

Oral Nutritional Supplement (ONS) Clinical Summary Overview

CITATION	STUDY OVERVIEW	CONCLUSION	Decreased Readmission	Decreased LOS	Decrease in Episode Cost	Reduced Complications																
Lakdwalla D, et al. Can oral nutritional supplements improve medicare patient outcomes in the hospital? <i>FHEP</i> . 2014. aop; http://www.degruyter.com/view/j/fhep.ahead-of-print/fhep-2014-0011/fhep-2014-0011.xml?rskey=BHTGjd&result=6	Eleven-year retrospective study (2000-2010) utilizing hospital data of 28.8 million Medicare 65+ year old in-patient data. Analysis of the effect of oral nutritional supplement (ONS) use on 30-day readmission rates, length of stay (LOS), and episode costs in hospitalized Medicare patients (≥ 65 years), and subsets of patients diagnosed with acute myocardial infarction (AMI), congestive heart failure (CHF), or pneumonia (PNA).	<p>ONS use was associated with reductions in the following:</p> <table border="1"> <thead> <tr> <th></th> <th>AMI</th> <th>CHF</th> <th>PNA</th> </tr> </thead> <tbody> <tr> <td>Probability of 30-day readmission</td> <td>-12.0%</td> <td>-10.1%</td> <td></td> </tr> <tr> <td>LOS</td> <td>-10.9%</td> <td>-14.1%</td> <td>-8.5%</td> </tr> <tr> <td>Episode Costs</td> <td>-5.1%</td> <td>-7.8%</td> <td>-10.6%</td> </tr> </tbody> </table> <p>The effect on LOS and episode cost was greatest for the any diagnosis population (n=667,684), with decreases of 16.0% and 15.8%, respectively.</p>		AMI	CHF	PNA	Probability of 30-day readmission	-12.0%	-10.1%		LOS	-10.9%	-14.1%	-8.5%	Episode Costs	-5.1%	-7.8%	-10.6%	✓	✓	✓	
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Snider JT, et al. Effect of hospital use of oral nutritional supplementation on length of stay, hospital cost, and 30-day readmissions among Medicare patients with COPD. <i>Chest</i> . 2014; doi:10.1378/chest.14-1368.	Eleven-year retrospective study (2000-2010) utilizing hospital data of in-patient Medicare 65+ year old patients diagnosed with COPD. LOS, hospitalization cost and 30-day readmission rates were examined in a 1:1 matched sample of patients provided ONS vs no-ONS (n=14,326) hospitalizations.	<p>ONS use was associated with a 1.88 day (21.5%) decrease in LOS, from 8.75 to 6.87 days ($P<0.01$); hospitalization cost reduction of \$1,570 (12.5%), from \$12,523 to \$10,953 ($P<0.01$); and a 13.1% decrease in probability of 30-day readmission, from 0.335 to 0.291 ($P<0.01$).</p> <ul style="list-style-type: none"> • 21.9% decrease in LOS • 21.6% decrease in episode cost • 6.7% decrease in probability of 30-day readmission 	✓	✓	✓																	
Philipson TJ, et al. Impact of oral nutritional supplements on hospital outcomes. <i>Am J Manag Care</i> . 2013;19:121-128.	Eleven-year retrospective study (2000-2010) utilizing hospital data of 44 million in-patient episodes. Analysis was conducted using a matched 1:1 sample of patients provided ONS vs no-ONS for any in-patient diagnosis in those 18+ years old (n=1,160,088).	Patients provided ONS had a shorter LOS by 2.3 days (10.9 vs 8.6 days), decreased episode cost of \$4,734 (\$21,950 vs \$17,216), and 6.7% decline in probability of 30-day readmissions (34.3% vs 32%).	✓	✓	✓																	
Stratton RJ, et al. A systematic review and meta-analysis of the impact of oral nutritional supplements on hospital readmissions. <i>Ageing Res Rev</i> . 2013;12:884-897.	A systematic review of 9 RCTs (n=1190) examining the effects of ONS on hospital readmissions. Meta-analysis of 5 RCTs with 826 patients was analyzed for effect of ONS on readmission.	The meta-analysis showed significant reductions in readmissions with ONS vs routine care (OR 0.59, 95% CI 0.42-0.80, $P=0.001$).	✓																			
Cawood AL, et al. Systematic review and meta-analysis of the effects of high protein oral nutritional supplements. <i>Ageing Res Rev</i> . 2012;11:278-296.	Systematic review and meta-analysis of 36 RCTs (n=3790), examining the use of high-protein ONS. Study settings include hospital and community.	High-protein ONS is associated with significant reduction in complications (19%), fewer readmissions to the hospital (30%), length of stay (10%), and improvement in handgrip strength. ONS increases protein and energy intake without suppressing food intake.	✓	✓		✓																

