GOD'S LOVE WE DELIVER®

Joint Legislative Budget Hearing Testimony
Health/Medicaid - February 5, 2019

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Executive Summary

Medically tailored meals (MTMs) are delivered to individuals who are living with severe or chronic illness at the recommendation of a healthcare professional. Meal plans are tailored to the needs of the individual client by a registered dietitian nutritionist (RDN), reflect evidence-based practice guidelines, and are designed to produce improved health outcomes, to lower cost of care and to increase patient satisfaction.

Medically tailored meals provide a big solution for a big problem: the 5% of people who cost our healthcare system 50% of healthcare spending. The super-users. Research shows that medically-tailored meals and nutrition counseling can significantly cut healthcare spending and improve outcomes for this population.

Unfortunately, most Medicaid recipients are not benefiting from this low-cost, high-impact intervention because it is only available in the Managed Long Term Care (MLTC) program. **We request that the Legislature include language in the State budget bill that would provide coverage of MTM for all Medicaid beneficiaries living with one or more chronic illness, who are limited in their activities of daily living (i.e. those Medicaid beneficiaries who are too sick to shop or cook for themselves).** While we absolutely believe in the value of good, healthy food for everyone, this is a specific, clinical intervention for those who really need it. The benefit is also limited in other ways. A healthcare professional must authorize the service. A registered dietitian nutritionist must confirm the need and then go through an in-depth assessment to define the patient's dietary composition for medical diagnos(es), symptoms, allergies, medication management, and side effects.

We estimate that it would cost $5 million gross ($2.5 million state share) annually to provide coverage of this benefit, while producing cost savings that could pay for the benefit twice over ($9.5 million gross) by reducing hospitals admissions and nursing homes stays and shortening length of stays in these facilities.

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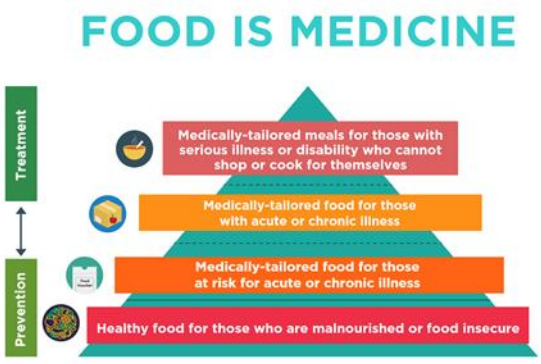
Who We Are

Mission. God's Love We Deliver is New York City's leading not-for-profit provider of medically tailored home-delivered meals and nutritional counseling for people living with life-threatening illnesses. We are committed to cooking – and delivering – the specific, nutritious meals our clients' illnesses so urgently require. We believe that being sick and hungry is a crisis that demands an urgent response. Begun in 1985 as a response to the HIV epidemic, we expanded our mission in 2001 and now serve individuals living with over 200 different diagnoses, including HIV, cancer, cardiovascular disease, kidney failure, and many more. We feed people of all ages and support families by feeding the children and senior caregivers of our clients. In our more than 30 years of service, we have never had a waiting list. Each year, God's Love continues to grow to meet the demand in our communities. This year we will deliver 1.8 million meals to 7,000 men, women and children living with severe illness throughout the five boroughs of New York City, Westchester and Nassau Counties and parts of New Jersey.

Food Is Medicine. God's Love is unique due to our focus on nutrition. Although some individuals can tolerate regular food, illness can lead to a variety of complications that require a specialized diet. We meet this need as part of our commitment to food as medicine. God's Love clients receive services from our seven RDNs who tailor each meal to meet each client's specific medical needs. All of our meals are well-balanced: low in sodium, free of highly allergenic foods such as nuts and shellfish, and immune supporting. Our menu allows for individualization of meals according to dietary needs, including texture restrictions such as minced, pureed and soft diets, and renal diets. Based on a nutrition assessment conducted by an RDN on each client, additional restrictions may be added to the client's diet for medical, nutritional, or cultural reasons. Our goal is to provide clients with the least restrictive meals possible that meet their medical needs and nutritional requirements.



