Small Intervention, Big Impact

Health Care Cost Reductions Related to Medically Tailored Nutrition

**Research Questions**

1) Does providing medically tailored meals impact health care costs for chronically ill individuals?

2) Do chronically ill individuals who receive medically tailored meals have lower health care costs than those who do not?

**Background**

Project Angel Heart is a Colorado nonprofit that provides medically tailored meals (MTM) to individuals living with chronic illness. Medically tailored meals are meals approved by a registered dietitian nutritionist that use evidence-based guidelines to ensure positive health outcomes. Project Angel Heart provided 5 to 10 MTM per week, free of charge, to individuals included in this study. The Center for Improving Value in Health Care (CIVHC), the nonprofit administrator of the Colorado All-Payer Claims Database (CO APCD), a database that collects actual paid amounts from claims data submitted by Medicaid, Medicare, and commercial health insurance plans, Project Angel Heart and CIVHC collaborated on this study to analyze the impact of MTM on health care costs utilizing claims data from the CO APCD.

**Methods and Analysis**

**Study Design.** This was a retrospective study utilizing negotiated, paid claims rates from the CO APCD to analyze the impact of MTM on health care costs for chronically ill individuals over time, and as compared to a propensity score matched control group.

**Methods.** Administrative claims data from the CO APCD were used to calculate historical per member per month costs for Project Angel Heart clients for the six months prior to and six months after receiving MTM. These costs were compared to the inpatient, outpatient, professional, pharmaceutical, and total medical costs incurred while clients received the MTM intervention. A control group was created using a propensity score matched to the identified individuals receiving MTM. Weighted regressions model-led costs and utilization as a function of the MTM intervention by payer types.

**Study Results**

**Medically tailored meals led to a decrease in hospital readmissions**

The rate of 30-day all-cause hospital readmissions across all diseases and insurance providers dropped by 13 percent during the time that Project Angel Heart clients received meals. With the cost of an average hospital readmission in the U.S. at $13,400, this reduction in preventable readmissions has the potential to result in significant savings for individuals and health care insurance providers.

**Inpatient cost reductions from $111 to $555 per month**

Inpatient costs decreased from $111 to $555 per month, with statistically significant reductions in cost for clients living with congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), diabetes, and end stage renal disease (ESRD). Of these, reductions for people living with CHF and ESRD were statistically significant.

**Conclusions**

Medically tailored meals are an effective way to reduce overall health care costs, as well as reduce the frequency of and costs associated with hospital readmissions, for people living with chronic disease.

Integrate medically tailored, home-delivered meals into health care delivery & payment models.

The right food and nutrition—especially medically tailored meals—lead to improved health outcomes for people with chronic illness, so they should be considered a standard part of treatment by health care providers and insurance providers.

Continue to study how medically tailored meals impact the health outcomes and costs of chronically ill individuals.

Additional research is needed to build upon what we already know, and to help providers of medically tailored meals continue to demonstrate a strong return on investment when meals are integrated into care.

**Total medical costs for people with CHF, COPD, and diabetes decreased**

Clients with a primary diagnosis of congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), or diabetes saw the greatest reductions in total medical costs while receiving meals, with statistically significant reductions in cost ranging from $416/month to $736/month. On average, total medical costs for people in this group were reduced by 24 percent during the time that they received meals.

**Similar trends when comparing Project Angel Heart clients to a control group**

We also compared clients to a propensity score matched control group. This comparison also showed strong trends toward decreased medical costs for meal recipients, though savings varied by disease and payer, and not all cost savings were statistically significant. Similar to what we learned by analyzing Project Angel Heart clients’ medical costs before and while receiving meals, the most consistent cost savings were for clients living with congestive heart failure, chronic obstructive pulmonary disease, and diabetes.

Creating a control group that matched Project Angel Heart clients was challenging, forcing us to base the control group on the interquartile range (the middle 50 percent) of clients. This means that clients with both the highest (our “high utilizers”) and lowest medical expenses were eliminated from the intervention group. As a result, the impact of meals on clients, as compared to the control group, was likely underestimated.