



CLINICAL EXPERTISE  
NURSING PRACTICE  
SYSTEMS INNOVATION

# NACNS

National Association of Clinical Nurse Specialists

# MALNUTRITION IN HOSPITALIZED ADULT PATIENTS

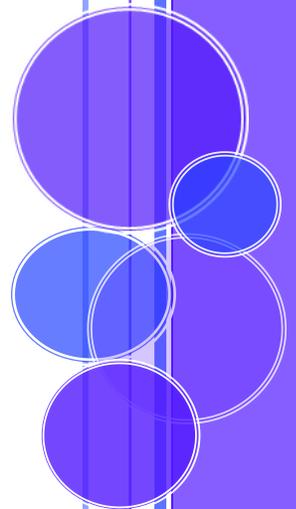
## *The Role of the Clinical Nurse Specialist*

The clinical nurse specialist is well-positioned to intervene to significantly reduce malnutrition in hospitalized adult patients through assessment, prevention and treatment, education and collaboration with nursing and other disciplines and implementation of system-level interventions to ensure that at-risk adult patients are screened, identified and treated for suboptimal nutritional states.

*The National Association of Clinical Nurse Specialists Malnutrition Task Force would like to thank Abbott Nutrition Health Institute for their support of this work.*

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# Malnutrition in Hospitalized Adult Patients

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## EXECUTIVE SUMMARY

It is estimated that 20 to 50 percent of hospitalized adult patients are malnourished (Kirkland, 2012).

Treatment costs associated with malnutrition are estimated to be greater than \$11 billion annually (Tappenden, et al., 2012). These costs are related to not only the treatment of malnutrition and its underlying cause, but also the sequelae of malnutrition including muscle wasting, loss of functional ability and significant hospital acquired conditions (HACs) such as falls, pressure injuries (PI), and infections. These sequelae can also lead to increased morbidity and mortality, longer lengths of stay, and higher readmission rates.

The clinical nurse specialist (CNS) is well positioned to intervene to significantly reduce this national trend through: assessment, prevention, and treatment of malnutrition; education and collaboration with nursing and other disciplines; and implementation of system-level interventions to ensure that at risk adult patients are screened, identified and treated for suboptimal nutritional states.

Clinical nurse specialists should practice to the full extent of their education and training and utilize the full scope of their prescriptive authority to prescribe nutritional supplements and other key pharmaceuticals and therapies to malnourished and at-risk patients.

Data from a NACNS nutritional knowledge survey, conducted by the task force during 2015-2016, show that clinical nurse specialists may have limited knowledge of and use of nutritional assessment and interventions:

- 50 percent of NACNS members reported they received education on nutrition beyond an undergraduate course, and
- 59 percent of NACNS members indicated they had basic or less than basic knowledge related to nutritional status or the nutritional needs of hospitalized adults.

Surprisingly, no survey respondents identified that advanced practice registered nurses (APRNs) have primary responsibility for initiating nutritional intervention and only 4.1 percent of respondents thought that APRNs have responsibility for maintaining nutritional interventions.

### Recommendations

Clinical nurse specialists can and should utilize their full scope of practice, including prescriptive authority, to identify and treat hospitalized adult patients at risk for and experiencing malnutrition.

CNSs should advocate for and support the implementation of systems-level malnutrition identification, prevention, and treatment interventions with the support of a hospital or health system's executive leadership. Once implemented, CNSs should quantify the cost-savings associated with the strategies implemented.

NACNS should advocate for a model CNS curriculum, based on master and doctoral level core competencies, which supports the nutritional assessment, treatment and prescription of nutritional supplements and interventions for the hospitalized adult patient.

NACNS should advocate for continuing education that includes CNS-led nursing nutritional assessment, treatment and evaluation. NACNS should also provide continuing education resources to its members on this important topic.

NACNS should advocate for the nutritional needs of the at-risk and malnourished hospitalized adult patient in national forums in order to raise awareness of this critical gap in healthcare delivery.

NACNS should advocate for increased funding for nursing nutritional assessment, systems-level nursing and interprofessional nutritional support projects, and research to reduce the rate of malnutrition and its sequelae in the hospitalized adult patient.

## INTRODUCTION

This white paper provides an initial examination of the role of the clinical nurse specialist in the prevention and treatment of malnutrition among hospitalized adults. This work adds to the established body of work aimed at improving the nutritional status of hospitalized adult patients and minimizing complications associated with malnutrition.

Given the focus in the United States, on reducing health care costs while improving care quality and transparency and understanding the centrality of optimal nutrition to a patient's functional status and recovery, the National Association of Clinical Nurse Specialists Board of Directors established a task force charged with providing recommendations for CNS practice on this important issue. The goals of the taskforce were to: 1) clarify the role of the CNS (both as an advanced practice registered nurse and as a member of the inter-professional medical team) and 2) identify the unique contributions a CNS brings to the identification, prevention, and treatment of malnutrition among hospitalized adult patients. This includes care provided during care transitions and upon discharge from the hospital setting.

