



Sustaining Malnutrition Hospital Reimbursement From Dietitian-Led Interventions

Kelly Fedder, MS, RD, LD, CNSC; Brittany Levy, MD; Jennifer Castle, MD; Wesley Wilt, MD; Jeremy Riser, MPH; Erin Burke, MD; Jon Hourigan, MD; Avinash Bhakta, MD

Contact Information: Kelly.Fedder@uky.edu

Background

- 20-60% of hospitalized patients are malnourished (1-12)
- Malnutrition is associated with impaired wound healing, increased length of stay, mortality rates, and treatment costs (1-3, 6-7, 13-22)
- Hospitals struggle to capture appropriate reimbursement for malnourished patients due to under and improper documentation (7, 23-24)
- American Society of Parenteral and Enteral Nutrition and the Academy of Nutrition and Dietetics guidelines for identifying malnutrition require 2 of 6 criteria to be present: reduced energy intake, weight loss, loss of body fat, loss of muscle mass, fluid accumulation, or reduced hand grip strength (2-5,7)
- Dietitians perform Nutrition Focused Physical Exams (NFPE) that include a hands-on physical assessment and patient interview to screen for and identify these criteria (2-5, 7)
- Dietitian documentation alone does not directly impact medical diagnoses or reimbursement (6)
- Diagnoses and reimbursement can only be captured from physician or other authorized licensed practitioner documentation (6)
- Incongruence between physician and dietitian documentation can lead to insurance claim denials

Learning Objectives

- Explain the dietitian's role in identifying malnutrition
- Describe the importance of congruent documentation between dietitian and provider on hospital reimbursement values for malnutrition

Methods

- January 2017, dietitians were trained on the NFPE process
- April 2017, physicians and advanced providers were educated on the NFPE process and best practices for documentation and diagnosis of malnutrition

Methods

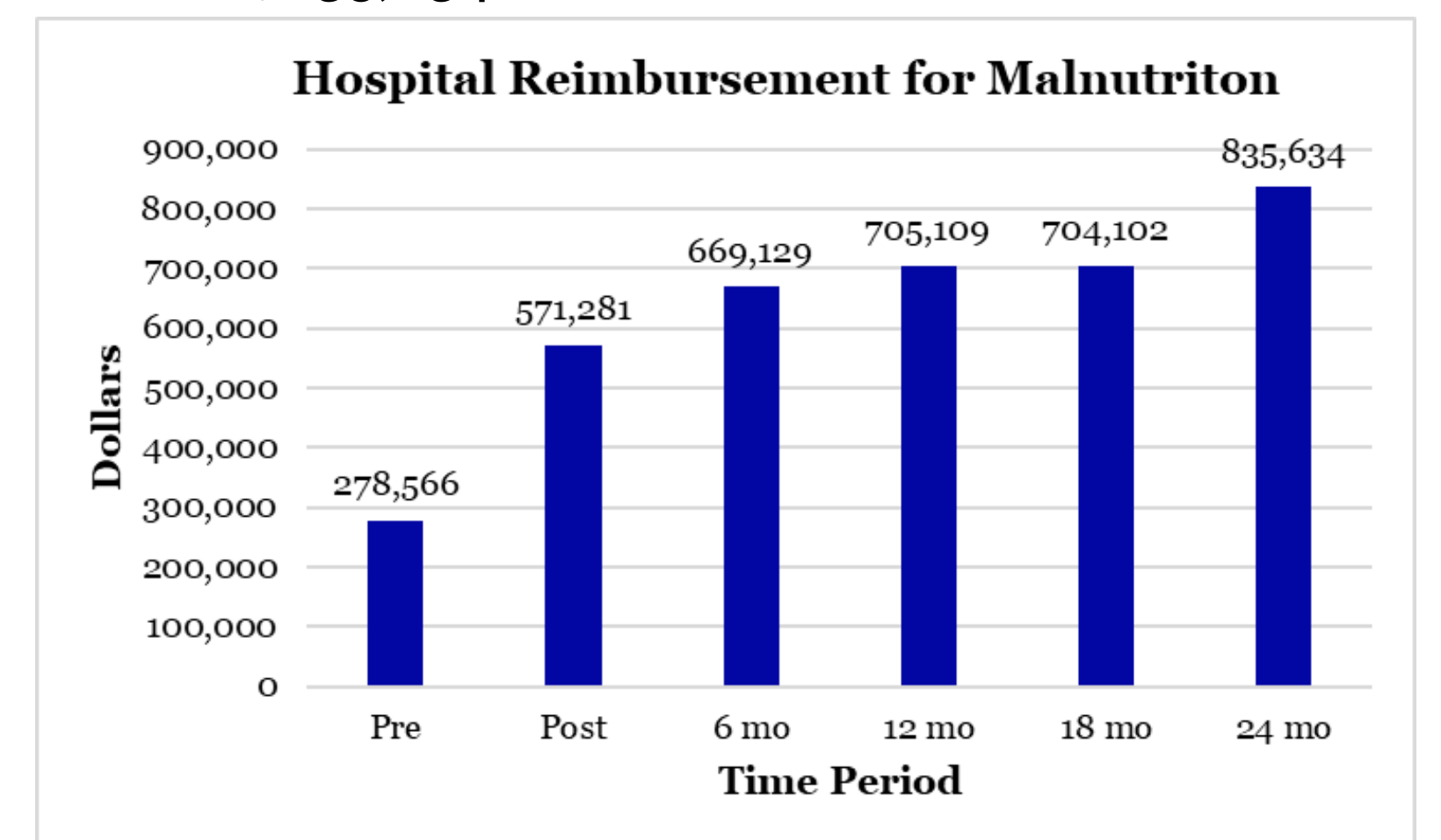
- Following IRB approval, electronic medical records were queried from October 1, 2016 through January 31, 2018
- Surgical patients were grouped into pre-intervention (October 1, 2016 – March 31, 2017) and post-intervention cohorts (August 1, 2017- January 31, 2018)
- ICD-10 codes were used to identify patients from each cohort with unspecified, mild, moderate, and severe malnutrition
- Records were analyzed to determine percentage of patients with congruent degree of malnutrition documentation between the dietitian and physician
- Using UKHC specific Medicare and Medicaid weighted DRG multipliers, estimated reimbursement outcomes attributed to malnutrition documentation were calculated
- Reimbursement was followed at 6-, 12-, 18-, and 24 months post-intervention