For people with serious illness medically tailored meals:

16% net savings in healthcare costs

50% fewer hospital admissions

23% more likely to be discharged to home and not an institution

Our Partnership with New York State. Since 2005, through the benefits made possible by New York State's 1115 Medicaid waiver (the Partnership Plan), **MLTC, Program of All-Inclusive Care for the Elderly (PACE), Medicaid Advantage Plus (MAP) and Fully Integrated Duals Advantage (FIDA)** plans have contracted with us to nourish their highest-risk members through our Community Partners Program. God's Love has provided these services for more than ten years, delivering more than two million MTM to Medicaid beneficiaries enrolled in MLTC plans. We have partnerships with 24 health plans and serve over 380,000 meals to almost 1,500 clients annually.

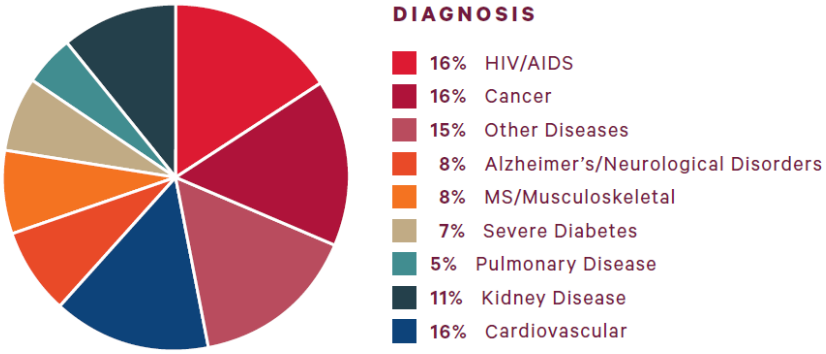
Health plans tend to use our services in two ways: (1) to treat and stabilize their sickest members, keeping them healthy and at home, and/or (2) to improve the health of their clients before they become "super-utilizers." Referrals through the Community Partners Program have produced positive health outcomes and cost savings, by facilitating access, maintenance, and adherence to care for beneficiaries. They have also given beneficiaries the choice to remain in their homes and out of more expensive forms of care, such as hospitals or nursing homes.

For this same Community Partners Program, we were chosen as an Outstanding Project by the New York State Department of Health (DOH) through their **Balancing Incentive Program (BIP)**. Our BIP project facilitated our expansion to Nassau and Westchester and created an easy referral tool that uses the Uniform Assessment System (UAS). God's Love was also recently chosen as a winner for the **Social Determinants of Health Innovation Award** in the Community-Based Organization category. We currently participate in 5 hospital-based pilot projects through **DSRIP**. Addressing the social determinants of health in the move toward **Value Based Payment (VBP)**, God's Love has three VBP contracts, with others in process.

God's Love is an integral part of the safety net that provides a unique service, not currently offered by other providers. God's Love has been committed to serving the most vulnerable in our community for over 30 years. As we continue to grow, we will continue to honor our commitment to those who are too sick to shop or cook for themselves.

Who We Serve

This year we will deliver 1.8 million meals to 7,000 men, women and children living with a variety severe illness throughout the 5 boroughs of NYC, Westchester and Nassau Counties and parts of New Jersey. Ninety percent of our clients live at or below the Federal poverty level.



Distribution by Age	
0-12	2%
13-19	2%
20-29	1%
30-39	2%
40-49	6%
50-59	20%
60-69	26%
70+	42%

Many of our clients enter our program:

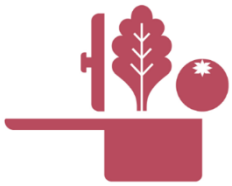
- Clinically malnourished, and significantly limited in their ADLs (standing, carrying, lifting, etc.) that inhibit their ability to shop and cook for themselves.
- Non-adherent to their medication(s).
- In post-acute care transitions, or are high utilizers.
- Poorly managing their cardiovascular disease, Chronic Heart Failure, renal failure, etc.
- On the cusp of developing severe diabetes, or those who need temporary support to recover from a relapse of diabetes-related complications.
- Needing disease-specific nutrition management.
- Medically at-risk, such as those with renal failure, multiple co-morbidities, or acute nutrition needs.
- In the progressive stages of dementia, such that they require dietary modifications (pureed or minced).
- In danger of being institutionalized (in hospitals, nursing homes, or other long term care facilities).

What We Do: The Medically Tailored Meal Intervention

Intake. Every client that comes on our program must be diagnosed with an illness and have their ADL limitations certified by a healthcare professional. Our Client Services staff screen prospective clients for eligibility and ensure that clients provide the required documentation necessary to start services.

