

IMPACT Case Study
Functional Status and Cognitive Function

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| Measure Domain | Application of a percent of long-term placement of hospital patients with an admission and discharge functional assessment and a care plan that addresses function. NQF Number: 2631 |
| Case Study | <p>Patient Presentation</p> <p>AC is a 78-year-old female brought to the emergency room with abdominal pain, increased heart and respiratory rates and leukocytosis.</p> <p>History of sepsis, peripancreatic fluid collection, and chronic pancreatitis status post endoscopic retrograde cholangiopancreatography (ERCP) and stent replacement one month prior.</p> <p>Diagnoses include acute pancreatitis, chronic obstructive pulmonary disease (COPD), hypertension (HTN), gastroesophageal reflux disease (GERD), and hypothyroidism.</p> <p>AC was admitted to the hospital with findings of pancreatic fluid collection and was placed on antibiotics. Patient worsened with increased fever, elevated white blood cells (WBC), and abdominal pain. Concern for resistant infection including fungal organisms increased, so antibiotics for multi drug resistant organisms were initiated. TPN was started for short term duration (48 hours) and stopped given possibility of fungal infection and hopeful pain control to allow for oral consumption. AC slowly improved with less pain and began to slowly eat orally. New diagnosis included situational depression after several mental health evaluations were completed. AC received two units packed red blood cells (RBC) while hospitalized and developed one Stage II pressure injury on the spine.</p> <p>AC was discharged to a skilled nursing facility for rehabilitation after 4 weeks in the hospital. If response to therapies did not improve her overall status, hospice services would be considered. Admission diagnosis at skilled nursing facility included: osteoporosis, COPD, HTN, chronic pancreatitis, depression, hypothyroidism, GERD, anemia, and vitamin D deficiency. Noted left upper extremity (LUE) swelling with edema, negative for deep vein thrombosis (DVT).</p> <p>During skilled stay, AC's functional status dramatically improved even though she experienced significant weight loss. AC's pressure injury healed, LUE edema improved, and she returned home with independent ambulating status. Discharge instructions included regular diet and oral nutrition supplement for 350 calories BID.</p> |

Sample Comprehensive Nutrition Assessment

| Initial Comprehensive Nutrition Assessment using the Nutrition Care Process |
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| Food / Nutrition-Related History |
| <ul style="list-style-type: none"> Past Medical History – aortic valve replacement, cholecystectomy, bladder suspension, and cardiac surgery. Former smoker for 30 years, no history alcohol use Food and nutrient intake – suboptimal food and fluid intake over a 2-month period prior to hospitalization, living with daughter and eating very little at all meals. Significant anorexia per family for several weeks prior to hospitalization. Food and nutrient administration – regular diet with regular texture and thin liquids. Requested small portions and eats two meals per day. Frequent complaints of nausea and anorexia. Agreed to oral nutrition supplement BID for increased calories and protein. Attempting to eat three meals per day, some meals refused. Physical activity/function – AC uses a wheelchair and cannot move by herself. Prefers to stay in bed and requires meal set up. Appears to be sleeping most of the time but arouses when name is called. Is alert and oriented to time, place, and person most of the time. Overall somnolent affect. Can perform self-care with set up. Bed mobility, chair mobility, and gait mobility require maximum assistance; requires moderate assistance for front wheeled walked (FWW), wheelchair, chair and bed transfers. AC demonstrates poor balance, safety awareness, and endurance. AC is right-handed and has LUE edema, requiring a compression wrap. She can self-toilet with stand by assist (SBA) and is continent with assistance to toilet/commode. Requires maximum assistance for dressing, bathing, and self-care. Medications include levothyroxine, ritalin, remeron, colace, zetia, foliz, pancrease, lovastatin, metoprolol succinate, norvasc, omeprazole, senna, vitamin B12, vitamin D3, ondansetron, oxycodone. |
| Anthropometric Measurements |
| <ul style="list-style-type: none"> Height: 64 inches Weight: 79 pounds Weight History: usual body weight (UBW) 112 pounds, hospital weight 122 pounds. SNF admission weight 98 pounds Rapid weight loss to 79 pounds 5 days post admission. Usual BMI: 27.0 with weight stabilized at facility: 19.0 <p>Weight Comment: Weights are affected by different scales in facilities and changes in care areas</p> |
| Biomedical Data, Medical Tests & Procedures |
| <ul style="list-style-type: none"> Na: 133 mmol/L (low) Creatinine: 0.51 (low) Hemoglobin: 8.6 g/dL (low) Hematocrit: 26.9% (low) Pre-Albumin: 14 mg/dL (low) TSH: 0.499(within normal limits) |

