Reducing Hospital Readmissions: Addressing the Impact of Food Security and Nutrition

Mathew Swinburne, Katie Garfield, and Aliza R. Wasserman

In 2015, approximately 42.2 million Americans lived in households that lacked adequate access to food due to insufficient money or other resources. Food insecurity is associated with a range of negative health outcomes. Many food insecure individuals must decide whether to spend their limited resources on medication or food. Food insecurity is also associated with increased hospital admissions and a range of health conditions including anxiety and depression, hypertension, diabetes, and obesity.

Hospital Readmission Reduction Program
As community institutions grappling with the negative health outcomes associated with food insecurity, hospitals are uniquely situated to help address this public health challenge. In addition, the Affordable Care Act (ACA) provides considerable financial incentive to do so through the Hospital Readmission Reduction Program (HRRP). This program penalizes certain hospitals for excessive readmissions of Medicare patients diagnosed with specific conditions. The HRRP was created to address issues in the quality of care that were resulting in unnecessary readmissions. For perspective, in 2011, Medicare patients represented the largest percentage of hospital readmissions at 55.9% and cost the healthcare system approximately $24 billion. According to recent data, the HRRP is working; between 2010 and 2015 monitored readmission rates dropped in every state except one. However, while improvements have been made, there is still work to be done. As a result of hospital readmissions, 2,597 hospitals will be penalized for a total of $528 million in 2017.

The HRRP incentivizes hospitals to engage in nutrition interventions through two key program elements: covered conditions and penalty calculations. Currently, the HRRP monitors Medicare readmission rates for acute myocardial infarction, heart failure, pneumonia, acute exacerbation of chronic obstructive pulmonary disease, total hip arthroplasty, total knee arthroplasty, and coronary artery bypass graft surgery. Several of the monitored conditions have nutrition-related needs in their post-discharge care. Poor adherence to a low-sodium diet is associated with increased readmission and mortality among heart failure patients. Obesity, which is linked to food insecurity, increases the need for hip and knee arthroplasty, as well as intraoperative and postoperative complications.

The HRRP’s penalty formula for excessive readmission also incentivizes hospitals to explore nutritional interventions. To determine if a hospital has experienced excessive readmission, the hospital’s 30-day readmission rate for the monitored conditions is compared to the national average. The greater the hospital’s deviation from the national average, the greater the penalty; the maximum penalty is currently a 3% reduction in Medicare payments. In an attempt to ensure that readmission penalties reflect quality of care rather than the composition of a hospital.
pital’s patients, the hospital’s readmission rate is risk-adjusted for certain factors including patient age, gender, and the presence of comorbidities. However, the HRRP’s risk adjustment does not account for sociodemographic factors including race, education, income, and food insecurity, that can substantially affect recovery and the likelihood of readmission. Unsurprisingly, hospitals serving communities of color, individuals with lower education levels, and individuals with lower incomes are penalized at a greater rate under the HRRP. This controversial systematic flaw has not gone unnoticed. In fact, Congress has repeatedly introduced unsuccessful bills requiring the inclusion of socioeconomic status in the HRRP’s risk adjustment calculation. However, until Congress addresses the issue, the HRRP will continue to punish certain hospitals based on the sociodemographic profile of their patients. To proactively respond to these pressures and better meet the overall health needs of their patients, hospitals can adopt interventions that address these social determinants of health including food insecurity.

**Food Insecurity and Nutrition Interventions**

An innovative set of nutrition interventions exists to address food insecurity, including healthy food prescriptions and medically tailored meals. While a range of interventions is being employed by hospitals to address food insecurity, these targeted interventions address food as medicine, by providing healthy, medically appropriate food to patients, and are a critical opportunity to prevent readmissions due to poverty.

**Healthy Food Prescriptions**

Communities around the country are working with hospitals to develop healthy food prescription programs for food insecure patients with diet-related illness. Since communication from providers is an effective strategy to promote healthy behaviors, but fresh fruits and vegetables may not be affordable for patients most in need of healthy food, programs using a prescribed healthy food benefit can help patients stay healthy and out of the hospital. Frequently beginning with a screening for food insecurity, low income, and/or diet-related disease, these programs generally include a provider referral or “prescription” for fruits and vegetables. The prescription is a voucher that can be used to pay for the produce. In addition to providing affordable produce, the programs also provide nutrition education and counseling.

Preliminary data from healthy food prescription programs indicate significant, positive impacts on low-income patient and household fruit and vegetable intake, food security, and consistency of primary care visits (compared with groups that have received only nutrition education without a voucher). Data from a pilot program in New York City indicated that 45% of low-income patients (sample includes both adult diabetic and pediatric overweight patients) decreased their body mass index, 69% increased their fruit and vegetable consumption, and 91% expressed greater satisfaction with their care as a result of the program. In a national survey conducted informally by Wholesome Wave in 2016 (n=16), nearly all programs included a significant clinical component, ranging from provider referrals and recruitment to ongoing support groups and monthly visits with a nutritionist and clinicians. Fruit and vegetable benefit types ranged from a majority using a physical prescription to others providing tokens or scrip for local farmers’ markets and still others offering produce boxes. Twelve of the programs surveyed targeted the benefit to the entire household of the index patient, to foster sustained behavior change and address household food insecurity.