Nutrition Assessment. Each God's Love client then receives an initial nutrition assessment with one of our seven RDNs. During this intake, clients are provided with medical nutrition therapy (MNT), which is used to develop their diet prescription. The Nutrition staff designs every aspect of the menu with our Executive Chef, and together, they ensure that recipes are responsive to the tastes and dietary restrictions of a client population that is diverse with respect to medical challenges, as well as cultural backgrounds. Further, through a proprietary client-level database and third-party nutrition analysis software, God's Love establishes and manages caloric and macro-nutrient (protein, fat, carbohydrate) thresholds in accordance with recommended nutrition guidelines. Our RDNs also monitor food safety procedures, and author and distribute educational materials. All intakes, screening, assessments and reassessments are conducted with our clients by phone, given the physical and/or mental conditions of our clients.

Ongoing Nutrition Counseling. Our RDNs also provide ongoing MNT to clients, which is integral to our medically tailored meal program. Among other things, ongoing MNT services address questions and concerns about medication side effects and changes, shifting dietary needs and nutrient intake. Ongoing MNT is critical as clients' medical situations evolve over time.



Meal Preparation. Our meals are prepared on-site in our Manhattan kitchen by professional kitchen staff, led by the Executive Chef and supported by more than 13,000 volunteers a year—not by a caterer or subcontractor. Meals are prepared according to the highest professional standards under the supervision of our RDNs. God's Love provides a range of meal modifications from renal diets, acid/bland, low sugar, and more, to soft, minced and pureed meals for clients having trouble chewing or swallowing. Appetite is crucial to maintaining proper nourishment; therefore, our Nutrition Department regularly coordinates with the Executive Chef, Client Services staff, and the Delivery Department to provide each client with the least restrictive and most palatable nutritional options each day.

God's Love offers meal plans of up to 21 meals/week (breakfast, lunch and dinner daily), though clients can receive fewer meals as the healthcare provider, in partnership with the RDN, deems appropriate.

Meal Delivery. Our meals are transported each weekday from the kitchen by a team of Delivery Service Specialists, supervised by the Director of Delivery Operations, in a fleet of 21 refrigerated vans. Using sophisticated

UPS technology, the Delivery Department coordinates routes and delivery schedules to create the most efficient mode of delivery to clients. Clients receive their weekly meals in one or two deliveries a week. For many of our clients, isolation is a fact of existence, and our meal deliverer – a God's Love driver or volunteer – may be the only friendly face they see during a week. Our volunteer van assistants and our drivers report to a supervisor environmental change or other conditions that may put a client at risk for negative impact.

Food Safety, Training, and Cultural Competency. Instructing clients on how to safely receive, store, and reheat our meals has always been a priority for God's Love. Prior to every client's first meal delivery, God's Love ensures that the client has access to the facilities necessary to store meals and to reheat them properly and safely. Each client receives ongoing food safety education as part of their initial and six-month reassessments with an RDN, and the Nutrition Department periodically sends written reminders and instructions. All of God's Love's meals are labeled clearly with safe storage and reheating instructions as well.

Our RDNs and key kitchen personnel hold food handler certificates from NYC Department of Health and Mental Hygiene. Our RDNs provide periodic food safety training to meal packaging and delivery staff. Additionally, all kitchen volunteers—even those who are with us for only a day—are trained in food sanitation and knife safety before beginning their work in the kitchen.

Volunteers, who are critical to all aspects of God's Love operations, are recruited and maintained by our Volunteer Services Department. It is our vast corps of volunteers, many of whom have been with us for over two decades, who prepare the food, ladle the soup, and assist in the delivery of meals each day.

Our staff can offer nutritional services in English, Spanish, Urdu and Chinese, and use a translation service for service provision in other languages. We also maintain a TTY line for clients with hearing difficulties. Annually, our Program Services staff who have direct contact with clients attend multiple, mandated trainings on subjects such as cultural competency and sensitivity, mental health, client confidentiality, and more.

Data. Over the last 30 years of service delivery, God's Love has built a sophisticated, proprietary client-level database where all client information is stored. Consequently, God's Love can report on various client demographic fields, in addition to number of meals provided, meals per week, collateral contacts during delivery, if appropriate (e.g., family member, home health aide), living conditions, nutritional needs, and other information. Through this software, we run reports on a periodic basis to manage quality improvement.