The goal of this white paper is to identify the unique contributions of the clinical nurse specialist related to malnutrition among adult patients during hospitalization. To begin this work, the task force conducted a focused literature review, and this white paper includes an overview of forces driving change within the U.S. health care system and an examination of malnutrition among adults in the hospital setting. A summary of the taskforce's work follows, including introducing a conceptual model of malnutrition developed as a framework for CNS practice.

## BACKGROUND

The U.S. health care system is changing. Some of the driving forces spearheading change include shifting demographics and an aging population, as well as an increased focus on the cost, quality, and transparency of care provided in the hospital setting.

The Institute of Medicine's well known reports, *To Err is Human* (2000) and *Crossing the Quality Chasm* (2001) highlighted medical errors and called for a new focus on improving hospital efficiency—a quality revolution. More than a decade later and despite some improvements, a great deal of work remains to be done.

The increased focus on cost and quality has resulted in bringing to light the long standing issue of malnutrition in the hospital setting and its contribution to increased health care costs.

Simply defined, malnutrition is unbalanced or inadequate nutrition, (Dictionary.com) which may consist of either over or under nutrition. For the purpose of this white paper, NACNS's Malnutrition Task Force primarily focused on malnutrition associated with under nutrition in the hospitalized adult.

Malnutrition and promoting optimal nutritional status are significant challenges when caring for hospitalized adult patients. In fact, the reported incidence of malnutrition can be traced back to Florence Nightingale. She wrote of “*starving amongst plenty of food*” when describing hospitalized soldiers during the Crimean War in 1860. One hundred years later, C.E. Butterworth (1974) described malnutrition in hospitalized adults as “*the skeleton in the closet*” and called for recognition and treatment.

Still today, malnutrition among hospitalized adult patients continues to be a challenge.

## REVIEW OF THE LITERATURE

### Malnutrition Defined

For the purpose of this white paper, malnutrition is defined as a condition that occurs when there is a deficiency of intake or utilization of vital nutrients needed for tissue maintenance and repair that negatively impacts growth, physical health, mood, behavior and other functions of the body (White, Stotts, Jones, & Granieri, 2013). Malnutrition is characterized by the presence of two or more of the following characteristics: insufficient energy intake, weight loss, loss of muscle mass, loss of subcutaneous fat, localized or generalized fluid accumulation or decreased functional status (The Academy of Nutrition and Dietetics, 2015; Malone & Hamilton, 2013). Malnutrition occurs when nutritional intake does not provide adequate calories, protein, and other nutrients that are needed for tissue maintenance, function, and growth or the nutrients are not fully utilized due to illness.

Currently, three causes of malnutrition have been identified in the literature, those related to starvation, chronic disease or acute disease (Academy of Nutrition and Dietetics, 2015; Malone & Hamilton, 2013). These etiologies consider the presence and degree of inflammation as well as the time frame within which malnutrition may develop (Hamilton & Boyce, 2013). In turn, the etiology helps to form the nutrition treatment plan. For example, chronic disease-related malnutrition is characterized by the presence of mild to moderate inflammation and the loss of muscle mass, subcutaneous fat and physical function over a long period of time, months to years (White, Guenther, Jensen, Malone, & Schofield, 2012a, White, Guenther, Jensen, Malone, & Schofield, 2012b). Based on these factors, the treatment plan for chronic disease-related malnutrition is primarily supportive with the goal to achieve and/or maintain healthy levels of lean body mass and body fat (Hamilton & Boyce, 2013).

### Prevalence and Characteristics

Estimating the prevalence of malnutrition is challenging. Why? A significant contributing factor is that for nearly four decades, researchers have used different criteria to define malnutrition. Despite measurement challenges, it is estimated that malnutrition impacts at least one in three patients in developed countries upon hospital admission (Tappenden, Quatrara, Parkhurst, Malone, Fanjiang, & Ziegler, 2013, Lim, Ong, Chan, 2013). If left untreated, two in three of those patients will experience a further decline in their nutritional status during the hospital stay. Moreover, among patients who are *not* malnourished at admission, it is estimated that as many as one in three *may become* malnourished during their hospital stay (Braunschweig, Gomez, & Sheenan, 2000; Tappenden, et al., 2013). In essence, anywhere from 20 to 50 percent of hospitalized adult patients may be malnourished (Kirkland, et al., 2013).

In 2013, nearly 2 million U.S. hospital stays involved malnutrition (Weiss, Fingar, Barrett, Elixhauser, Steiner, Guenter, & Brown, 2016). The Healthcare Cost and Utilization Project (HCUP) identified malnutrition using a set of diagnostic codes in the following categories: postsurgical nonabsorption, nutritional neglect, cachexia, protein-calorie malnutrition, weight loss/failure to thrive and underweight. The malnutrition HCUP found individuals impacted by malnutrition during hospitalization most frequently include: adults aged 65 and older, those already underweight, black race/ethnicity, and adults with a lower socioeconomic status (Weiss, et al., 2016). In addition, HCUP associated six types of

malnutrition with hospitalization were identified and include: protein-calorie malnutrition, weight loss/failure to thrive, cachexia, underweight, postsurgical nonabsorption and nutritional neglect. Of these six types of malnutrition, protein-calorie malnutrition (63.9 percent) was the most common type of malnutrition associated with a hospital stay. These findings mirror findings from previous studies on the prevalence of malnutrition and indicate that more work is needed to improve the nutritional status of adult patients in the hospital setting.

