The Impact of **Medically Tailored Meals**

An innovative model for reducing healthcare costs and improving health

Seth Berkowitz, MD MPH, University of North Carolina School of Medicine
David B. Waters, CEO, Community Servings

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Background

Food insecurity and poor nutrition can lead to chronic health problems and frequent use of expensive medical services,[1] and are increasingly recognized as important social determinants of health.[2] In 2016, 266,500 Massachusetts households, or 9.7 percent, were food insecure.[3] A recent report found that food insecurity increased medical costs in Massachusetts by an estimated $2.4 billion in 2016, and the annual national costs linked to food insecurity are estimated at $77 billion.[4] The costs attributable to food insecurity involve the treatment of diabetes, obesity, chronic obstructive pulmonary disease, and other illnesses.[5]

A growing body of research shows the promise of home-delivered meals to improve the health and well-being of homebound older adults.[6] This research has laid the foundation for examining the potential of a more specialized intervention designed to meet the medical and nutritional needs of individuals coping with severe chronic illnesses, regardless of age, known as medically tailored meals (MTM).

The study, Meal Delivery Programs Associated with Improved Healthcare Utilization in Dually Eligible Medicare-Medicaid Beneficiaries, published in *Health Affairs* on April 2, 2018, funded by AARP Foundation and undertaken in partnership with Massachusetts General Hospital, examines the impact of home-delivered meals reimbursed by a health plan. Commonwealth Care Alliance (CCA) is a community-based organization that offers health plans that manage and deliver care for adults over the age of 21 who are dually eligible for Medicaid and Medicare with complex medical, behavioral health and social needs. The study examined two meal programs:

- **A medically tailored meal (MTM) program**
  Provided by Community Servings, a Boston-based not-for-profit food and nutrition program.
- **A non-tailored meal (NTM) program**
  Provided by a Meals on Wheels vendor.

Individuals who were enrolled in CCA with similar demographic profiles as the intervention groups served as the controls.

"Thirty years of research shows that poor diet is associated with worse health—and there is no doubt that poor diet is leading to higher costs of care. Having a diet closely tailored to what people should be eating may improve their health and lower costs."

—Seth Berkowitz, MD MPH, UNC School of Medicine, Division of General Medicine and Clinical Epidemiology.

$2.4 BILLION

SPENT IN MASSACHUSETTS

On medical costs attributable to **food insecurity** in 2016.

The Home-Delivered Meals Programs

Community Servings is a nonprofit food and nutrition program that annually provides 675,000 medically tailored meals to thousands of individuals and their families residing in Massachusetts and Rhode Island. "Medically tailored meals" are meals approved by a registered dietitian that reflect the appropriate medical diet according to evidence-based practice guidelines for addressing a medical diagnosis, symptoms, allergies, medication management, and side effects to ensure the best possible nutrition-related health outcome. In consultation with its registered dietitians, Community Servings produces made-from-scratch meals across 15 medical diet tracks (e.g. renal, diabetic, low vitamin K) and accommodates up to three diet combinations (e.g. renal/low vitamin K/soft). Community Servings delivers five days' worth of lunches, dinners, and snacks to individuals' homes once a week.

The Meals on Wheels program also provides nutritious meals, but does not tailor the meals to individuals' medical needs. The Meals on Wheels program provides five days' worth of lunches and dinners per week.

At the time of the study, the average cost of the MTM program was $350 monthly per person, and the NTM program was $146 per person monthly.

Enrollment in either meal program was determined by CCA's authorizing clinician. Eligibility criteria included a determination that the member was at nutritional risk. In general, the MTM program was used for younger individuals with higher rates of disability, and the NTM program was used for older, non-English speaking individuals.

PROGRAM COMPARISON

Medically tailored meals (MTM) from Community Servings	**Non-tailored meals (NTM)** from Meals on Wheels
15 medical diet tracks	**1** diet track
Five days worth of lunches, dinners, and snacks	**Five days** worth of lunches and dinners
$350 per person monthly	**$146** per person monthly
Meals approved by a Registered Dietitian	Meals are nutritious but not medically tailored

NOTE: Participants in each program are compared to control groups.

