

Reduce Healthcare Costs and Improve Patient Outcomes with Post-Discharge Meals

A White Paper By GA Foods





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Today, most people are aware that medical science has accumulated a substantial body of evidence establishing strong links between good nutrition and good health. Many Americans are surprised to learn that malnutrition is a serious problem among hospital patients in the U.S.

Research has shown that approximately one of every three patients admitted to hospitals is malnourished. Left untreated, about two-thirds of those patients will become more severely malnourished during hospitalization. Approximately one-third of patients who are not suffering from malnutrition upon hospital admission will become malnourished by the time they are discharged.

The purpose of this white paper is to review the body of evidence that shows how discharge meals can maximize patient outcomes while reducing healthcare costs.



The Impact of Malnutrition

Malnutrition Has Wide Ranging Consequences

Malnutrition has far-reaching effects for patients, causing impairment on many levels. Poor nutritional status impairs the immune system, delays wound healing, causes unhealthy changes in body composition, reduces muscle strength and can decrease the function and efficiency of vital organs and systems, such as the kidneys, respiratory and cardiovascular systems, and more. Malnutrition is also associated with fatigue, apathy and depression. These effects and others contribute to poorer treatment outcomes as compared to well-nourished patients, including longer recovery times and increased risk of complications.

Malnutrition among patients also has consequences for the medical facilities that treat them, as well as health insurance companies, health plans and other stakeholders in the medical system. The effects of malnutrition can significantly increase the overall length and complexity of care in these patients, which, substantially increases the costs associated with treatment.





Additionally, poor nutrition and the poorer outcomes that come with it often mean more frequent hospital visits – and in many cases, readmissions within 30 days of discharge. Of course, these factors have always had detrimental effects on hospitals and other stakeholders, but with newer reimbursement rules implemented under the Affordable Care Act that impose financial penalties for certain issues – readmissions and complications, for instance – their impact is even more pronounced today.



Nutrition Intervention Leads to Cost-Saving

Nutrition Care: Maximizing Patient Outcomes and Minimizing Costs

Most of these adverse effects on patients and the healthcare system can be prevented or improved through nutrition care. That care is essential during hospital stays to improve short-term treatment outcomes. However, research has revealed that it is just as important, as part of effective discharge planning, to provide post-discharge meals to patients who need them. Post-discharge meals significantly impact both short-term recovery results and the long-term health of patients.

This is the chief goal of care providers and the healthcare industry in general. Along with better outcomes for patients come increased financial health for stakeholders. Post-discharge meals can maximize patient outcomes while minimizing costs.

“Along with better outcomes for patients come increased financial health for stakeholders.”



Faster, More Complete Recoveries

Post-Discharge Meals Promote Faster, More Complete Recoveries

Patients discharged from the hospital after serious illness or injury generally still have work ahead of them in terms of healing, recovery and rehabilitation. Weight loss during this period is common, as patients experience symptoms that can make preparing and eating nutritious meals difficult, such as decreased energy, pain, weakness, poor appetite and health-related dietary restrictions. Weight loss and poor nutrient intake can delay the healing and recovery process, resulting in longer, more challenging recoveries, and in many cases, relapse and readmission. Providing ready-made post-discharge meals to these at-risk patients have shown impressive results - both for a patient's overall health and a hospital's bottom line. Nutrition interventions can lead to cost-savings by significantly reducing patients readmissions, according to an American Health and Drug Benefit study titled, "Budget Impact of a Comprehensive Nutrition-Focused Quality Improvement Program for Malnourished Hospitalized Patients."

Assessing a group of 1,269 patients, the study sought to discover potential cost-saving benefits related to fewer 30-day readmissions and hospital lengths of stay in malnourished patients.



By conducting a nutrition-focused program, the patients were compared to a pre-quality improvement baseline and validation cohorts.

Ultimately, the study found that nutrition interventions resulted in a reduction of hospital lengths of stay and readmissions, saving hospitals \$1,499 per patient. This led to a decreased malnutrition burden for patients in hospitals. Due to the fact that a significant portion of patients are at nutrition risk upon hospital admission, nutrition as a means for patient recovery is crucial.

However, malnutrition is prevalent across all healthcare settings, especially in hospitals, with related consequences ranging from increased length of stay to impaired wound healing, increased morbidity/mortality, higher infection/complication rates, and increased admission/readmission rates. By turning a focus to patient nutrition, hospitals can significantly reduce readmission levels by up to 26 percent, according to research by American Health and Drug Benefit.

In fact, a JAMA study on the Association Between Receipt of a Medically Tailored Meal Program and Health Case Use found an approximately 50 percent reduction in inpatient admissions for those who participated in a medically-tailored meal delivery. The study also found a 16 percent reduction in healthcare costs, with a monthly savings of \$753 per patient.

“Weight loss and poor nutrient intake can delay the healing and recovery process, resulting in longer, more challenging recoveries.”



