



**Delivering Nourishment.  
Improving Health.**

## **MISSION-DRIVEN, NON-PROFIT PROVIDER OF NUTRITIONAL SERVICES**

Majority funded by philanthropy and fundraising events, with approximately 35% covered by insurers

### **>30 years of treating diet-related diseases**

- Medically Tailored Meals
- Medical Nutrition Therapy
- Nutrition Counseling



**FOOD IS MEDICINE™**  
COALITION

**FOUNDING MEMBER**

Copyright © 2023, All rights reserved.

MALNUTRITION

MTMs

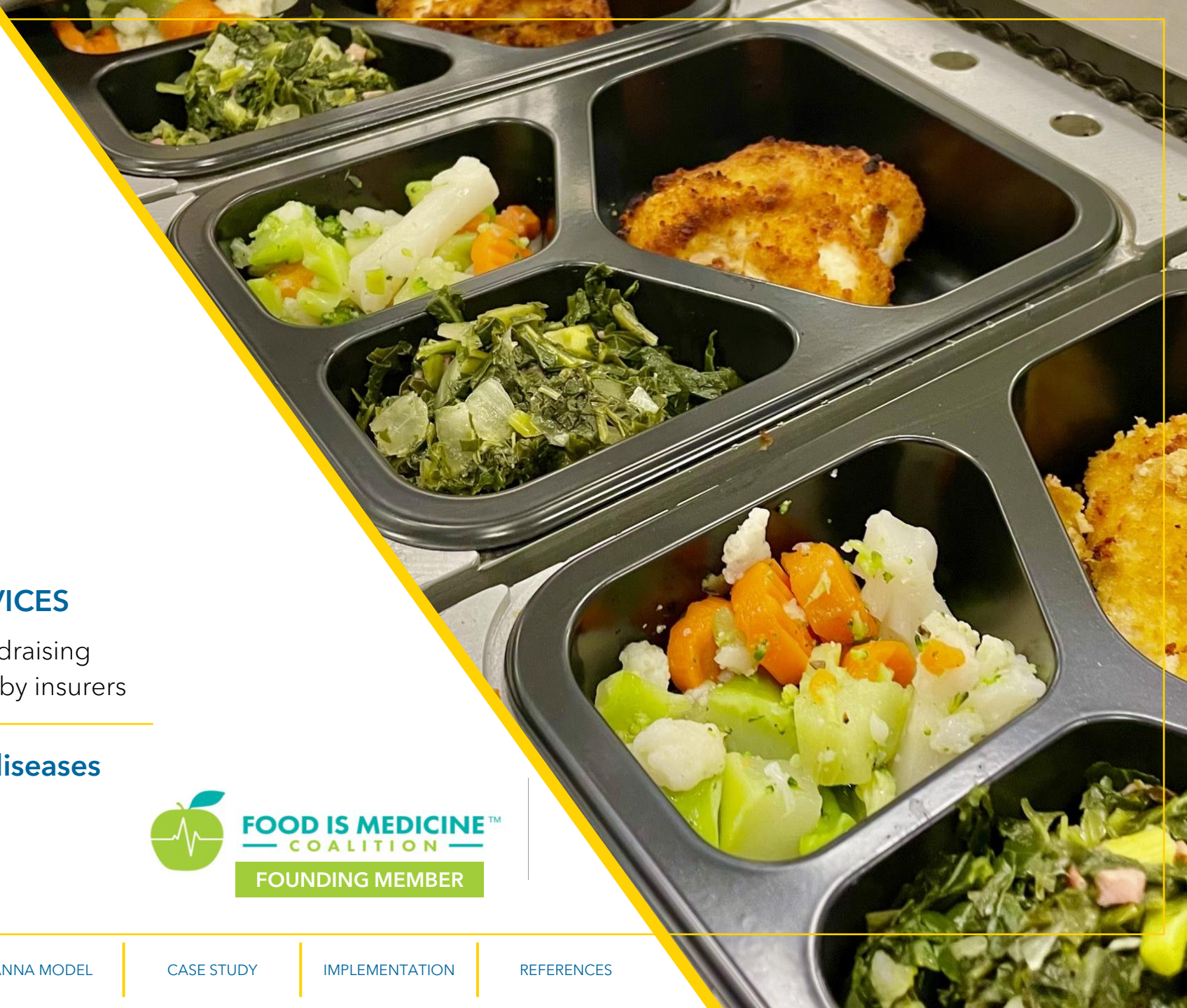
COVERAGE

MANNA MODEL

CASE STUDY

IMPLEMENTATION

REFERENCES



# Malnutrition Encompasses Many Health Conditions

**Malnutrition** includes any condition where a person is not receiving the nutrients needed to support health and recovery

