

## Post-Hospital Syndrome: Does it Contribute to the Risk of Rehospitalization and What Can Home Health Care Providers Do to Mitigate the Risk?

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New England Home Care Conference & Trade Show  
June 6, 2013  
MGM Grand at Foxwoods, CT



## Disclosure

- Support for this Program is provided by Abbott Nutrition
- The slides were developed by the Speakers with input from Abbott Nutrition
- The program is not intended for continuing education credits for any healthcare professional



## Objectives

- To discuss the disruption in homeostasis associated with hospitalization that results in post-hospital syndrome for frail, elderly patients
- To describe how nutrition interventions can improve patient outcomes and mitigate the risk for rehospitalization
- To discuss the implementation of a pilot program intended to address malnutrition and other risk factors for rehospitalization
- To review the results and impact on patient outcomes



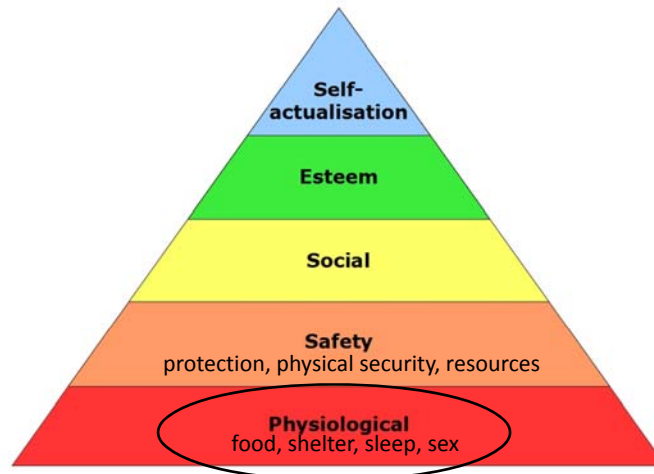
## What is Post-Hospital Syndrome? An Acquired Transient Condition of Generalized Risk

"During hospitalization, patients are commonly deprived of sleep, experience disruption of normal circadian rhythms, are nourished poorly, have pain and discomfort, confront a baffling array of mentally challenging situations, receive medications that can alter cognition and physical function and become deconditioned by bed rest or inactivity."

NEJM 368;2 January 10,2013, Harlan Krumholz MD



## Maslow's Hierarchy of Needs



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## Post Hospital Syndrome Increases Risk for Rehospitalization

- Fatigue and sleep disturbances increase risk for altered cognition, functional dexterity, and difficulty in adhering post discharge instructions
- Dietary restrictions and diminished appetite results in weight loss, impaired wound healing, increase risk of infections and pressure ulcers
- Prolonged bed rest and limited activity increase risk of falls, accidents, and decrease stamina

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## Successful Care Transitions

### “Doing the Right Thing”

- Coordinated across care settings, meaningful exchange and transfer of information
- Employ evidence based clinical standards of care
- Utilize patient centered practices

Better Care, Better Health, Lower Costs



## Successful Care Transitions

- Coordinated
  - Design and align care to mitigate risk factors
- Evidenced Based
  - Address the disruption in homeostasis to meet physiological needs:
    - Nourishment
    - Weakness and debility
    - Medication management
    - Safety
    - Symptom Management



## Successful Care Transitions

- Patient Centered
  - Patient/family engagement
  - Goal driven care
  - Establishment of a personal health record
  - Utilize “red flags” and “zones”



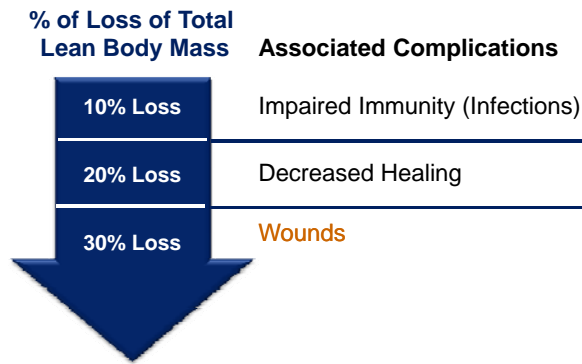
## The Newly Discharged Patient

- Physical limitations impact their ability to meet their basic physiological needs
- Disturbed sleep patterns
- Pain and discomfort
- Weight loss, reduced appetite and disrupted eating patterns
  - 13-30% of home care patients are malnourished
  - 25% of patients have experienced a loss of lean body mass

*Guigoz Y. J Nutr Health Aging. 2006;10:466-487*



## Malnutrition and loss of lean body mass can seriously impact patients' outcomes



**If lean body mass loss reaches 40%, patients are at risk of death – usually from pneumonia**

Demling RH. *Eplasty*. 2009;9:65-94.

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## What is Malnutrition?

- A state of nutrition in which a deficiency, excess, or imbalance of energy, protein, and other nutrients causes measurable adverse effects on body function and clinical outcome.