Reduce Risk of Complications

Post-Discharge Nutrition Support Reduces Risk of Complications

A long list of clinical studies has shown that nutritional support throughout the hospitalization phase coupled with post-hospitalization nutrition assistance offers a significant reduction in short and long-term complications in both surgical and medical patients. According to studies cited in an article published in the *Journal of Parenteral & Enteral Nutrition* (July 2013, Tappenden, et al), common complications that can be reduced via solid, consistent nutritional intervention include infections, gastrointestinal perforations, pressure ulcers, anemia, cardiac complications, deep vein thrombosis and respiratory and urinary infections. Depending upon the particular study and type of complications, those reductions ranged from 14 to 24 percent.

Nutritional support has also been shown to significantly reduce the incidence of falls in frail, elderly patients, with some studies showing a reduction up to 60 percent. The impact of nutritional support in reducing complications shows that ensuring a wholesome, nutritious diet via post-discharge meals can be key to ensuring successful transitions from hospital to home.





Reducing complications in patients is certainly a priority for all segments of the healthcare industry for the sake of the health and well-being of those patients. It is also a priority in terms of maintaining the healthy bottom line necessary to provide quality care, given the reimbursement penalties imposed by the new healthcare reform act for higher-than-average rates of certain complications.



Reduce Risk of Readmissions

Post-Discharge Meals Significantly Reduce Hospital Readmissions

Hospital readmissions within 30 days of a discharge are very common and troublesome issues. In Medicare patients alone – one of the easier demographics to track – readmission within 30 days occur in one of every five patients. For the patients who experience these readmissions, they generally indicate poor recovery outcomes. For both patients and healthcare stakeholders, readmissions significantly increase costs, and for hospitals and health systems, high readmission rates can result in financial penalties under newer Medicare reimbursement policies.

Poor nutritional status has been linked to a number of factors that are associated with poor recovery outcomes, according to Tappenden. Malnourished adults who are or recently have been hospitalized, regardless of body mass index, typically suffer from undernutrition – or insufficiencies and/or deficiencies of vital nutrients.



This can often be attributed to a combination of poor appetite, induced by illness, injury or health conditions, and nutrient depletion, caused by factors that increase the body's demand for and usage of protein, energy and micronutrients, such as inflammation and infection related to those illness, injuries or health conditions, for instance.

Undernutrition is associated with many adverse outcomes, including an increased risk of pressure ulcers, impaired wound healing, suppressed immune function, increased infection risk, weight loss, muscle wasting and functional loss – which increases the risk of falls. All of these adverse outcomes are risk factors for readmission.

In fact, weight loss alone, according to these authors, has been shown to correlate with a 26 percent increase in readmission risk.

Comprehensive nutritional intervention, including nutrition care during hospitalization and as part of of post-discharge planning and care, has been shown to reduce readmissions significantly. According to research presented during a poster session at Hospital Medicine 2014, the Society for Hospital Medicine's annual meeting, nutritional care decreased the probability of 30-day readmission by 12 percent for acute myocardial infarction (AMI), and 10.1 percent for congestive heart failure (CHF), and 8.4 percent in patients with any diagnosis.



Support Patients with Poor Access to Healthy Foods

Post-Discharge Meals Provide Crucial Support to Patients with Poor Access to Healthy Foods

Food insecurity is a common problem among lower income patients of all ages. According to U.S. News and World Report, it affects nearly one in six U.S. households. For many, the chief issues behind poor access to healthy foods are financial, but there are a number of other factors that contribute as well. For low income individuals, families and older adults, transportation to grocery stores can be a serious problem. For older adults and the chronically ill, decreased functional ability can make obtaining and preparing healthy foods difficult, a problem that is generally more significant as these patients are recovering from a recent hospitalization. These factors and others contribute to less than ideal dietary practices in low-income patients, which, according to a growing body of medical evidence, can have serious adverse effects on patient recovery outcomes after hospital discharge, management of chronic health issues and risk of further injury/illness, among other health issues, and contribute to increased healthcare costs and usage.



“Food insecurity is a common problem among lower income patients of all ages, affecting nearly one in six U.S. households.”

Among the many studies that examine the impact of poor access to healthy foods on health status and healthcare costs is one done by a University of California, San Francisco research team and published in the January, 2014 issue of Health Affairs. In this study, researchers looked into how food insecurity affected health outcomes, including risk of hypoglycemia in people with diabetes. They found that low-income diabetes patients were hospitalized more often than higher-income diabetes patients, and that risk of hypoglycemia admissions for low income patients increased by 27 percent during the last week of the month – when food budgets are more frequently exhausted – as compared to the first week of the month. Since no similar variation was seen in higher-income patients, study authors state that these results suggest that exhaustion of food budgets – and the poor diet that results – may be an important driver of increased hypoglycemia and more frequent hospital admissions among low-income people with diabetes.

Another study, published in the October, 2013 issue of Health Affairs, looks into the benefits of providing home-delivered meals to older adults.



According to researchers, an increase of just one percent in the number of older adults receiving home-delivered nutritional support in 2009 could have saved state Medicaid programs over \$109 million dollars, primarily by helping more older adults to maintain healthy, independent lives at home, rather than requiring nursing home care.