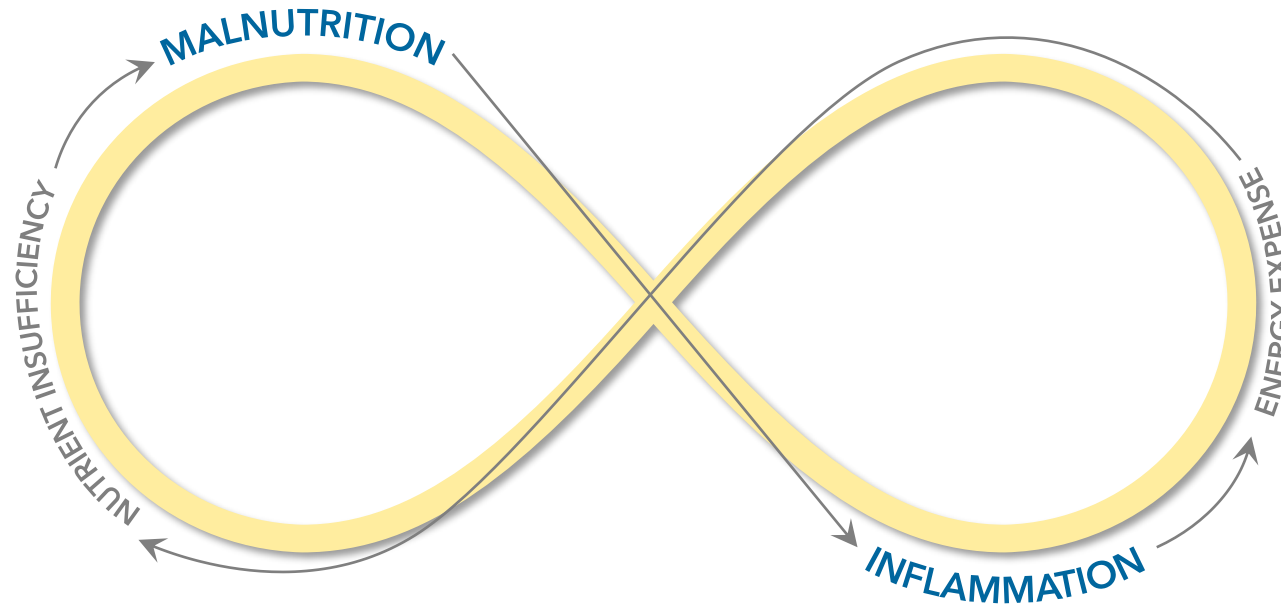


## DID YOU KNOW?



Even obese patients can experience worsened disease outcomes due to unintentional weight loss.

# Malnutrition Drives and Is Driven by Inflammation



**Malnutrition** is a common comorbidity of chronic diseases such as cardiovascular disease and diabetes and is frequently associated with acute infections

## DID YOU KNOW?



Many clinical practice guidelines for chronic diseases recommend a specific dietary pattern.



# Example of Prescribed Diet Instructions

## Hospital Course

### Brief Summary of Hospital Course and Important Follow up Information

You were admitted to Jefferson after experiencing shortness of breath. The cause of your shortness of breath was found to be multifactorial, including underlying chronic obstructive pulmonary disease, an acute exacerbation of your heart failure, and sl...  
catheterization to assess the function of your h...  
were given diuretics (water pills) to help take s...  
greatly. You will be sent home with an inhaler (...)

It is important for you to weight yourself every ...  
should start taking your water pill twice a day a

### Diet Instructions

**Cardiac Diet; LowFat, 2000mg Na**

Core Diet: Cardiac Diet

Cardiac Restriction: LowFat  
2000mg Na

Fluid Restriction total / 24h: 2000 mL Fluid

### Diet Instructions

**Cardiac Diet; LowFat, 2000mg Na**

Core Diet: Cardiac Diet

Cardiac Restriction: LowFat  
2000mg Na

Fluid Restriction total / 24h: 2000 mL Fluid

Vague diet prescriptions at discharge leave preparation, combination, and portion control to the individual