Our Proposal

God's Love is proposing statutory language (see the text box below)[1] that would make medically tailored meals (MTM) a benefit for all Medicaid beneficiaries that need it. While allowing access to this benefit for all Medicaid beneficiaries, the benefit would be restricted to individuals suffering from one or more chronic conditions that are limited in their activities of daily living. Additionally, in order to receive MTM, the beneficiary would have to obtain an order from a licensed health care professional and services must be provided through a Registered Dietitian Nutritionist (RDN)..

Section 1. Subdivision 2 of section 365-a of the social services law is amended by adding a new paragraph (ff) to read as follows:

(ff) medically tailored meals and medical nutrition therapy. As used in this paragraph, "medically tailored meals and medical nutrition therapy" means nutritional assessment, nutritional therapy, and nutritional counseling provided by a registered dietician nutritionist, including the provision of any food indicated by the nutritional assessment and the delivery of such food, ordered by a health care professional acting within his or her lawful scope of practice under title eight of the education law, for the purpose of treating one or more chronic conditions for an individual who is limited in his or her activities of daily living; and provided that there is federal financial participation in the costs of services provided under this paragraph.

§ 2. This act shall take effect one hundred eighty days after it shall have become a law; provided, however, that effective immediately, the commissioner of health shall adopt regulations and take other actions reasonably necessary to implement this act on that date.

[1] Assemblymember Gottfried has introduced this legislation (A. 2794).

Estimated Cost Savings to the State Resulting from Our Proposal

To estimate potential cost and cost savings for the introduction of the MTM benefit for mainstream Medicaid populations, we have built a cost-savings report. For the purposes of this analysis, we utilize peer reviewed research indicating that increased access to MNT and MTM can address malnutrition, prevent avoidable hospitalizations, decrease the need for nursing home stays, and reduce healthcare costs overall in New York State Medicaid. The findings of this analysis are based on applying the key findings of the most directly applicable of these studies to aggregate Medicaid Managed Care Operating Report (MMCOR) data. Since Medicaid claim and encounter data for potentially served beneficiaries is not directly available, the calculations of healthcare system savings reflected in this report are the best estimates that can be constructed given data limitations.

Methodology

Potentially Served Population Count Estimates

Since 2005, God's Love has partnered with MLTC, PACE, MAP and FIDA plans to provide medically tailored home-delivered meals and medical nutrition therapy to their highest-risk enrollees. God's Love currently contracts with 24 plans and serves more than 370,000 meals to almost 1,500 long-term care enrollees annually through this program. The MTM benefit in MLTC tends to be used only for the sickest of the sick. Through our partnerships with MLTC plans, we know that this translates to God's Love serving 0.86% of the downstate MLTC population.

We believe that the SSI population within mainstream managed care (MMC) is the most appropriate proxy for Mainstream beneficiaries who might need to utilize the MTM benefit. SSI provides cash assistance to the most vulnerable people in our communities – of all mainstream Medicaid beneficiaries, these are the most likely to be too sick to shop or cook.

In total, in any given month there are over 270,000 unique SSI beneficiaries in Mainstream Medicaid managed care plans statewide.[i] We have applied the rate of the downstate MLTC population utilizing MTM benefits (0.86%) to the statewide SSI population for our proxy of the Mainstream Medicaid population potentially receiving MTM benefits. In total, for purposes of this study we estimate that, if the proposed benefits were to be implemented, that ~2,300 unique SSI beneficiaries may receive MTM benefits in MMC.

While we focus on the SSI population for this report, we theorize that there are beneficiaries in other areas of the Medicaid population (beyond MLTC and MMC) who could benefit from medically tailored meal services. These include a subset of those enrolled in HARP plans, and the OPWDD and TBI waiver populations. At the end of this brief, we detail further estimates of potential MTM beneficiaries, MTM program costs, and cost savings for these populations.

Average Cost of MTM Services

Through over 10 years of contracting, we have found that MLTC plans tend to use our services in a variety of ways, authorizing for different densities of service (from one to 21 meals per week) for different durations (for two weeks following a hospitalization, up to three months, six months and full year authorizations). To arrive at an average cost projection for the mainstream population, we assumed that mainstream plans would use our services in a similar manner, depending on the severity of the beneficiaries' need. We took our total current MLTC service for the year and divided it by the number of clients we had to arrive at an average cost per enrollee of $2,156 per year.