CLIENT STORY

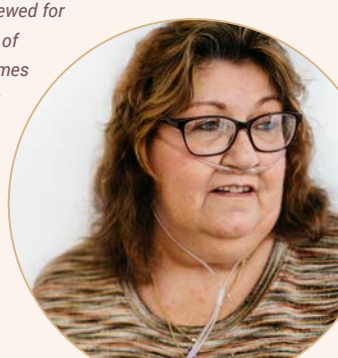
MARIA*, 63
BOSTON, MA

Maria says that there was a time when she and her sister were so overwhelmed each week from dealing with their health—diabetes, heart disease, and other issues—that making sure they had enough healthy food on hand was not always a priority.

That changed for Maria when Community Servings started delivering medically tailored meals to the home in Boston's Dorchester neighborhood that she shares with her sister Susan, who functions as Maria's primary caregiver. Maria spent years battling acute-stage diabetes and cardiac disease. As a Community Servings client, Maria receives a delivery of lunches, dinners, and snacks each week that are customized to meet her nutritional and medical needs. As Maria's caregiver, Susan also receives meals.

"It was a blessing. You can just say it was a blessing to get these meals," says Maria. "Because of Community Servings, we don't have to worry about food being in the house, and the food we do buy goes further. The meals that get delivered are good ... and I would say that both of us feel better because of it. We review our medications with our doctors and have seen a change in how many prescriptions we are dealing with."

**To protect privacy, clients interviewed for this white paper are not members of Commonwealth Care Alliance. Names reported are pseudonyms and key facts have been changed to avoid disclosure.*



"This study reinforces our belief that there is potential for significant cost savings and improved outcomes if we can prove that having your insurer or your provider fund meals for you, even for a short period, can have a significant outcome. There is the need for low-cost interventions and keeping people out of the hospital."

–David B. Waters, CEO, Community Servings

Results

Average monthly medical costs for MTM participants was $843 vs. $1,413 for the comparison group, reflecting a **gross difference of $570 per month**, and a net difference of $220 (factoring in the cost of the meals). MTM participation was associated with **fewer emergency room visits, inpatient admissions, and emergency transportation services** compared to controls.

Average monthly costs for NTM participants was $1,007 vs. $1,163 for the comparison group, reflecting a gross difference of $156, and a net difference of $10. NTM participation was also associated with fewer emergency department visits and emergency transportation services, but not inpatient admissions, compared to controls.

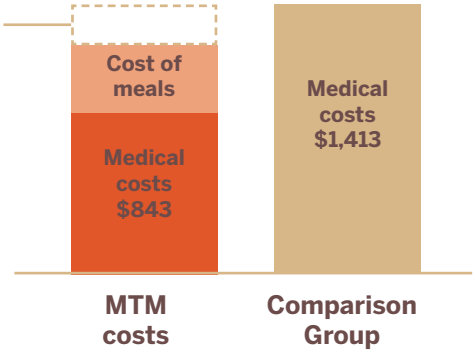
Medically Tailored Meals Group

vs. Comparison Group Costs

COSTS PER PATIENT PER MONTH

$220 per month savings

compared to comparison group



WITH MEDICALLY TAILORED MEALS

- Fewer Emergency room visits
- Fewer Emergency transportation services
- Fewer Inpatient admissions