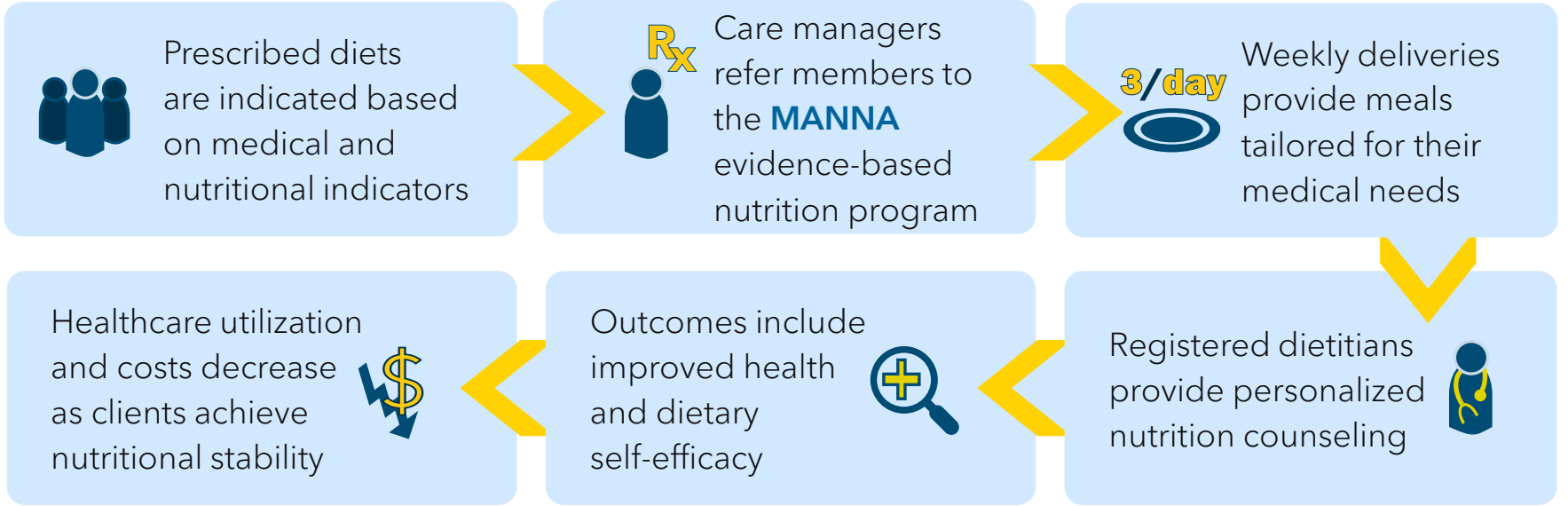
# Food is Medicine Coalition Standards

BASED ON MORE THAN 30 YEARS OF EXPERIENCE WITH MTMS

Nutrient	HIV/AIDS	HIV/AIDS +HLD (hyperlipidemia)	Elderly	Kidney Chronic Stages 3-4 (non-dialysis)	Kidney Stage 4-5 ESRD/Dialysis	Diabetes Pre-diabetes	Heart Failure	DASH TLC Heart Healthy
Calories	Needs vary similar to healthy individuals	Needs vary	Needs vary	23-35 kcal/kg	25-35 kcal/kg	Needs vary	Higher if catabolic	As per individual needs
Protein % of total daily calories	*10-35% of daily calories Individualized (RDA*)	10-35% of daily calories individualized	N/A	0.55-0.6 g/kg W/ diabetes: 0.6-0.8 g/kg	1.0-1.2g/kg With or without diabetes	Individualized macronutrient composition	N/A	18% Daily calories Lean meats/plant-based sources
Protein g/kg body weight	N/A	N/A	1-1.25g/kg (NCM)	< 64 g /day	HD 1.2 g/kg PD 1.2-1.3 g/kg	*See MTM Meal Guidelines for nutrient target values	1.1g/kg is stable 1.3 g/kg if depleted for CHF	N/A
Carbohydrate % total daily calories	45-65% (RDA*) Added sugar <10%	N/A	45-65% daily calories	N/A	N/A		N/A	55% daily calories Emphasize whole grains + vegetables
Total Fat % total daily calories	20-35% (AMDR)	25-35% of total daily calories	20-35% of daily calories	N/A	N/A		N/A	25-35% daily calories
Saturated Fat % total daily calories	<10% of kcal (DGA)	<7% total daily calories	<10% daily calories (DGA)	N/A	N/A	<7%	<7%	6-7% daily calories
Sodium (mg)	DGA CDDR: 2300 mg	DGA	</= 2300 mg/day CDDR	</= 2100 mg	<2100 mg/day	<2300 mg/day	CHF: 2000-3000 mg/day	</= 2300 mg for standard </= 1500 mg for lower NA DASH
Cholesterol	DGA	<200 mg/day	<300 mg/day	N/A	N/A	N/A	<200mg/day	150
Fiber (g)	14g/1000 (DGA)	14g/1000 (DGA)	30g/day Male 21g/day Female 14g/1000 kcal	N/A	N/A	N/A	Female: 21-25 g Male: 25-28 g Soluble fiber 7-13 g	25-31 g
Vitamin D (IU)	600 IU (RDA)	600 IU (RDA)	800 IU (RDA)	N/A	N/A	RDA	600 IU	N/A
Calcium (mg)	1000 mg (RDA)	1000 mg (RDA)	1200 mg (RDA)	Stages 3-5 not to exceed 2000 mg/day	N/A	RDA	1000 mg	1000-1200 mg
Potassium	Male: 3400 mg Female: 2600 mg (Adequate Intake)	DGA	3400 mg/day	</= 3500 mg/day	2400-2700 mg/day	DGA	N/A	4700 mg
Phosphorus	700 mg (RDA)	N/A	700 mg (RDA)	No limit but pay attention to sources due to bio-availability. Limit to 2 dairy exchanges/day (4 oz fluid milk or 1 oz cheese). Avoid foods with phosphoric additives.	Limit to <1200 mg/day	RDA	N/A	N/A
Reference for Evidence Based Guidelines	EAL; DGA (link); Dietary patterns for adults should be incorporated	EAL	NCM	NKF-KDOQI EAL; AND Nutrition Care Manual	NKF-KDOQI EAL AND Nutrition Care Manual	ADA EAL	EAL	DASH TLC; Dietary patterns for adults should be incorporated.