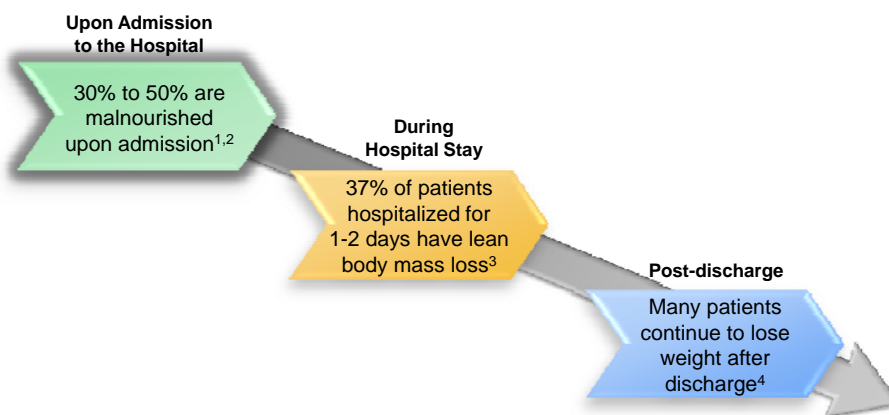
Elia M, ed. *Guidelines for Detection and Management of Malnutrition: A Report of the Malnutrition Advisory Group*. Maidenhead, UK: British Association for Parenteral and Enteral Nutrition (BAPEN); 2000.

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## Impact of Malnutrition

- Increase complications including higher infection rates, decreased wound healing and low endurance
- Loss of lean body mass resulting in loss of strength, fatigue, and lethargy
- Increase dependence secondary to difficulties in performing activities of daily living (ADL)
- Healthcare costs increase by 20%-300% in malnourished patients

Patient's nutritional status and lean body mass becomes progressively compromised as they travel through the continuum of care



1. Schiesser M, et al. *Surgery*. 2009;145(5):519-526. 2. Naber THJ, et al. *Am J Clin Nutr*. 1997;66:1232-1239.  
 3. Pichard C, et al. *Am J Clin Nutr*. 2004;79(4):613-618. 4. Beattie AH, et al. *Gut*. 2000;46(6):813-818.

## Is Nutrition Intervention the Next Blockbuster Drug and Will it Mitigate Patient Risk Factors?

- Increase wound healing
- Reduce chronic disease complications
- Shorten recovery time and promote independence
- Improve patient's ability to self manage
- Decrease risk for preventable rehospitalizations

## Patients "at risk" are more likely to experience emergent care visits and rehospitalizations

### Objective

To identify the association between baseline nutritional status and subsequent health service utilization and mortality

### Population

N = 198 older adults receiving Medicare home health services for 1 year

### Key Findings

12% were malnourished and 51% were at risk

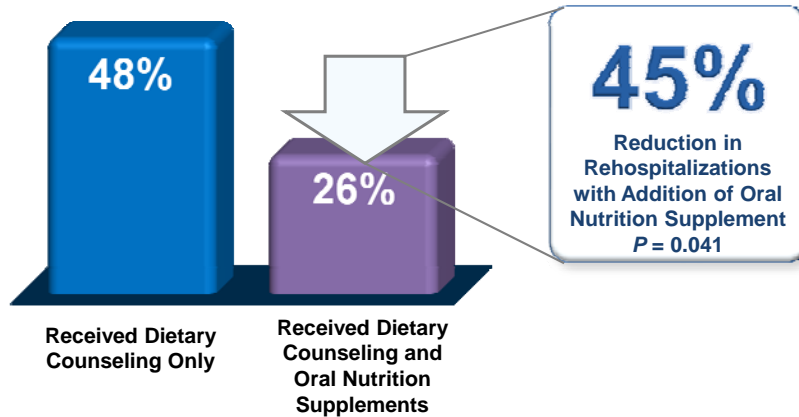
Those who were malnourished or at risk at initial assessment were more likely to experience:

- Subsequent Hospitalization (P=.040)
- Number of Hospital Admissions (P=.045)
- ER Visit (P=.047)
- Mortality (6 months, P=.001; 1 year, P=.031)



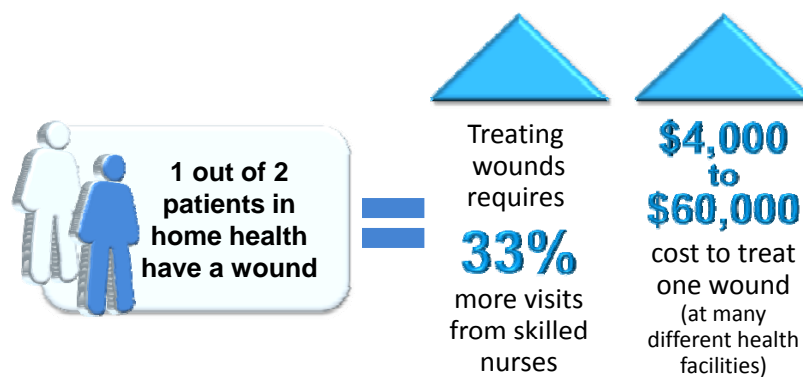
Interventions with oral nutritional supplements and education reduces hospitalizations

Rehospitalization Rate



Norman K et al. Clin Nutr. 2008; 27:48-56.