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| Nutrition-Focused Physical Findings |
| <p>Non-Normal Nutrition Related Focused Findings:</p> <ul style="list-style-type: none"> • Oral Cavity: has missing teeth with remaining in poor condition, no full or partial dentures • Skin: frail appearance, rough nails, stage 2 pressure injury to spine • Overall appearance: temporal wasting with muscle loss, long hair, dull shine • Hand grip: weak handshake with dominant hand • Cannot stand from chair, needs assistance to move in bed, and does not use FWW at admission |
| Client History |
| <ul style="list-style-type: none"> • Age: 78 • Race/Ethnicity: Hispanic • Gender - Female • Medical History – chronic pancreatitis, HTN, COPD, arthritis, GERD, hypothyroidism • Social History – widow with two grown children: one son and daughter. Lives with daughter |
| Nutrition Diagnosis |
| <p>P: Inadequate oral food/beverage intake related to E: pancreatitis as evidenced by S: 35% weight loss in 6 weeks, development of pressure injury, and weakness</p> |
| Nutrition Prescription |
| <p>Regular diet with milk at meals, oral nutrition supplement (240ml BID); alter amount and type of supplement as needed for resident tolerance and acceptance</p> <p>Calories: 1080-1440 calories at 30-40 calories per Kg actual body weight Protein: 40-47 gm at 1.1-1.3gm per Kg actual body weight Fluid: 1,270ml – 1,500ml at 1ml per Kcal and per CMS intake guidelines</p> |
| Nutrition Interventions: Individualized Plan of Care |
| Food and/or Nutrient Delivery |
| <ul style="list-style-type: none"> • Interview patient/resident/family for food preferences • Offer three meals per day with small portions per resident request • Encourage 240 ml fluids at each meal and additional 120-240ml between meals • Offer meal set up and encourage to eat in chair at dining table • Encourage more food/fluid intake with snacks and fortified foods as tolerated • Offer three snacks per day |
| Nutrition Education |
| <ul style="list-style-type: none"> • Provide family with information in appropriate language (ie, Spanish, Polish) on importance of overall intake of food/fluids for strength and healing. • Provide information related to nutrition for healthy weight and improved strength. • Provide information related to protein intake for muscle strength and self-care ability |

| Coordination of Nutrition Care |
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| <ul style="list-style-type: none"> • Team meeting- nutrition/skin meetings to coordinate meals and snacks. • Collaboration with other team members to coordinate meal set up and out of bed status, as well as protein intake after therapies for muscle building. • Collaborate with resident and family members to discuss preferences, appropriate foods, foods for healing, and improved appetite. • Coordinate home discharge with community services as needed. |

| Goals |
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| <ul style="list-style-type: none"> • Maintain weight with no further weight loss from current level. • Healed skin condition with improved food and fluid intake. • Improve overall healthy eating with consistent meals as evidenced by no further weight loss and improved biochemical values. • Improve nutrient absorption with use of enzymes with meals. • Improved functional status with bed, chair movement and mobility, and increased independence with activities of daily living. |

| Nutrition Monitoring and Evaluation |
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| <ul style="list-style-type: none"> • Monitor overall intake: food, fluid, supplements. • Monitor weight and skin for changes: weekly weights, weekly skin rounds, MD reports. • Monitor biochemical data with focus on CBC and electrolytes. • Monitor nutrition-focused physical findings outcomes- improved functional status for self-care and mobility with FWW. • Monitor potential for discharge to develop a plan of care related to eating a healthy diet, access to quality food and food preparation, and use of community services. |