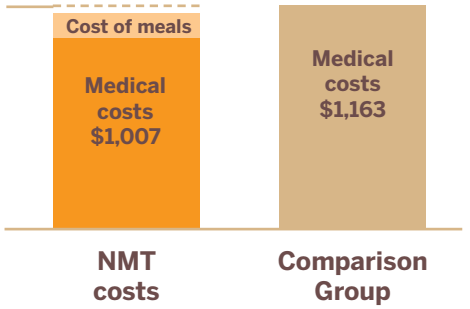
Non-Medically Tailored Meals Group

vs. Comparison Group Costs

COSTS PER PATIENT PER MONTH

$10 per month savings

compared to comparison group



WITH NON-MEDICALLY TAILORED MEALS

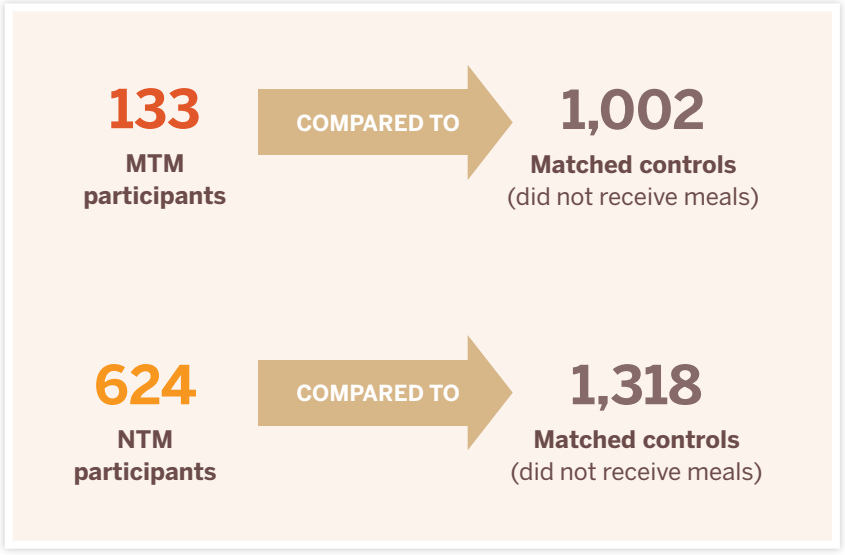
- Fewer Emergency room visits
- Fewer Emergency transportation services

Methods

The study sample included individuals who received home delivered meals for at least six months, starting between January 1, 2014, and January 1, 2016. The comparison group was comprised of randomly selected CCA members, during the same time period, who did not receive meals from either program. Demographics in the cohorts, including age, illness profiles, city/town of residence, and other indicators, were generally similar between the intervention and control groups.

During the study period, 133 participants who received Community Servings' MTM were compared to 1,002 matched controls, and 624 NTM participants were compared to 1,318 matched controls.

Statistical analyses were conducted to account for the fact that the participants were not enrolled at random. Because of the relatively small sample size and the substantial demographic differences between those who received MTM and NTM, statistical analysis was not possible between the two intervention groups. Individuals interviewed for this White Paper were not CCA members but typical of Community Servings clients, who consented to the interviews, and to sharing their stories in this White Paper.



A Growing Body of Research

In 2013, Community Servings surveyed medical professionals who referred patients to its MTM service, finding the following:

96%
of healthcare professionals reported that the meals program improved their clients' health

65%
believed the program resulted in decreased hospitalizations

94%
believed the program significantly improved patients' access to healthy food

Recurring themes from the survey included perceptions of improvements in patients' psycho-social well-being, achieving a healthy weight, and adhering to prescribed medications.[7] While the current study is focused on health care claims and utilization data, these earlier findings provide important context as to why MTMs have such a dramatic impact on costs—as does the literature. In one study, patients with type 2 diabetes receiving home-delivery of diabetic meals succeeded in reducing their blood glucose levels in 12 months.[8] In another study, the home delivery of Dietary Approach to Stop Hypertension (DASH) meals was found to increase compliance with dietary recommendations among older adults with cardiovascular disease.[9]

The findings with respect to cost savings associated with NTM are also supported by the literature. A study assessing the impact of a Meals on Wheels program found improvements in nutritional status, dietary intake, and emotional status after two months on the program.[10] A study analyzing Medicare claims data of NTM recipients also found a reduction in health care costs.[11]

CLIENT STORY

MAUREEN*, 70
BOSTON, MA

Maureen has spent years battling diabetes, cardiac illness, asthma, and other health issues. She credits the medically tailored meals with helping her shed nearly 50 pounds and with keeping her on an eating schedule that makes it easier to control her diabetes.