### **Adverse Effects**

There is a well-developed body of literature on the sequelae associated with malnutrition. Malnutrition is associated with a variety of hospital acquired conditions, such as falls, pressure injuries and catheter associated urinary tract infections (CAUTIs), due to its effect on the immune system, muscle wasting, and functional loss (de van der Scheuren, Ella, Gramlich, Johnson, Lim, Philipson, Jaferi, & Prado, 2014; Sanders & Smith, 2010; Tappenden, et al., 2013). In a systematic review, malnutrition was found to contribute to impaired recovery from injury and illness (Marshall, Bauer & Isenring, 2013). Hospital acquired conditions link malnutrition to: 1) longer lengths of stay during hospitalization, 2) higher re-admission rates, and 3) increased morbidity and mortality, all of which contribute to rising health care costs (de van der Scheuren et al., 2014; Hamilton & Boyce, 2013). In the U.S., treatment costs associated with malnutrition are estimated to be greater than \$11 billion annually (Tappenden, et al., 2013).

### **Variables Associated with Malnutrition**

As previously identified, malnutrition occurs when there is an imbalance of nutrient intake and expenditure. Inadequate consumption of nutrients may be related to illnesses, increased nutrient needs or the inability to ingest nutrients at a level commensurate with nutritional requirements. Acute and chronic illness can cause: 1) increased nutrient requirements due to the presence of an acute infection or a chronic inflammatory state, 2) increased nutrient losses, as seen in chylothorax, inflammatory bowel disease or nephrotic syndrome and 3) impaired nutrient utilization with resultant loss of muscle and fat mass, as seen in cachexia.

Patients who enter the health care system may be well nourished or may have varying degrees of malnutrition. Regardless of a patient's nutrition level, the risk of developing malnutrition is a threat to the majority of patients who are hospitalized. Individuals who are already malnourished, are at even greater risk of worsening their malnutrition state.

To prevent future harm, it is key for care providers to quickly recognize malnutrition, implement appropriate treatments and recognize intervening variables (personal risk factors and/or pre-disposing factors) that may contribute to developing malnutrition. Examples of intervening variables that contribute to malnutrition are grouped into categories and include: 1) the duration of the illness, 2) physiological processes, 3) organ system dysfunction, and 4) socioeconomic and environmental conditions.

Duration, severity and type of illness can directly influence the development of malnutrition. For example, an acute illness that is sustained and unable to be treated effectively can cause malnutrition. Likewise, a chronic illness, although treated, may result in malnutrition. Specific organ system dysfunctions—such as renal, hepatic, cardiac, or pulmonary failure—

contribute to malnutrition through the metabolic aberrations caused by the disease processes. The advanced stages of organ failure are often recognized by the presence of malnutrition. The derangement in physiological and metabolic processes associated with cancer may also cause malnutrition. All of these disease processes are associated with poor intake which, in turn is associated with malnutrition.

Socioeconomic and environmental conditions are also linked to malnutrition because they inhibit or prevent food acquisition. Often malnutrition is a result of the combination of a person's socioeconomic status and environment. For example, an adult on a restricted diet due to a chronic disease who also has a limited income and reduced social contact is more likely to be malnourished. Low water quality, poor sanitation, and the lack of available health care resources are environmental variables that affect nutritional status. However, unlike with patients who suffer from acute or chronic illness, if food is provided malnutrition may be reversed if it is related solely to inadequate nutritional intake.

## Screening and Assessment

Nutrition screening is an initial step in the identification of patients who are malnourished or at risk for becoming malnourished. Completing a nutritional screening within 24 hours of admission to an acute care facility is mandated by The Joint Commission (2016). This mandate is also consistent with the recommendation of the Academy of Nutrition and Dietetics (Lawson, Daley, Sams, Martindale, Kudsk, & Miller, 2013).

Effective nutritional screening tools should be easy to use, valid and reliable. The screening process should be performed by a nurse or other trained personnel (Skipper, Ferguson, Thompson, Castellanos, & Porcari, 2012). A variety of nutrition screening tools are available, each with specific anthropometric and/or diet related criteria measurements. The following is a list of nutrition screening tools with established reliability and validity and are appropriate for use in the acute care or medical-surgical adult patient population:

- Nutrition Risk Screening 2002 (NRS-2002);
- Malnutrition Screening Tool (MST);
- Malnutrition Universal Screening Tool (MUST); and
- Nutrition Screening Tool (NST) (Skipper et al, 2012).

The NRS-2002 and Nutrition Risk in Critically ill (NUTRIC) tools are recommended for use in critically ill adult patients due to their ability to account for nutrition status in relation to disease severity (McClave, Taylor, Martindale, et al., 2016).