These are just two of the many studies that illustrate the importance of nutrition care in patients who are malnourished or at risk of malnutrition – especially after hospital discharge, when personal circumstances, such as environmental, functional and financial issues, among others, may make access to healthful meals difficult.



Improves Overall Health and Quality of Life

Nutrition Care Improves Overall Health and Quality of Life

An overwhelming and ever-growing body of clinical evidence proves that solid, well-balanced nutrition is essential to health, and that inadequate nutrition has adverse health effects. These basic facts apply to everyone, but the effects of poor nutritional status are particularly pronounced in people who have recently been hospitalized and are recovering from acute illness or injury, a cardiovascular event, or an exacerbation of a chronic health condition.

Ensuring proper nutrition in these medically vulnerable patients via post-discharge meals, promotes faster healing, improves strength and functional ability, lowers risk of complications and reduces risk of health deterioration after discharge that can lead to unexpected readmissions. Better recoveries, fewer complications and less chance of the need for another hospital stay means healthier patients, and better overall health means better quality of life.



Decrease Further Hospitalizations Due to Injury

Post-Discharge Meals Decrease Odds of Further Hospitalizations Due to Injury

Patients who have been discharged from the hospital are generally functionally compromised to some degree. Illnesses, injuries or other health events significant enough to require inpatient treatment generally inflict a toll on overall health and well being that may cause symptoms that include fatigue, weakness, depression, anxiety, weight loss and muscle wasting, issues that typically continue well into the post-discharge period. Patients who have been hospitalized for serious injuries or stroke may have mobility challenges – temporary or permanent – that make them dependent upon crutches, canes, walkers or other mobility aids to get around. Newly prescribed medications, especially strong pain medications, can cause nausea, drowsiness or dizziness. Compounding these issues is the fact that a large percentage of patients leave the hospital in a malnourished state, which can worsen many of these symptoms. Any or all of these issues increase the risk of falls and injuries, especially in patients who have little or no help at home during this difficult period.



Home-delivered post-discharge meals can reduce that risk in two basic ways. First, as shown in study after study, including many cited here, optimizing nutrition during hospitalization and the post-hospital period speeds healing and recovery, helping patients regain strength, energy and functional ability more quickly than patients who do not receive nutritional care. Second, patients who have the benefit of home-delivered, ready-made meals during their recovery period are spared the risk of falls and injuries that can occur as they fend for themselves – despite their impairments – in the kitchen preparing meals.



Enhance Management of Chronic Disease

Home-Delivered Meals Enhance Management of Chronic Disease

Managing chronic diseases and conditions – such as diabetes, cancer, heart disease, stroke, arthritis and obesity – to enable the highest possible level of health and well-being in patients and the lowest possible risk of complications, disability and death is one of the most important and challenging aspects of health care today. It is also the most expensive.

According to the CDC, 90 percent of the nation's \$3.5 trillion in annual healthcare expenditures are for people with chronic and mental health conditions. The direct medical costs of just two of these conditions, heart disease and stroke, totaled an estimated \$214 billion, while direct medical costs associated with diagnosed diabetes in 2017 came in at an estimated \$327 billion. Obesity costs the U.S. healthcare system \$147 billion a year.

The CDC reports there is increasing evidence that food insecurity is associated with chronic health conditions, including diabetes, hypertension, asthma, arthritis, chronic bronchitis, and emphysema.



This link may be particularly strong among older adults, defined as adults aged 50 or older, who are at higher risk of chronic conditions than younger adults. According to a 2014 report, compared with younger adults, food-insecure adults aged 60 or older were 53 percent more likely to report a heart attack, 40 percent more likely to report congestive heart failure, 22 percent more likely to report coronary heart disease, and 52 percent more likely to develop asthma.

Home-delivered post-discharged meals and chronic disease management meals have been shown to improve results in terms of managing chronic diseases and conditions, significantly improving health and well-being of patients and decreasing their medical costs.

These benefits are illustrated in a study by Health Affairs, in which 92 percent of home-delivered meal recipients reported the ability to continue living on their own at home, improving their quality of life and enhancing their independence and autonomy.

According to Health Affairs, those who received medically-tailored meals saw a 40 percent decrease per person in medical spending every month. Non-tailored meals resulted in a 13 percent reduction in monthly medical expenditures, plus a notable decrease in ER visits, emergency transportation, and inpatient visits.



Conclusion



The bottom line of all the information outlined in this paper about post-discharge meals, is that addressing the needs of malnourished patients during inpatient care is a good start towards maximizing patient outcomes and minimizing healthcare costs, as well as complying with the ACA regulations and benchmarks that can affect reimbursement levels. However, extending nutritional care into the post-discharge period, and in many cases beyond that period, offers better results for both patients and health care stakeholders, including hospitals, integrated health systems and health insurers. Given the proven benefits for all involved, it's no surprise that hundreds of U.S. hospitals, many large health systems and a growing number of health insurance plans are implementing and/or approving post-discharge nutrition for the patients they serve.

Home-delivered meals programs not only improve older adults' nutritional intake, but can also reduce social isolation, falls, hospitalizations, and potentially nursing home placement.

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