Results

- Diagnosing
 - 528 patients were included for analysis
 - Pre-intervention: 194 patients
 - Post-intervention: 334 patients
 - 72% increase in malnutrition diagnosing in the post-intervention period
- Concordance
 - Pre-intervention: 8.64%
 - Post-intervention: 46.3%
 - 436% increase in concordance rates in the post-intervention period
- Reimbursement
 - Pre-intervention: \$278,566
 - Post-intervention: \$571, 281
 - 105% increase in reimbursement in the post-intervention period

Results

- Sustained Reimbursement
 - 6 months: \$669,129
 - 12 months: \$705, 109
 - 18 months: \$704, 102
 - 24 months: \$835,634



Conclusions

- Following an educational quality improvement initiative, malnutrition diagnosing, diagnosis congruency, and hospital reimbursement improved
- Reimbursement has been sustained for 2 years post-intervention
- Further quality improvement initiatives are needed to improve clinical outcomes and therefore reduce treatment costs

References

1. Corkins et al. (2013). Malnutrition Diagnoses in Hospitalized Patients. *Journal of Parenteral and Enteral Nutrition*, 38(2), 186-195.
2. Dobak et al. (2017). Current Practices and Perceived Barriers to Diagnosing, Documenting, and Coding for Malnutrition: A Survey of the Dietitians in Nutrition Support Dietetic Practice Group. *Journal of the Academy of Nutrition and Dietetics*.
3. Lowry et al. (2015). Implementation of Malnutrition Coding: A Success Story. *Support Line*, 1(2).
4. Mordarski et al. (2017). Increased Knowledge, Self-Reported Comfort, and Malnutrition Diagnosis and Reimbursement as a Result of the Nutrition-Focused Physical Exam Hands-On Training Workshop. *Journal of the Academy of Nutrition and Dietetics*, 117(11), 1822-1828.
5. Nichols et al. (2013). Feasibility of Accessing Data in Hospitalized Patients to Support Diagnosis of Malnutrition by the Academy-A.S.P.E.N. Malnutrition Consensus Recommended Clinical Characteristics. *Journal of Parenteral and Enteral Nutrition*, 38(8), 954-959.
6. Phillips & Browning. (2017). Coding for Malnutrition in the Adult Patient: What the Physician Needs to Know (C. R. Parrish MS, RD, Ed.). *Practical Gastroenterology: Nutrition Issues in Gastroenterology*, 1(33), 56-64.
7. Phillips & Browning. (2017). A clinician's guide to defining, identifying and documenting malnutrition in hospitalized patients. *Nutrition Issues in Gastroenterology*, 169th ser., 19-33.
8. White JV, Guenter P, Jensen G, Malone A, Schofield M. Academy Malnutrition Work Group. A.S.P.E.N. Malnutrition Task Force. A.S.P.E.N. Board of Directors. Consensus statement: Academy of Nutrition and Dietetics and American Society for Parenteral and Enteral Nutrition: characteristics recommended for the identification and documentation of adult malnutrition (undernutrition). *J Parenter Enteral Nutr* 2012; 36:275-293.
9. Naber TH, Schermer T, de Bree A, Nusteling K, Eggink E, Kruijmel JW, Bakkeren J, van Heereveld H, Katan MB. Prevalence of malnutrition in nonsurgical hospitalized patients and its association with disease complications. *Am J Clin Nutr* 1997; 66:1232-1239.
10. Pirlich M, Schürer T, Norman K, Gastell S, Lubke HH, Bischoff SC, Bolder U, Frieeling T, Gildenzoph H, Hahn K, Jauch KW, Schindler K, Stein J, Volkert D, Weimann A, Werner H, Wolf C, Zircher G, Bauer P, Lochs H. The German hospital malnutrition study. *Clin Nutr* 2006; 25:563-572.