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| Summary | <p>Functional status can be improved with individualized nutrition interventions directed by the nutrition professional in post-acute settings. Using a nutrition assessment to determine interventions and education can improve quality of life for independence with functional status such as activities of daily living, bathing, eating, and mobility. Persons at high nutrition risk can improve in a post-acute setting with professional advisement and direction for high quality nutrition care.</p> |
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In this Case Study, the CDR has chosen to use the term RDN to refer to both registered dietitians (RD) and registered dietitian nutritionists (RDN) and to use the term NDTR to refer to both dietetic technician, registered (DTR) and nutrition and dietetics technician, registered (NDTR).

References

- Centers for Medicare & Medicaid Services. Functional Measures. Attached July 17, 2023. <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/Functional-Measures->.
- Academy of Nutrition and Dietetics. Evidence Analysis Library. Unintended Weight Loss (UWL) in Older Adults. Accessed July 17, 2023. <https://www.andeal.org/topic.cfm?menu=>
- Charney, P; Malone, A. Academy of Nutrition and Dietetics Pocket Guide to Nutrition Assessment. Third Edition. Academy of Nutrition and Dietetics. 2016.

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| Authors/ Reviewers | Candace S. Johnson, RDN, CSG, FAND Candace is the owner and operator of two long-term care consulting companies in Colorado and works in community services for senior nutrition care. |
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This case study was reviewed for clinical updates by members of the Dietetics in Health Care Communities Dietetic Practice Group of the Academy of Nutrition and Dietetics in 2022.

IMPACT Measure Domain
Functional Status and Cognitive Function

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| Measure Domain | Functional status, cognitive function, and changes in function and cognitive function NQF Number: 2631 |
| Background | <p>Functional status is measurable and can determine assistance needed for activities of daily living and mobility. Outcomes for degree of assistance may have an impact on morbidity in the post-acute setting.</p> <p>Functional Status as a measure quality domain was defined by CMS for Impact 2014. In 2013, an awarded contract studied cross-setting measurable functional status. Draft specification results include the Community Assessment Record and Evaluation (CARE) model, with content reviewed by a Technical Evaluation Panel (TEP).</p> <p>Functional status includes self-care (eating, oral hygiene, toileting, and continence), communication, cognition, and mobility.</p> <p>Sections noted in CARE model:</p> <ul style="list-style-type: none"> • CARE Section IV Cognitive Status A-F • Section V Impairments for Continence • Section VI Functional Status <p>For improved care and outcomes as people are discharged and admitted from centers of care, these areas are intended to be measured with additional care tools like Minimum Data Sheets (MDS), Outcome and Assessment Information Set (OASIS) and Inpatient Rehabilitation Facilities Patient Assessment Instrument (IRF-PAI).</p> |
| Key Definitions | <p>Function Definition:</p> <ul style="list-style-type: none"> • Function is a broad term that covers various components and several levels (e.g., body, person, society). An umbrella term that encompasses all body structures and systems, activities of daily living (ADLs), and participation in daily life. <ul style="list-style-type: none"> ○ Examples of function within the body structures include swallowing and bladder and bowel continence. ○ Examples of function within activities of daily living (ADLs) include eating, bathing, and dressing. ○ Examples of function within participation in daily life include working and participating in recreational activities. <p>Self-Care:</p> <ul style="list-style-type: none"> • Eating: The ability to use suitable utensils to bring food to the mouth and swallow food once the meal is presented. Includes modified food and fluid consistency. • Oral hygiene: The ability to use suitable items to clean teeth and oral structures. With dentures, the ability to remove and replace dentures from and to the mouth and manage equipment for soaking and rinsing them. |