After screening, a nutritional assessment is performed to determine if the patient suffers from malnutrition (Jensen, Compher, Sullivan, & Mullin, 2013). Quality and accurate nutritional assessments are multifactorial, relying on the integration of all findings; including a review of systems (medical, nutrition and psychosocial histories), physical examination, anthropometric data (height, weight, body mass index and ratio of lean body tissue to body fat), functional outcomes and examination of the intake of energy and nutrients. The Academy of Nutrition and Dietetics and the American Society for Parenteral and Enteral Nutrition developed six assessment criteria that are used to distinguish between

severe and non-severe malnutrition (White, Guenter, Jensen, Malone, and Schofield, 2012). The presence of two or more of the following six characteristics identifies the presence of malnutrition:

- insufficient energy intake as measured by nutrients consumed and/or administered compared with estimated body energy requirements;
- weight loss as measured by a percentage of weight loss from baseline, including unintended weight loss occurring at any body mass index;
- loss of muscle mass as measured by wasting seen at temples, clavicles, shoulders, interosseous muscles, scapula, thigh and calf muscles using a scale ranging from mild to severe;
- loss of subcutaneous fat as measured by loss especially from orbital and triceps areas, and/or fat overlying the ribs using a scale ranging from mild to severe;
- localized or generalized fluid accumulation in extremities, vulvar/scrotum, and/or ascites that can mask weight loss; and
- diminished functional status as measured by hand-grip.

These criteria do not replace other aspects of nutritional assessments, but instead are used to standardize diagnosis and document adult malnutrition. In addition, these criteria are used for both chronic and acute malnourished states (White et al., 2012a). Nutritional assessment findings provide the baseline upon which outcomes of treatment are evaluated and, in turn, they serve as the foundation for nutritional interventions. Clinical nurse specialists have the expertise needed to assess patients for malnutrition and order and guide the selection of appropriate interventions.

## **Treatment**

Medical treatment of malnutrition in the hospitalized adult patient is directed at treating the underlying illness and re-establishing nutritional balance. Maintaining normal nutrition during hospitalization and preventing malnutrition from occurring during hospitalization can be accomplished by ensuring adequate nutrient intake and escalating the need for nutritional intervention.

The goals of treatment for malnutrition in hospitalized patients depend on the etiology or inflammation status and the severity of the malnutrition. The goals of malnutrition treatment are to restore the patient to a healthy level of lean body mass and fat, to maintain and improve the lean body mass and fat, and to support the functions of vital organs and preserve the host in response for the acute condition, per the starvation-related, chronic disease-related, and acute disease-related malnutrition respectively.

To successfully treat malnutrition, timely intervention according to evidence based practice guidelines and protocols for the selection of appropriate nutrition therapy is needed. Success also depends on interprofessional coordination among the team members throughout the continuum of care, from the time of admission to hospital to discharge to a community setting. If treating malnutrition with invasive medical therapy is needed, the potential for

complications associated with enteral and parenteral nutrition must be minimized. Complications can include aspiration pneumonia associated with tube feedings and central line associated blood stream infections (CLABSIs) associated with parenteral nutrition administration.

As a general rule, nutritional supplementation is initiated using oral nutrition supplements (ONSs). If the patient is unable to tolerate ONSs, then enteral nutrition (EN) is considered. If a patient cannot tolerate EN or has had nothing to eat for more than three days, parenteral nutrition (PN) is indicated (Sobotka et al., 2009).

The first choice for feeding a hospitalized patient who is malnourished or at risk of malnutrition, and who is able to tolerate oral feeding, is to start diet enrichment or include an oral nutrition supplement. The evidence from various individual studies and meta-analyses show that oral nutritional supplementation provides benefits to malnourished patients in the areas of nutritional, clinical, functional, and economic outcomes (Baldwin et al., 2011; Milne, Potter, Vivanti, & Avenell, 2009; Cawood, Elia, & Stratton, 2012). Need remains for additional clinical trials with better designs and larger sample sizes to more completely determine the effect of ONS.

For patients who are unable to consume oral feeding, enteral nutrition and/or parenteral nutrition should be tried. The American Society for Parenteral and Enteral Nutrition (ASPEN) recommends the enteral route rather than the parenteral route because it has many benefits including maintenance of the functional integrity of the gastrointestinal tract, reduction of CLABSIs, and cost-effectiveness (Brantley & Mills, 2012). The four categories of enteral formulations are: standardized (polymeric); elemental or semi-elemental; modular; and disease-specific, such as renal or pulmonary formulations. Access for enteral nutrition therapy depends on the planned duration of treatment and gut function, and it can include nasogastric tube, gastrostomy tube, percutaneous endoscopic gastrostomy (PEG) tube, or postpyloric, duodenal and jejunal feeding tubes.