We then multiplied the number of enrollees (2,322 potential SSI beneficiaries utilizing MTM) by the average per enrollee per year cost of providing MTM services to arrive at an annual projected cost of ~$5 million.

Cost Savings Projection Inputs from Peer-Reviewed Research

To achieve an estimate of cost savings that could be achieved by providing MTM to additional Mainstream Medicaid beneficiaries, we applied peer-reviewed research on cost savings associated with MTM services the projected utilization and costs of the SSI beneficiary population, derived from MMCORs.[ii] Since MTM services would likely be delivered to some of the sickest individuals within the larger SSI population, cost savings projections applied to SSI average utilization and costs are likely to represent a conservative estimate of the actual baseline utilization and costs – and associated cost savings - that could be derived from the MTM program.

Research shows that malnutrition is associated with a host of negative health outcomes and costly health care utilization trends, including longer lengths of hospital stays, and higher rates of hospital readmissions.[iii] Studies have shown that malnourished adults are 50% more likely to be readmitted, and malnutrition is a factor in almost two million hospital stays annually.[iv]

MANNA, an MTM agency located in Philadelphia that is similar to God's Love, recently mounted a rigorous pilot study matching MANNA clients to a control group within a local managed care organization to compare healthcare costs on and off the MANNA MTM program.[v] MANNA's findings from this study are further corroborated by their ongoing, evaluated partnership with a managed care organization[vi]. Earlier this year, two peer MTM agencies, Community Servings in Boston[vii] and Project Angel Heart[viii] in Denver, published retrospective studies that also showed significant cost of care reductions associated with MTM services.

Findings

Overall Cost of Care Impacts

According to the MANNA impact evaluation study, overall, monthly cost of care for clients receiving MANNA services were 28% lower over the six months following initiation of services, as compared to the six months prior to starting MANNA. The study also found that average cost of care for clients receiving MANNA services was 31% lower than the average cost of care for a comparison group.[ix]

Using SSI mainstream MMCOR data for 2016, the statewide average medical and hospital cost per month for an SSI beneficiary is $1,101.67.[x] If MTM were to reduce this PMPM cost by 28% (lower bound of cost of care impact estimates derived from MANNA report), the resulting medical and hospital PMPM would be $797.40.

Applying a conservative assumption of 11 months of enrollment per member per year[xi] to the previous projection of 2,322 total SSI members utilizing MTM services, total cost savings would be $7.8 million, more than 1.5 times higher than the $5 million cost of the MTM services delivered.

Applying more aggressive assumptions (31% cost savings reduction, 12 months of enrollment per member), MTM could save a total of $9.5 million, almost double the $5 million cost of the MTM services delivered.

	Total Baseline Medical and Hospital Cost ($1,101.67 x 12) for 2,322 SSI members	High Savings Estimate (31% cost savings)	Low Savings Estimate (28% cost savings)
Estimate using an average of 12 months/member/year	$30,696,933	$9,485,352	$8,472,353
Estimate using an average of 11 months/member/year	$28,138,855	$8,694,906	$7,766,324

Inpatient Utilization and Cost Impacts

According to the MANNA study, for clients receiving MTM, the number of hospital admissions were half that of the comparison group[xii] and, if hospitalized, lengths of stay were on average 37% shorter.[xiii]

Using SSI mainstream MMCOR data for 2016, the statewide average cost per day for hospitalization for SSI beneficiaries is $1,998.54, and SSI members stay 5.48 days on average.[xiv] During a year, SSI beneficiaries experience an average rate of 287.04 inpatient discharges per thousand members. Using this utilization rate, for the 2,322 SSI beneficiaries projected to receive MTM services, we estimate that the population would experience 667 total discharges per year without intervention.

With the implementation of the MTM benefit, based on the MANNA finding that hospitalizations were reduced by 50% for the MTM treatment group, we project that the SSI projected utilizers will only experience half as many hospitalizations (333) with the introduction of the MTM benefit. Furthermore, for the enrollees receiving MTM who are hospitalized, based on the MANNA study we project they will experience a 37% reduction in hospital length of stay, reducing average length of stay from 5.48 to 3.45 days.

With these assumptions, we estimate that MTM will save ~$5 million in inpatient care alone, roughly equal to the cost of the intervention.