Clinical Summary Overview

CITATION	STUDY OVERVIEW	CONCLUSION	Decreased Readmission	Decreased LOS	Decrease in Episode Cost	Reduced Complications
Somanchi M, et al. The facilitated early enteral and dietary management effectiveness trial in hospitalized patients with malnutrition. <i>JPEN J Parenter Enteral Nutr.</i> 2011;35:209-216.	This study was conducted in 2 phases. Phase 1 aimed to estimate the percentage and severity of malnutrition, LOS, and delays in implementing nutrition support, as well as ascertain the DRG coding of malnutrition cases. Phase 2 evaluated the role of nutrition intervention on LOS and calculated the potential financial benefits of DRG coding and nutrition intervention.	Prevalence of malnutrition was 53%. Nutrition intervention significantly decreased LOS in malnourished patients. The LOS in the total malnourished group with nutrition intervention decreased significantly by 2.6 days vs the historical control. The LOS in the severely malnourished group with nutrition intervention decreased significantly by almost 5 days vs the historical control. For patients with severe malnutrition, \$1,514 in hospital costs was saved due to the decrease in LOS.		✓	✓	
Norman K, et al. Three month intervention with protein and energy rich supplements improves muscle function and quality of life in malnourished patients with non-neoplastic gastrointestinal disease—A randomized controlled trial. <i>Clin Nutr.</i> 2008;27:48-56.	The objective of this study was to investigate the effect of a 3-month, post-hospital nutritional intervention with high-protein and energy supplements on outcomes in malnourished GI patients. 80 malnourished patients with benign GI disease were randomly assigned to receive either ONS + dietary counseling for 3 months (n=38) or only the dietary counseling (n=42). Subjective Global Assessment (SGA) was utilized to determine nutritional status.	Patients in the ONS group had a greater improvement in hand grip strength ($P=0.002$), physical functioning ($P=0.007$), general health ($P=0.006$), and vitality ($P=0.05$). ONS patients had significantly fewer readmissions (10 vs 20; $P=0.041$).	✓			
Stratton RJ, et al. A review of reviews: A new look at the evidence for oral nutritional supplements on clinical practice. <i>Clin Nutr Suppl.</i> 2007;2:5-23.	A review of 13 systematic reviews and meta-analysis in which ONS were compared with routine care to assess clinical outcomes in both hospital and community settings.	The review of reviews found consistent benefits of ONS across most patient groups including significant reductions in mortality, infections, pressure ulcers, and surgical complications. Patients receiving ONS demonstrated more weight gain and less weight loss as compared to dietary advice alone. ONS is a safe and effective way to increase total energy and nutrient intake without suppressing food intake.				✓
Gariballa S, et al. A randomized, double-blind, placebo-controlled trial of nutritional supplementation during acute illness. <i>Am J Med.</i> 2006;119:693-699.	The purpose of this study was to evaluate whether nutrition support of older patients during acute illness leads to a clinical benefit. 445 patients aged 65 to 92 years were randomized to receive a normal hospital diet plus ONS providing 995 calories (n=223) or a normal hospital diet (n=222) for 6 weeks.	Over a 6-month time period, 29% of patients in the ONS group was readmitted to the hospital vs 40% of patients in the control group. This represents a 28% reduction in hospital readmissions.	✓			
Rana SK, et al. Short-term benefits of post-operative oral dietary supplements in surgical patients. <i>Clin Nutr.</i> 1992;11:337-344.	This study was conducted to investigate the short-term clinical efficacy of ONS given post-operatively to patients undergoing GI surgery. 54 patients with moderate to major gastrointestinal surgery were randomly assigned to receive a normal hospital diet post-operatively or the same diet supplemented ad libitum with ONS. The study period was defined as commencing from the day patients were able to consume fluids to the day of hospital discharge.	The incidence of post-operative complications (pneumonia, wound infection) was significantly higher in the control group (50%) than in the ONS group (15%) ($P>0.02$).				✓