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| | <ul style="list-style-type: none"> • Toileting hygiene: The ability to maintain perineal hygiene; to adjust clothes before and after using the toilet, commode, bedpan or urinal. If managing an ostomy, includes cleaning the opening but not managing equipment. • Washing upper body: The ability to wash, rinse, and dry the face, hands, chest, and arms while sitting in a chair or bed. <p>Mobility Items:</p> <ul style="list-style-type: none"> • Roll left and right: The ability to roll from a supine position to left and right side and roll back-to-back. • Sit to lying: The ability to move from sitting on the side of bed to lying on the bed. • Lying to sitting: The ability to safely move from the supine position to sitting on the side of the bed with feet flat on the floor, and with no back support. • Sit to stand: The ability to safely come to a standing position from sitting in a chair or on the side of the bed. • Chair transfer: The ability to safely transfer to and from a chair (or wheelchair). • Toilet transfer: The ability to safely get on and off a toilet or commode. <p>Cognition:</p> <p>Brief Interview for Mental Status (BIMS) for Cognition status:</p> <ul style="list-style-type: none"> • Temporal orientation and recall • Communication skills <p>BIMS Assessment Tools by facility type:</p> <p>Long-Term Acute Care Hospital (LTACH)</p> <ul style="list-style-type: none"> • Community Assessment Record and Evaluation (CARE) <p>Skilled Nursing Facilities (SNF)</p> <ul style="list-style-type: none"> • Minimum Data Set (MDS) <p>Home Health Agencies (HHA)</p> <ul style="list-style-type: none"> • Outcome and Assessment Information Set (OASIS) <p>Inpatient Rehabilitation Facilities</p> <ul style="list-style-type: none"> • Inpatient Rehabilitation Facilities Patient Assessment Instrument (IRF PAI) |
| <p>Nutritional Implications</p> | <p>Functional status encompasses a large area of skills and has numerous nutritional implications. Ability to perform is variable and measured without regard to improvement or decline of nutrition status. However, suggestions for nutrition implications include:</p> <p>Eating: To prolong independence, the use of adaptive devices, restorative therapy aids that work to manipulate eating utensils, and working with interdisciplinary team (IDT) members (including restorative staff, occupational therapists and assistants, and trained home health aides) is recommended. This includes obtaining devices and checking for proper use and acceptance of eating tools. Maintaining adequate nutrition with tolerated/required textures for service is impacted by presentation and the ability to eat with respect to fatigue and appetite. All should be considered when training and educating staff.</p> |

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| | <p>Oral Hygiene: Includes use of cleaning tools (i.e., electric toothbrushes), training for frequency of cleaning teeth and devices, and availability of cleaning solutions and paste. Impact of good oral care for aspiration and taste acuity can be explored as a precursor for adequate and safe food and fluid intake. Muscle strength for self-care and mobility is strongly related to adequacy of intake of caloric and fluid maintenance. Education and training for resident and care providers is priority. Ability for the RDN/NDTR to review care tools and develop referral mechanisms with high dependence scores for improved outcomes in all settings is imperative.</p> <p>Involvement in care planning at admission, quarterly, and at discharge may improve outcomes with appropriate nutrition intervention for eating skills and compensating tactics for muscle strength. Care plans are reviewed for nutrition assessment for proper interventions using nutrition care process.</p> |
| <p>Outcomes/ Measures</p> | <p>As measured by assessment tools:</p> <ul style="list-style-type: none"> • Improved functional ability for self-care with respect to independence and nutritionally adequate intake. • Improved mobility with independence in care settings. <p>Both are measurable and have nutrition involvement for care.</p> |
| <p>Recommendations</p> | <ol style="list-style-type: none"> 1. RDN/NDTR trained in use of adaptive devices and eating mechanics. 2. Simplified training and education of diet texture preparation, culinary nutrition of HHA settings and primary care givers. 3. Tool kit development for care givers for protein and nutrition adequacy when caring for persons with impaired functional status. 4. Workshop or training on care assessment tools for various post-acute care markets. 5. Toolkit development for proper nutrition care and interventions in all care settings especially where RDN/NDTR presence may be limited such as home health agencies or assisted living. |

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References

The World Health Organization. International Classification of Functioning, Disability and Health (ICF). Accessed July 17, 2023. <https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health>.

Centers for Medicare & Medicaid Services. Functional Measures. Accessed July 17, 2023. <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/Functional-Measures->

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