	No MTM	With MTM
Total SSI Beneficiaries Served	2,322	2,322
SSI Discharges per 1K members *(MANNA MTM impact - 50% Reduction)*	287.04	143.52
Total Discharges for SSI Beneficiaries	666.51	333.25
Average SSI LOS in Days *(MANNA MTM impact - 37% Reduction)*	5.48	3.45
SSI Inpatient Cost/Day	$1,998.54	$1,998.54
Total Average Cost per Discharge	$10,945.01	$6,895.36
Total Annual Hospitalization cost for SSI population served (Discharges x Cost per Discharge)	$7,294,925	$2,297,901
MTM Inpatient Cost Savings Impact		**$4,997,024**

Nursing Home Utilization and Cost Impacts

We also know that 93% of MANNA clients who were hospitalized were discharged to their home rather than to long-term care or health care facilities, compared to 72% of discharged patients in the comparison group.[xv] In addition to the detailed savings above on hospitalization, savings will accrue from enrollees who are receiving MTM being discharged to their home rather than acute care facilities.

Using MMCOR data, we estimate an average cost per SSI beneficiary Nursing Facility discharge of $6,001.[xvi] As identified in our hospitalization estimates above, the potential MTM beneficiary population would have experienced 667 total discharges without MTM. Of those without MTM, in 28% of cases (186 discharges), patients would be discharged to a nursing home and accrue those costs. In contrast, 93% of the 333 discharges of patients who may be hospitalized in the projected MTM program would be discharged to their home. As a result, we estimate that only 7% (or 23) discharges of patients in the MTM program would be discharged to a nursing home, incurring nursing home stay costs.

As a result, we estimate an additional savings of ~$1 million in nursing home care each year as a direct result of decreased inpatient utilization and increased capacity to discharge patients to home associated with the MTM program. We anticipate there will likely be further cost savings from members on the MTM program avoiding nursing home care entirely (rather than the more limited set of nursing home utilization resulting at the point of an inpatient discharge), which is not part of this estimate.

	No MTM	With MTM
Total SSI Beneficiaries Served	2,322	2,322
Total Discharges for SSI Beneficiaries (see hospital calculation table, above)	666.51	333.25
Share of Patients Discharged to Nursing Facility	28%	7%
SSI Discharges to Nursing Facility (Total Discharges x Share Discharged to NF)	186.62	23.33
SSI Average NF Cost per Discharge	$6,000.52	$6,000.52
Total NF Cost for SSI population served (Discharges to NF x NF Cost per Discharge)	$1,119,828	$139,978
MTM Nursing Facility Cost Savings Impact *(savings resulting from reduction in IP discharges to nursing facility care only)*		**$979,849**

Our cost savings estimates combined above suggest that

~$7.8-9.5 million will likely be saved

in total health care costs per year by including the medically tailored meal benefit for high-risk beneficiaries in Mainstream Medicaid.

These savings could pay for the MTM benefit twice.

Additional Populations

While we do not have similar available data for hospitalization and nursing home use for the HARP, OPWDD or TBI populations, we can do similar estimates using SSI utilization as a proxy. For population, we end up with a total of 1,861 beneficiaries combined in all 3 programs. Using similar methodology above, we would find a savings of ~$6.3-7.6 million total, including savings of ~$4 million in hospitalization costs and ~$1 million in nursing home costs.

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Appendix A: Medically Tailored Meal Research Summary

The Problem

Healthcare Costs: 5% of Medicaid beneficiaries consume 50% of program costs. (Gov. Accountability Office, 2015) - $282.75 billion per year

Malnutrition

National Malnutrition Blueprint - God's Love We Deliver is a co-author along with NANASP, Defeat Malnutrition Today and many others.

Statistics:

- Malnutrition was evident in up to 1/3 of inpatients and led to poor hospitalization outcomes and survival, and increased cost of care[xvii]
- Malnourished adults are 50% more likely to be readmitted, and malnutrition is a factor in almost two million hospital stays annually.[xviii]
- For malnourished patients:[xix]
    - Hospital stays are up to 3x longer than for properly nourished patients.
    - Healthcare costs are up to 3x higher than costs for properly nourished patients.
- Malnutrition and Seniors:
    - Up to 15% of community-dwelling older adults are malnourished[xx]
    - Approximately one out of six Medicare patients are readmitted, with estimated associated annual costs of $17 billion.[xxi]
    - 1/2 of seniors recently discharged from the hospital are malnourished, and hospitalization within the previous six months is a risk factor for malnutrition in some seniors.[xxii]

The Solution

Medically tailored meals are a low-cost, high impact intervention. Results can be seen in less than a month.