Wounds are more prevalent with malnutrition and loss of lean body mass and are costly for home health agencies to treat



Johnston P, et al. Remington Report. May 2008; 18-20.

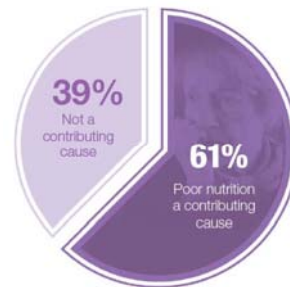
Nutrition intervention can promote treatment and prevention to heal wounds in the home

Without Treatment

Malnourished patients are at 200%–500% higher risk for pressure ulcers<sup>1</sup>

Reality

Percent of wounds when nutrition plays a role<sup>2</sup>



1. Schiesser M, Kirchoff P, Müller MK, et al. *Surgery*. 2009;145(5):519-526.  
 2. Voss AC et al. *J AM Geriatr Soc*. 2005;53(9):1587-1592.

Nutrition therapy has significant and proven outcomes

Reduction in Pressure Ulcer Incidence<sup>1</sup>

25%

Reduction in Avoidable Rehospitalizations<sup>2</sup>

45%

Reduction in Overall Complications (e.g., infections)<sup>1</sup>

63%

1. Stratton RJ, Elia M. *Eur J Gastroenterol Hepatol* 2007; 19: 353-358.  
 2. Norman K et al. *Clin Nutr*. 2008; 27:48-56

## What Prompted a Pilot Project?

- Literature Review
  - Current best practices in prevention of avoidable re-hospitalizations
  - Little to no mention of the role nutrition plays in improving outcomes
- The “a-ha moment” - PHS Article
- Led to conversations with Abbott Nutrition representative

## Pilot Project Goal

- Reduce rehospitalizations by engaging patients in activities that
  - overcome barriers that are impeding their efforts to meet basic physiological needs
  - improve patient activation and engagement
  - promote self-management

## Pilot Team and Responsibilities

- Team Coordinator
- Admission RN
- Case Manager RN
  - Education on disease management, medication management, nutrition and safety
- PT
  - Home safety, strength and balance, importance of nutrition and hydration
- OT
  - Home safety, meal preparation, kitchen task management, energy conservation and work simplification

## Pilot Program Development

- Inclusion / Exclusion Criteria defined
- Staff input
  - Roles of Each Discipline
  - Patient centered goals for each discipline
  - Mechanisms of communication between disciplines (Collaboration)
  - Review of patient education materials related to nutrition
- Care path / Care plan expanded to include focus on nutrition

## Pilot Staff Education

- Abbott Nutrition in-service (Taste Test)
- Review of NEJM article
- Principles of patient engagement and activation

## Pilot Launch/Protocol

**Inclusion and  
exclusion criteria**



**Identifies at risk  
patients**

**Care Path**



**Incorporates nutrition  
intervention into  
multidisciplinary care**

**Visit schedule  
Patient centered goals**



**Drives patient self-  
management  
through education**

## Measures

- Decrease in hospital re-admissions, emergency room visits and/or unscheduled physician office visits
- Decreased Fall Risk as evidenced by improved POMA Score
- Improved M 1880: Current Ability to Plan and Prepare Light Meals
- Improved M2020: Management of Oral Medications



## The Pilot Patients (to date)

- 10 patients referred following hospitalization or short term stay at skilled nursing facility greater than 3 days
  - Average age 84.6, 5 women and 5 men
  - Live in the same town and were treated by the same RN, PT, and OT
  - Have several risk factors for re-hospitalization (including lives alone, multiple medications, impaired mobility)
- All patients were noted to
  - Have an increased risk of falls at admission
  - Require assistance with meal preparation
  - Require assistance with oral medication management



## Patient Feedback

- Overwhelmingly positive from patients
  - They like the taste of the product
  - They feel like they are adding another tool to aid in their recovery *"I do my exercises, drink my Ensure, and keep walking and I'm getting better every day"*

## Staff Feedback

- Also positive
  - Another tool to help patients get better
  - The program is easy for patients to understand
  - Learning about the effects of post hospitalization syndrome matches up with their experiences
  - Energized to add nutrition as an area of focus

## Summary

- Study remains ongoing
- Next steps include
  - Expanding staff education to extend the program and increase enrollment
  - Collecting and analyzing data
    - Decrease in hospital re-admissions, emergency room visits and/or unscheduled physician office visits
    - Decreased Fall Risk as evidenced by improved POMA Score
    - Improved M 1880: Current Ability to Plan and Prepare Light Meals
    - Improved M2020: Management of Oral Medications



## Contact Information

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