Parenteral nutrition is indicated for patients whose nutritional needs cannot be met using EN or for those in whom EN is contraindicated, such as severe short bowel or gastrointestinal bleeding, high-output fistulas, paralytic ileus or mechanical obstruction and for patients who are NPO for more than three days (Cox & Rasmussen, 2014; Sobotka, Schneider, Berner, Cederholm, Krznaric, Shenkin, et al., 2009). From a research perspective, it is important to note that more studies are needed to demonstrate the benefits of using enteral or parenteral nutrition in reducing morbidity and mortality rates as well as improving quality of life for patients receiving end-of-life care.

### **Malnutrition Model for CNS Practice**

The NACNS Malnutrition Task Force developed a conceptual model to serve as a unifying framework to describe and assert recommendations for the CNS role in promoting optimal nutritional status in the hospitalized adult. The model was presented to the membership at a poster session during the NACNS annual conference in March, 2016. (See figure 1 on page 12).

The role of the CNS as it relates to nutrition focuses on promoting optimal nutrition, decreasing the risk of developing malnutrition, and treating malnutrition during

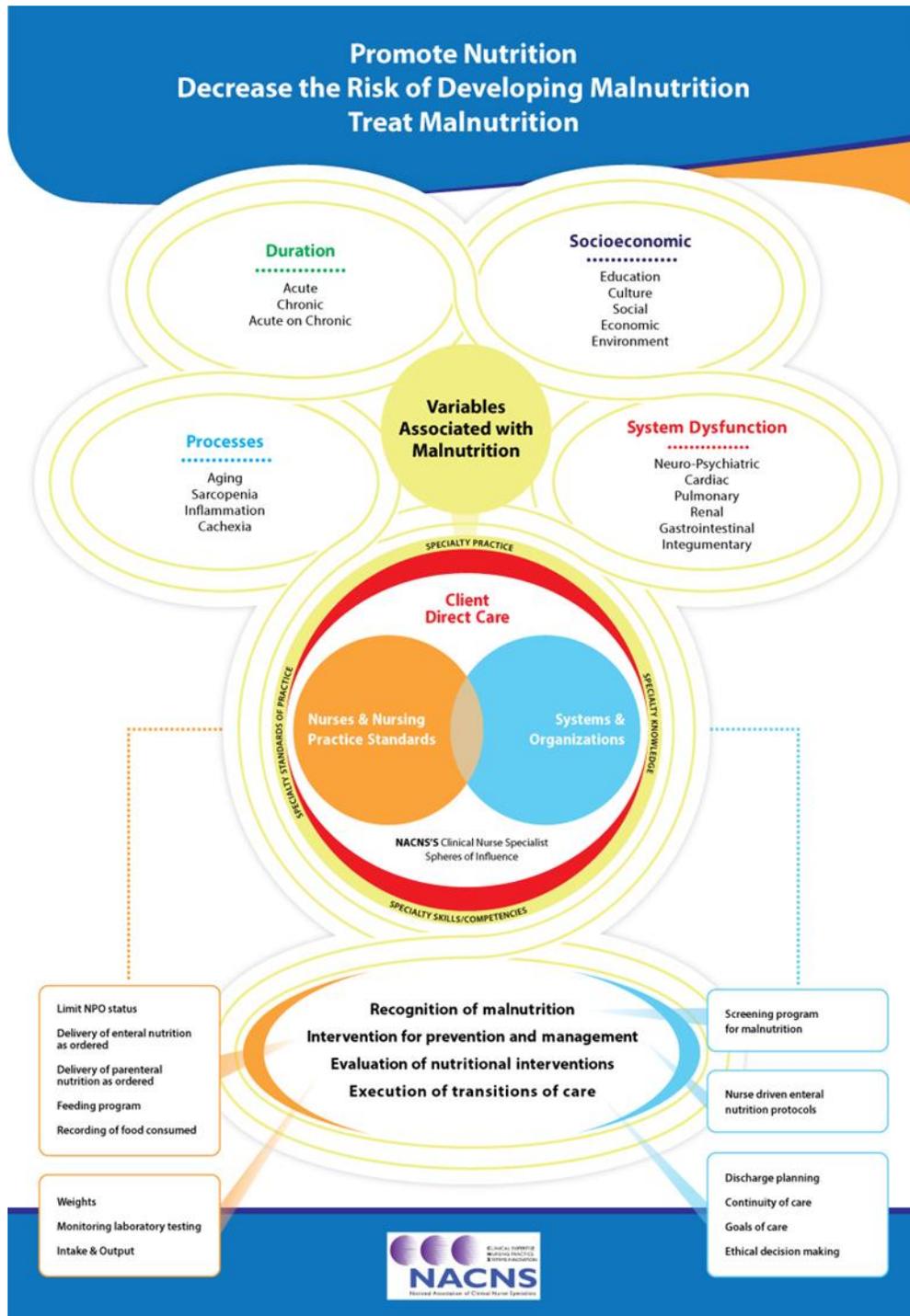
hospitalization. Clinical nurse specialists accomplish this through the three spheres of influence in which CNSs practice. The adult hospitalized patient is the focus of care as is reflected in the red circle at the center of the conceptual model. As previously stated, the patient may present to the hospital well-nourished or malnourished—all patients are at risk of developing malnutrition or worsening their current state of malnutrition during hospitalization.