- Avg. cost of an ED visit ($2,168) = **~3 months of 3 MTM per day**
- Avg. cost of hospitalization - Medicaid ($7,500) = **~11 months of MTM**
- Avg. cost of hospitalization – All payers ($9,700) = **more than 1 year of MTM**
- Avg. cost of hospitalization - Medicare ($11,600) = **~18 months of MTM**

Medically Tailored Meal Research Studies

1. **Food as Medicine – A randomized controlled trial of home delivered, medically tailored meals (HDMTM) on Quality of Life in metastatic lung and non-colorectal GI cancer patients,** NYU Langone (tbd – 2019)
   Program: God's Love We Deliver, NYC
   Type of Study: Prospective, randomized controlled trial
   Population: People living end-stage metastatic lung and non-colorectal GI cancer
   Results: The study is in process and will examine the following outcomes in intervention vs. control groups:
   - Quality of life
   - Patient weight and nutritional status
   - Change in patient mood
   - Change in patient reported financial toxicity
   - Change in food security

2. **Meal Delivery Programs Reduce The Use Of Costly Health Care In Dually Eligible Medicare And Medicaid Beneficiaries, Health Affairs (2018)**
   Program: Community Servings (Boston, MA)
   Type of Study: Retrospective using claims data; pre/post and controlled; outcomes compared to matched set and then also to matched set receiving meals that are not medically tailored.
   Population: dual eligible (Medicaid and Medicare), Mean age: 57, Very high healthcare utilization
      - Mean costs prior to program: $11,251
      - Mean prior ED use in past year: 2 visits
      - 1 in 3 chance of hospital admission

   Results: Over 18 months follow-up; All results strongly statistically significant
   Comparison MTM recipients and a matched control group of individuals who did not receive meals
   - 70% decrease in ED visits
   - 52% decrease in inpatient admissions
   - 71% fewer emergency transports
   - Lower healthcare costs:
      - Net costs: $220/month lower than before (16%)
      - Savings comparison to other meals: $220/month net savings with MTM vs. only $10/month net savings with meals that are not medically tailored

3. **The Food As Medicine Model: A Framework for Improving Health Outcomes and Lowering Health Costs, Health Partners Plans Report (2018)**
   Program: MANNA (Philadelphia, PA)
   Type of Study: pre/post MTM intervention; simple analysis
   Population: Medicaid Managed Care (MCO), Diabetic members with high HbA1c, weight issues or disease progression, Members with chronic conditions that could be positively impacted by medically nutritious meals Members told by their PCP to "change their diet," Gestational diabetics (pregnant and on new medications)
   Results: Pre-post comparison to selves
   - Lower HbA1c scores for 26% of members
   - Decreased utilization for:
      - Inpatient admissions by 26%
      - Emergency room visits by 7%

- Overall drop in medical costs by 19%/mo.

4. Small Intervention, Big Impact: Cost Savings Related to Medically Tailored Nutrition. **Project Angel Heart (2018)**
   Program: Project Angel Heart (Denver, CO)
   Type of Study: Retrospective using claims data; pre/post and controlled; cost analysis by primary illness, payer, and line of service.
   Population: Adults age 18+, diagnosed with cancer, CHF, COPD, Diabetes, ESRD, HIV/AIDS, MS, Living with average of 7 comorbidities; N= 708 individuals
   Results:
   - 13% decrease in rate of 30-day all-cause readmissions
   - 27% decrease in PMPM inpatient costs for all clients
   - Average of 24% reduction in PMPM total medical costs for clients living with CHF, COPD, and diabetes
   - Inpatient cost reductions of up to $555 PMPM for clients living with CHF, COPD, diabetes, and ESRD

5. Comprehensive and Medically Appropriate Food Support Is Associated with Improved HIV and Diabetes Health, Journal of Urban Public Health (2017)
   Program: Project Open Hand (San Francisco, CA)
   Type of Study: Prospective pre/post study
   Population: People with Type 2 Diabetes, HIV and co-morbidly diagnosed populations.
   Results:
   - 63% reduction in hospitalizations
   - 50% increase in medication adherence
   - 58% decrease in client emergency room visits.