One of the biggest challenges healthy food prescription programs face is scaling small pilot programs to sustainable initiatives that can support patients throughout a hospital. Hospitals play a key role in ensuring that the screening of patients for food insecurity and the referral of patients to food prescription programs is part of the standard of care for hospitalized patients. Funding these programs through community benefit resources, using existing billing structures or building a healthy food benefit into new health care payment models are cost-effective strategies hospitals can employ to direct resources towards healthy food prescriptions. In order to align hospital resources to best target food insecurity as a cause of hospital readmissions, nonprofit hospitals are using the federal Community Health Needs Assessment (CHNA) and community benefit reporting requirements to leverage efforts towards systemic level change.

**Medically Tailored Meals**

In some cases, patients with severe or chronic illness are unable to shop or cook for themselves, and therefore require more intensive interventions in order to avoid malnutrition, its attendant complications, and readmissions. In order to meet the needs of these high-need, high-cost patients, hospitals can investigate opportunities to connect patients with more targeted food and nutrition services such as medically tailored meals.

Medically tailored meals are meals designed by a Registered Dietitian as part of a treatment plan for an individual with or at risk for one or more health condi-
tions. These meals are usually delivered to the home and are designed to meet the precise dietary needs of the particular patient according to his or her diagnosis. Such meals can play an important role in improving patient health outcomes and reducing costs. While malnutrition is linked to many negative health outcomes, including increased risk for hospital readmissions, initial evidence indicates that the provision of medically tailored meals to individuals with complex illness is associated with reduced hospital admissions.

As with healthy food prescriptions, hospitals can play a key role in improving access to medically tailored meals by establishing the infrastructure necessary to connect patients to meal services, where available, and supporting the creation of new funding streams that are necessary to allow the scaling of meal programs to reach additional locations and patient populations. Specifically, hospitals can partner with meal providers to fund access to medically tailored meals as part of their Community Benefit activities, work to incorporate meal benefits into emerging value-based payment models, or make the case for increased coverage of meals by local insurers. By doing so, hospitals can both advance broader systemic change to benefit the health of their patients and address the ongoing role of food insecurity in promoting hospital readmissions.

and length of stays and greater likelihood of a patient being discharged to their home rather than to a long-term care or subacute rehabilitation facility. Despite promising initial evidence regarding their impact, access to medically tailored meals remains limited in much of the country. While urban areas such as New York City, Philadelphia, Baltimore, Atlanta, Boston, and San Francisco have active medically tailored meal providers, access is more limited in rural areas. Additionally, those programs that do exist may have limited capacity due to funding constraints, as they often rely on charitable donations, grants, and funding provided by the federal Ryan White HIV/AIDS Program, which is narrowly tailored to serve individuals living with HIV. To improve program sustainability and better reach the full spectrum of patients that could benefit from their services, many meal providers are now looking to integrate into public and private health insurance programs such as Medicare Advantage Plans, Medicaid Managed Care Plans, dual eligible programs, Medicaid 1915(c) Home and Community Based Services Waiver programs, and Medicaid Section 1115 Demonstration Waiver programs, but coverage remains limited in many states.

As with healthy food prescriptions, hospitals can play a key role in improving access to medically tailored meals by establishing the infrastructure necessary to connect patients to meal services, where available, and supporting the creation of new funding streams that are necessary to allow the scaling of meal programs to reach additional locations and patient populations. Specifically, hospitals can partner with meal providers to fund access to medically tailored meals as part of their Community Benefit activities, work to incorporate meal benefits into emerging value-based payment models, or make the case for increased coverage of meals by local insurers. By doing so, hospitals can both advance broader systemic change to benefit the health of their patients and address the ongoing roles of food insecurity and malnutrition in promoting hospital readmissions.

**Conclusion**

Food insecurity in the United States is a profound public health challenge that hospitals are uniquely situated to address. Through the enactment of the Hospital Readmission Reduction Program, the Affordable Care Act provides a strong economic incentive for hospitals to actively confront food insecurity within the communities they serve. While there is a spectrum of nutrition interventions that hospitals can look to when engaging in these efforts, healthy food prescriptions and medically tailored meals are two particularly innovative and promising approaches that could...
help hospitals reduce readmissions by addressing the nutritional needs of vulnerable patients.

References
4. A. L. Hines et al., *Conditions with the Largest Number of Adult Hospital Readmissions by Payer*, 2011, HCUP Statistical Brief #175 (April 2014) at 1.

Swinburne, Garfield and Wasserman