Variables associated with higher risk for malnutrition are identified and represented by the four ovals directly above the spheres of influence. These four areas are: 1) duration of the current illness, ranging from acute to chronic; (For example, a well-nourished individual suffers an acute or traumatic event or a malnourished individual with renal failure suffers an acute event or an elderly woman with congestive heart failure suffers further decompensation of her chronic illness.) 2) physiologic processes, including aging, sarcopenia, inflammation and cachexia, which contributes to malnutrition; 3) socioeconomic and environmental factors that may impact the ability to acquire and prepare food required for proper nutrition; and 4) specific system dysfunction predisposes individuals to malnutrition (Often renal and hepatic disease limit nutrient intake, such as protein, while other diseases, such as inflammatory bowel disease or chronic pancreatitis, allow nutrients to be lost in excess and oral intake may not be adequate).

The CNS applies their knowledge of nutrition, risk of malnutrition and the recognition of malnutrition and translates the concepts to their particular area of specialization, such as critical care, oncology, or cardiology. In the model this is demonstrated by the outer circle encompassing the patient, nursing practice and systems.

The model illustrates how clinical nurse specialists are a vital link to increase the knowledge and skills of bedside nurses and organizational systems. CNSs work using education and the development of system and organizational programs is depicted at the bottom of the model. The model includes specific examples of how individual nursing actions, interventions and organizational programs can influence nutrition and malnutrition in hospitalized adult patients. The model is connected with soft lines representing the inter-connectedness of all the patient and health care team, representing the dynamic nature of nutrition in the hospital setting.

Figure 1. Malnutrition Model for CNS Practice



## Nutrition Care Survey

In order to better understand the nutrition knowledge levels of practicing clinical nurse specialists and CNS responsibilities related to patient nutrition, the taskforce surveyed NACNS members. An online survey was distributed to NACNS members via a members-only listserv.

Survey data from 102 respondents, the majority of whom practice in a hospital setting (n=91), show that nearly three in five respondents (n=59) indicate they had basic or less than basic knowledge of nutritional status and the nutritional needs of hospitalized adults. Less than half of respondents identified anthropometric data (n=45 of 98 participants responding to this question) and biochemical data (n= 47 of 98) as being included in a nursing nutritional assessment. Additionally, less than half agreed pressure injuries (n=28 of 98), impaired mental and physical function (n=38 of 98), self-neglect (n=13 of 98) and longer hospital stays (n=40 of 98) are influenced by malnutrition in the hospitalized adult patient.

The reported limited knowledge among survey participants may help explain responses to questions about primary responsibility for initiating and maintaining nutritional interventions for compromised patients. None of the survey respondents identified that advanced practice registered nurses have the primary responsibility for initiating nutritional intervention and only a small fraction (n=4 of 98) of respondents (n=4 of 98) indicated that APRNs are responsible for maintaining nutritional interventions.

The Malnutrition Task Force's survey findings support the proposition that clinical nurse specialists may benefit from additional education on nutrition, malnutrition assessment and interventions for at-risk hospitalized adult patients.

## OPPORTUNITIES FOR EDUCATION AND RESEARCH

Although the focus of this white paper is to identify the unique contributions of clinical nurse specialist practice in malnutrition prevention and treatment in the hospital setting, the taskforce identified knowledge gaps thanks to its work on the member survey and focus groups at annual meetings in 2015 and 2016. These knowledge gaps related to the care and management of malnourished patients may serve as a platform to examine CNS education and further malnutrition research efforts. Potential areas for research exploration include:

- develop, implement and evaluate nurse driven nutrition protocols;
- further explore the prevalence of malnutrition during hospitalization and care transitions;
- standardize the measurement of malnutrition; and
- explore malnutrition during hospitalization in other populations, such as pediatrics.

### The CNS Role

The CNS is one of the four advanced practice registered nurse categories recognized by the National Council of State Boards of Nursing, individual state boards of nursing, and the American Nurses Association. The CNS role is built on clinical expertise and its competencies articulate the scope of its clinical practice, including the diagnosis and treatment of acute or chronic illness in an identified population with emphasis on specialist care. A unique aspect of the CNS role is the use and application of specialty specific knowledge and skills with nursing practice standards to influence bedside nursing practice and system and organizational policies, procedures and programs.

Clinical nurse specialists are licensed registered nurses with graduate preparation at the master or doctorate level. As an APRN, the CNS has unique and advanced competencies that allow CNSs to lead improvement initiatives and evaluate their impact on health care quality and cost. In addition, CNSs can also work as direct patient care providers and use their advanced assessment skills to manage a patient's health care needs. In 39 states CNSs have the authority to prescribe medications and durable medical equipment independently or with collaboration of a physician (National Council of State Boards of Nursing, 2016).