"Diabetes is funny. When you get hungry it is all at once and you can pass out if you don't eat," says Maureen. "But it takes just six minutes in the microwave and a wonderful meal is sitting before me. ...I can calculate when it's time to eat and I have a meal."

Maureen says that she now uses the five days of medically tailored lunches, dinners and snacks that arrive from Community Servings to plan out the rest of her meals, which will include variations on the meals that are delivered. "I can make other things and at the end of the week, I have been eating better and I feel better," she says.

How can she tell that the meals are influencing her health? "My weight is going down. My sugar, my blood pressure, both are down," Maureen says. "And the last time I went to the heart specialist, he said my heart had the right rhythm and there was no fluid in my lungs, so I think it really, really makes a difference. I don't worry about ending up in the hospital as much as I used to."

**Name changed to protect privacy.*

Our Policy Recommendations

With medically tailored meals' significant potential to improve health outcomes and lower healthcare costs, the co-authors of this White Paper make the following policy recommendations for health care providers, insurers, and government:

1 | Integrate home-delivered meal services into healthcare payment and delivery services for individuals dually eligible for Medicaid and Medicare services.

Individuals qualifying for Medicaid, due to poverty, and Medicare, due to age or disability, are particularly vulnerable to food insecurity and complex chronic illnesses. Physical and mobility limitations may make it difficult for these individuals to access nutrition resources at a food pantry, or make purchases with SNAP benefits at a grocery store, or prepare and cook food for themselves and their families. As evidence of the benefits of meal services becomes more clear, we recommend that health care providers screen all individuals—particularly those who are dually eligible for Medicare and Medicaid, for food insecurity—and, if eligible, provide them with a home-delivered meals benefit. The timing for this recommendation is particularly apt, given the March 1, 2018 launch of the MassHealth ACO model. Built into this model is a Flexible Services Program, which will allow for ACOs to reimburse for social support services, including nutrition, and specifically home-delivered meals.

2 | Develop a clinical decision support tool for determining when to refer patients to MTM vs. NTM.

MTM should be reserved for individuals whose illness profile would be improved through the provision of medically tailored foods, while NTM should be provided to individuals who are food insecure but otherwise relatively healthy. Currently there is no tool to distinguish when a referral to MTM vs. NTM is warranted. We recommend that health care payers and providers that utilize this service work with MTM and NTM providers to develop a clinical decision support tool to ensure that the services are utilized to their maximum benefit, and at the lowest cost.

3 | Continue to evaluate the impact of the service for specific patient populations.

Because of the relatively small sample size, we were not able to identify in this study who benefits the most from MTM—patients with advanced diabetes, or heart disease, or cancer, etc. We recommend that clinicians continue to evaluate the impact of the service on patients within specific disease categories. In addition, it would be beneficial to consider the impact on dually eligible chronically ill individuals who also cope with behavioral health and mental health issues.

4 | Promote opportunities to replicate and expand innovative medically tailored nutrition initiatives within Medicaid and Medicare.

Given the business and clinical case for MTM and NTM, the federal government should expand opportunities throughout Medicare and Medicaid for all recipients where the evidence shows that these interventions improve health outcomes and reduce health care costs for individuals coping with severe illnesses.

5 | Promote Food is Medicine research at NIH and CDC.

Finally, given the relatively small scale and observational nature of this study, NIH and perhaps the CDC should develop larger scale research projects that have the potential to strengthen the case for MTM as well as to promote cross-agency collaborations aimed at preventing chronic illness through Food is Medicine interventions.

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18 Marbury Terrace
Boston, MA 02130
servings.org