6. Examining Healthcare Costs Among MANNA Clients and a Comparison Group, Journal of Primary Care and Community Health (2013)
   Program: MANNA (Philadelphia, PA)
   Type of Study: Retrospective using claims data; pre/post and controlled
   Population: Medicaid Managed Care patients. The control patients were matched for comparable health and demographics and who had health claims during the same period.
   Results:
   - Average monthly health care costs of MANNA clients fell 62% with the first three months, a cost savings of over $30,000.
   - For HIV/AIDS patients, costs fell over 80% in the first three months.
   - MANNA clients' rate of hospitalization decreased by half
   - Inpatient stays were 37% shorter and hospital costs were 30% lower
   - MANNA clients were over 20% more likely to be released from the hospital to home rather than to long-term care or health care facility.
   - MANNA clients living with HIV/AIDS cost the MCO an average of $20,000 less per month.

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[i] New York State Department of Health, Medicaid Managed Care Enrollment Reports, September 2018. Available at *https://www.health.ny.gov/health_care/managed_care/reports/enrollment/monthly/*

[ii] 2016Q4 Mainstream MMCOR Reports provided by NYSDOH. Custom tabulation by Manatt Health.

[iii] Corkins, Mark et al., *Malnutrition Diagnosed in Hospitalized Patients: United States, 2010*, J. PARENTERAL & ENTERAL NUTRITION, Nov. 10, 2013, 1-10.

[iv] Weiss, AJ, et al. *Characteristics of Hospital Stays Involving Malnutrition, 2013*. HCUP Statistical Brief #210. September 2016. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb210-Malnutrition-Hospital-Stays-2013.pdf.

[v] Gurvey J, Rand K, Daugherty S, Dinger C, Schmeling J, Laverty N. *Examining Health Care Costs Among MANNA Clients and a Comparison Group*. OMG Center for Collaborative Learning, Philadelphia, PA, USA. J Prim Care Community Health. 2013 Jun 3. [Epub ahead of print]. 4

[vi] https://www.healthpartnersplans.com/redirect/foodasmedicine.html

[vii] Berkowitz, Seth A., et al. Meal delivery programs reduce the use of costly health care in dually eligible Medicare and Medicaid beneficiaries. Health Aff. 2018; 37(4): 535-5

[viii] Project Angel Heart (2018). Small Intervention, Big Impact: Cost Savings Related to Medically Tailored Nutrition. [online] Denver. Available at: http://www.ProjectAngelHeart.org/impact [Accessed 1 Jun. 2018].

[ix] J Prim Care Community Health. 4

[x] MMCOR data for the period ending 12/31/2016. Source: NYSDOH. Custom tabulation by Manatt Health.

[xi] MMCOR data provides member months of SSI enrollment for the year, and point in time SSI beneficiary count at the end of the year. Due to enrollment churn, the total unique SSI individuals enrolled over the course of the year is larger than the point in time enrollment reported. As such, the resulting calculation of months per (point in time) members results in a finding of average of months per member >12.

[xii] J Prim Care Community Health. 5

[xiii] J Prim Care Community Health. 5

[xiv] MMCOR data for the period ending 12/31/2016. Source: NYSDOH. Custom tabulation by Manatt Health.

[xv] J Prim Care Community Health. 5

[xvi] MMCOR data for the period ending 12/31/2016. Source: NYSDOH. Custom tabulation by Manatt Health.

[xvii] Jensen GL, et al., *Recognizing Malnutrition in Adults: Definitions and Characteristics, Screening, Assessment, and Team Approach*, J. Parenteral and Enteral Nutrition (2013)

[xviii] Weiss, AJ, et al. Characteristics of Hospital Stays Involving Malnutrition, 2013. HCUP Statistical Brief #210. September 2016. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb210-Malnutrition-Hospital-Stays-2013.pdf

[xix] Corkins MR et al., Malnutrition Diagnosis in Hospitalized Patients: United States 2010, J. Parenteral and Enteral Nutrition (2013)

[xx] Ahmed T, Haboubi, N. Assessment and management of nutrition in older people and its importance to health. Clin Interv Aging. 2010; 5: 207–216.

[xxi] Buys DR, et al. Meals Enhancing Nutrition After Discharge: Findings from a Pilot Randomized Controlled Trial. J Acad Nutr Diet. 2017 Apr;117(4):599-608.

[xxii] Ibid.