The clinical nurse specialist is the only APRN who has the ability to integrate care across the continuum using its three spheres of influence—the patient, nurse, and system. As in the malnutrition model, the three spheres overlap and interrelate while possessing a distinctive focus and primary goal to improve patient outcomes and nursing care. Clinical nurse specialists create positive and supportive environments through mentoring and system changes to empower nurses to develop safe, caring, evidence-based practices that promote healing and alleviate patient distress, facilitate ethical decision making and address patient and family needs related to culture and diversity.

### The CNS Role in Nutrition – Call to Action

The risk of developing malnutrition is a threat to the majority of hospitalized patients and for individuals who are already malnourished the risk of worsening malnutrition is even

greater. These statistics and predictions for hospitalized patients are staggering and unacceptable.

The CNS, unlike any other APRN, has the unique ability to influence malnutrition at three different levels across the care continuum: the patient, nurse and systems levels. Clinical nurse specialists are well positioned to positively impact the nutritional status of hospitalized adult patients, thereby potentially contributing to a decrease in complications and cost, optimizing healing, and improving overall outcomes. Therefore it is imperative that CNSs mobilize to impact the nutrition status of all patients regardless of their position on the nutrition spectrum. In order to accomplish this, CNSs should:

- ensure comprehensive screening and assessment is done on all patients;
- intervene by ordering evidence based nutrition therapy, as needed;
- mentor and educate bedside nurses on best practices related to nutrition screening and care;
- consult with and engage interprofessional healthcare teams to prioritize optimal nutrition in patient care management;
- influence organizational change by communicating the issue of malnutrition in the hospital setting with executive leadership; and
- address nutrition related gaps within the system, including but not limited to, organizational policies, procedures and programs.

Maintaining normal nutrition and preventing malnutrition from occurring during hospitalization can be accomplished by early risk assessment, ensuring adequate nutrient intake and escalating the need for intervention. In order to promote nutrition, decrease the risk of developing malnutrition and actively participate in the treatment of malnutrition the CNS must be prepared to intervene and develop a system that ensures: (1) recognition of malnutrition; (2) intervention to prevent and treat malnutrition; (3) evaluation of nutrition interventions; and (4) provision of continuity of nutrition therapy through care transitions, at discharge, and beyond.

## Recognition

As previously stated, the potential impact of malnutrition on adult hospitalized patients is often unrecognized because, upon presentation, the patient may appear well-nourished or have varying degrees of malnutrition. Regardless of the patient's position on the nutrition spectrum, all hospitalized patients are at risk of developing malnutrition or worsening of the current state of nutrition. ***Every patient must be evaluated for this risk.*** Several reliable and valid nutrition risk assessment tools are available for use in the adult population. Clinical nurse specialists should advocate for the consistent use of nutrition risk assessment tools, ensure that bedside nurses are educated and competent in the use of the tools, and engage interprofessional teams to respond appropriately when the issue of malnutrition risk is raised.

## Intervention and Evaluation

Treatment of malnutrition in the hospitalized adult patient is primarily directed at treating the underlying illness and cause of malnutrition and re-establishing nutritional balance. Opportunities exist for the CNS to prevent and treat malnutrition in the hospitalized adult patient not only as a direct care provider, but also by mentoring bedside nurses regarding best practices, such as the use of nurse driven nutrition protocols as well as through collaboration with other health care professionals to escalate nutrition care issues, including the implementation of more aggressive forms of nutrition support when appropriate, and evaluating the efficacy of nutrition interventions.

## Continuity of Nutrition Care across the Care Continuum

Care coordination is a key function of the CNS role. When providing for care coordination, the CNS promotes optimal nutrition in the hospitalized adult by advocating for the development of system-wide nutrition programs to rapidly identify malnutrition and intervene. In addition, clinical nurse specialists facilitate the development of protocols implemented during transitions of care to ensure continuation of nutritional support throughout and following discharge. It is important to note that some CNSs may obtain reimbursement for transitional care services (Department of Health & Human Services, 2016).

### NACNS Position Statement on the Importance of the CNS Role in Care Coordination

*The CNS role promotes quality health care services and decreases health care expenditures through management of a patient's primary and chronic health care as well as through care coordination and transitions using advanced nursing knowledge, abilities, and skill. A review of the CNS Core Competencies supports the centrality of the function of care coordination within the CNS role and shows that the CNS is educated and prepared to be not only a participant in care coordination but also to partner with other providers in the leadership role for coordination of care transitions. Studies have demonstrated that care coordination promoting seamless care transitions is integral to the CNS role and results in reduced hospital length of stay and fewer hospital readmissions and hospital-acquired conditions (HACs). (Impact of the Clinical Nurse Specialist Role on the Costs and Quality of Health Care, December 2013) The role of the CNS as uniquely qualified and positioned to lead and coordinate care transitions is supported by evidence as well as throughout the CNS core competency statements (NACNS, 2013).*

## RECOMMENDATIONS

The following recommendations are based on the work of the Malnutrition Task Force and directed toward maximizing the role of clinical nurse specialists for nutrition care of the adult hospitalized patient:

**Recommendation 1:** CNSs should utilize their full scope of practice, including prescriptive authority, to identify and treat hospitalized adult patients at risk for and experiencing malnutrition.