11. Lew CCH, Yandell R, Fraser RJL, Chua AP, Chong MFF, Miller M. Association between malnutrition and clinical outcomes in the intensive care unit: a systematic review. [Formula: see text] *J Parenter Enteral Nutr* 2017; 41:744-758.
12. Kang MC, Kim JH, Ryu SW, Moon JY, Park JH, Park JK, Park JH, Baik HW, Seo JM, Son MW, Song GA, Shin DW, Shin YM, Ahn HY, Yang HK, Yu HC, Yun UJ, Lee JG, Lee JM, Lee JH, Lee TH, Yim H, Jeon HJ, Jung K, Jung MR, Jeong CY, Lim HS, Hong SK. Korean Society for Parenteral and Enteral Nutrition (KSPEN) Clinical Research Groups. Prevalence of malnutrition in hospitalized patients: a multi-center cross-sectional study. *J Korean Med Sci* 2018; 33:e10.
13. Water TA, Lemmer ER, O'Keefe SJ, Ogden JM. The effect of severe undernutrition and subsequent refeeding on digestive function in human patients. *Eur J Gastroenterol Hepatol* 2009; 12:191-196.
14. Mechanick JI. Practical aspects of nutritional support for wound-healing patients. *Am J Surg* 2004; 188(1A Suppl):52-56.
15. Barker LA, Gout BS, Crowe TC. Hospital malnutrition: prevalence, identification, and impact on patients and the healthcare system. *Int J Environ Res Public Health* 2011; 8:514-527.
16. Lim SL, Ong KC, Chan YH, Lake WC, Ferguson M, Daniels L. Malnutrition and its impact on cost of hospitalization, length of stay, readmission and 3-year mortality. *Clin Nutr* 2012; 31:345-350.
17. Leiva-Badosa E, Badia-Tahull M, Virgili-Casas N, Elguazaral-Sangrador G, Far-Méndez C, Herrero-Meseguer L, Izquierdo-González A, López-Urdiales R, Oca-Burgarte FI, Tabua-Molas M, Vilariño-Farré C, Llop-Talavera JM. Hospital malnutrition screening at admission: malnutrition increases mortality and length of stay. *Nutr Hosp* 2017; 34:907-913.
18. Treiber LA, Harris MA. Effect of early nutrition intervention on patient length of stay. *J Am Dietetic Assoc* 1996; A:29.
19. Kohnen C, Jensen L. Malnutrition in acute care patients: a narrative review. *Int J Nurs Stud* 2007; 44:1056-1064.
20. Holmes S. The effect of undernutrition in hospitalized patients. *Nurs Stand* 2007; 22:35-38.
21. Goossens S, De K, Braunschweig CA, Arensburg MB. Economic burden of disease-associated malnutrition at the state level. *PLoS One* 2016; 11:e0161833.
22. Curtis LJ, Benner P, Jeschke JJ, Allard J, Duckles D, Grunlich L, Laporte M, Keller HH. Costs of hospital malnutrition. *Clin Nutr* 2017; 36:1391-1396.
23. Kellert J, Kyte G, Hrisopoulos G, Naanton M, Luff N. Malnutrition: the importance of identification, documentation, and coding in the acute care setting. *J Nutr Metab* 2016; 2016:902690.
24. Lazarus C, Hamlyn J. Prevalence and documentation of malnutrition in hospitals: A case study in a large private hospital setting. *Nutr Dietetics* 2005; 62:41-47.

Takeaways, Barriers & Challenges

- Hospital reimbursement for malnutrition can improve when using standardized exams and documentation methods
- Encourage dietitians to be trained on performing Nutrition Focused Physical Exams
- Educate providers on the American Society for Parenteral and Enteral Nutrition's criteria for diagnosing malnutrition
- Continue to improve concordance rates in degree of malnutrition between provider and dietitian
- Improving concordance rates can decrease time and money spent fighting insurance claim denials for malnutrition