Interventions to Reduce Malnutrition

*Stabilize or improve nutritional status
*Treatment of underlying causes (s)
Determine “Cause of Malnutrition”
Team Approach from AAA

* Hospital to Home Liaison
* Community Health Workers
* Home Delivered Meal Staff
* Registered Dietitian Nutritionist
* Registered Nurse
* Senior Center Staff
* Health and Wellness Coordinator

Objectives for Client: To stabilize or improve

* Nutritional Status
* Function
* Activities
* Quality of Life
Treatment Options for Nutrition

* Health benefits and income supports
* RDN for Nutrition Care Plan: education, meals
* Tiered meal plans based on level of need
* Add options for snacks or liquid supplements
* Food programs address food insecurity

Community Food Assistance Programs

* Homebound Delivered Meals
* Senior Center Meals
* Oral Nutritional Supplement Assistance
* Food Stamps
* Emergency and Monthly Food Pantry
* Hot Meal Programs
* Grocery and Restaurant Delivery
* Farmers Markets
Treatment Options to Improve Function

- PT/OT for self-feeding with special equipment
- Dental or SLP for mechanically altered meals
- Falls prevention workshops
- Evidenced based self-management programs

Treatment Options to Improve Activity

- Transportation access
- Housing options
- Adult day programs
- Physical activity programs
- Group dining options
Treatment Options to Improve Quality of Life

- Caregiver support
- Substance abuse referrals
- Socialization support
- Community volunteer opportunities
- Behavior health referrals

Communicate Progress

- Share client goals and action plans with healthcare
- Document communications and progress
- Assist with healthcare messages and clarification
- Schedule regular follow-up for high risk clients