The clinical nurse specialist is a unique advanced practiced registered nurse who can integrate care across the care continuum and through three spheres of influence: patient, nurse, and system. The three spheres overlap and interrelate, but each possesses a distinctive focus. Because of the ability to influence care at the patient, nurse and systems levels, the CNS is well positioned to impact the nutritional status of a patient, potentially decreasing complications and cost, optimizing healing, and improving overall outcomes.

**Recommendation 2:** CNSs should advocate for and support the implementation of systems-level malnutrition identification, prevention, and treatment interventions with a hospital or health system's executive leadership. Once implemented, CNSs should quantify the cost-savings associated with the strategies implemented.

It is critical that CNSs adopt methodologies to continually identify the costs and outcomes related to their interventions and be prepared to highlight their contribution to the healthcare system.

NACNS should charge its members who have expertise in malnutrition to partner with economists and others who can identify exemplars of system innovations that enhance the nutritional status of hospitalized adults and assist in developing models for capturing cost savings with an emphasis on nutritional interventions.

**Recommendation 3:** NACNS should advocate for a model CNS curriculum, based on master and doctoral level core competencies, which support the nutritional assessment, treatment and prescription of nutritional supplements and interventions for the hospitalized adult patient.

NACNS has developed core competencies for the clinical nurse specialist. These competencies are currently under review. New competencies should be developed that are specific to the care and treatment of the hospitalized adult patient as well as the systems interventions needed to ensure patients receive appropriate nursing nutritional assessments and interventions when needed.

**Recommendation 4:** NACNS should advocate for continuing education that includes CNS-led nursing nutritional assessment, treatment and evaluation. NACNS should also provide continuing education resources to its members on this important topic.

A survey of 102 NACNS members revealed a significant gap in CNS education related to nutritional assessment, treatment, and evaluation. No significant clinical change in this issue will be seen without both a change in educational program curricula and national

emphasis on continuing education in this important topic. Resources that NACNS may provide to members include: (1) dedicated website space for a toolkit and archived programs and webinars; (2) education sessions offered at the annual conference; (3) nutrition-focused webinars, including related pharmacology; (4) slide sets, learning modules or case studies for CNS study and use when mentoring staff nurses; and (5) encourage the development of manuscript articles on this topic for the association's journal, *Clinical Nurse Specialist: The International Journal for Advanced Nursing*.

**Recommendation 5:** NACNS should advocate for the nutritional needs of the at-risk and malnourished hospitalized adult patient in national forums in order to raise awareness of this critical gap in healthcare delivery.

Examples of advocacy include: (1) continue to develop the association's relationship with Abbott Nutrition Health Institute; (2) identify other opportunities to build relationships with industry partners and organizations concerned with nutritional issues in hospitalized adult patients; and (3) have a presence at national meetings and forums focused on nutritional issues.

**Recommendation 6:** NACNS should advocate for increased funding for nursing nutritional assessment, systems-level nursing and interprofessional nutritional support projects and research to reduce the rate of malnutrition and its sequelae in the hospitalized adult patient.

Because of the impact proper nutrition has on patient outcomes, reducing hospital acquired conditions, length of stay and hospital readmissions, NACNS should include advocacy for this important issue on the association's public policy agenda. In addition, NACNS should develop a communication strategy to prioritize this issue among NACNS members and other clinical nurse specialists.

## SUMMARY AND NEXT STEPS

The expert CNS must be able to apply knowledge of nutrition, understand the risk of developing malnutrition and recognize malnutrition in the hospitalized adult patient to better improve nursing practice and patient outcomes across the care continuum.

The CNS is a vital link to increase the bedside nurse's knowledge and skills regarding hospitalized adult patients' potential for and recognition of malnutrition. The Malnutrition Task Force recognizes that CNS practice related to nutritional care of the hospitalized adult patient will vary and will need to be adapted depending on the organizational culture, resources, and infrastructure available within each practice setting.

In order to coordinate a team-based, interprofessional approach, the CNS should advocate for needed resources and required skill sets among team members to positively affect the nutrition care paradigm for hospitalized adult patients. Development of a bundled approach to nutritional care may be an optimal model for care.

Based on information gleaned from the taskforce work, including the Nutrition Care Survey and interactions with NACNS members, the task force recommends the following next steps for NACNS:

- development of nutrition related resources in a toolkit format;
- continue to offer nutrition education via webinars, sessions at the annual meeting, etc.;
- continue relationship with Abbott Nutrition Health Institute;
- develop relationships with ASPEN and other nutrition groups;
- request the association's Education Committee to consider how nutritional content could be strengthened in CNS program curricula;
- establish a presence at national nutrition meetings and forums;
- develop education models, geared toward the CNS and CNS students concerning the importance of malnutrition and incorporate the models into all resources and products that NACNS develops on this topic;
- encourage research and articles on the topic of nutrition in the CNS Journal;
- collect additional exemplars of models of how systems have responded to enhance the nutritional levels of their patients; and
- explore and document the cost/benefit of nutrition intervention for patients.

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