N/A= not applicable because guidelines do not exist for this value, is not relevant for condition or listed elsewhere on chart; NCM=Academy of Nutrition and Dietetics Nutrition Care Manual (member only site); AI=Adequate Intake; CDDR=Chronic Disease Risk Reduction Level; AMDR = Acceptable Macronutrient Ranges and Recommendations, [www.nutritioncaremanual.org](http://www.nutritioncaremanual.org); DGA=Dietary Guidelines for Americans, [www.dietaryguidelines.gov/NKF](http://www.dietaryguidelines.gov/NKF); KDOQI=National Kidney Foundation Kidney Disease Quality Initiative, [www.kidney.org/professionals/guidelines\\_RDA/DRI\\_Reports](http://www.kidney.org/professionals/guidelines_RDA/DRI_Reports); DRI's Interactive, [www.nal.usda.gov/fnic/interactiveDRI](http://www.nal.usda.gov/fnic/interactiveDRI); EAL=Evidence Analysis Library and the Evidence-based Nutrition Practice Guideline (member only access), <https://www.andeal.org>; ADA Standards of Medical Care for Diabetes, Volume 46 Issue Supplement\_1, Diabetes Care, American Diabetes Association ([diabetesjournals.org](http://diabetesjournals.org)); TLC=Therapeutic Lifestyle Changes (NIH/NHLBI), Therapeutic Lifestyle Changes (TLC) To Lower Cholesterol, NHLBI, NIH DASH Eating Plan, DASH Eating Plan, NHLBI, NIH

# MANNA MTMs Treat And Prevent Malnutrition



## MANNA enables self-efficacy after program enrollment ends

- Clients learn appropriate portion sizes and how to recreate MTMs themselves
- Clients receive free nutritional coaching anytime after program ends

### DID YOU KNOW?

 MANNA regularly provides meals for dependents of MTM recipients through its philanthropic arm.



ishment.  
ealth.

# MANNA MTMs Treat Diet-Related Chronic Diseases

**STANDARD DIET:** Diabetic/Heart Healthy  
Carbohydrate and Sodium Controlled

## Members can layer up to 3 modifications

- **Kidney Friendly:** low potassium, low phosphorus, low sodium
- **Low Lactose:** low in dairy
- **High Calorie/High Protein:** includes additional healthy snack
- **GI Friendly:** low fiber and mild spice
- **Mechanical Soft:** easy to chew and swallow
- Pureed
- No Pork
- No Beef
- No Seafood
- Children's Menu

**COMING SOON**  
**Vegetarian Meals**



MANNA MTMs are based on guidelines from the American Heart Association, American Cancer Society, and other nutrition experts

<b>Nutrition Facts</b>	
Chicken Salad Sandwich with Applesauce	
Serving size - 1 Serving	
Amount Per Serving	
<b>Calories</b>	<b>270</b>
	% Daily Value*
<b>Total Fat</b> 5g	6%
<b>Cholesterol</b> 55mg	18%
<b>Sodium</b> 320mg	14%
<b>Potassium</b> 286mg	6%
<b>Total Carbohydrate</b> 30g	11%
Dietary Fiber 3g	11%
Total Sugars 15g	
<b>Protein</b> 26g	52%

\*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

# MANNA Value-Added Services

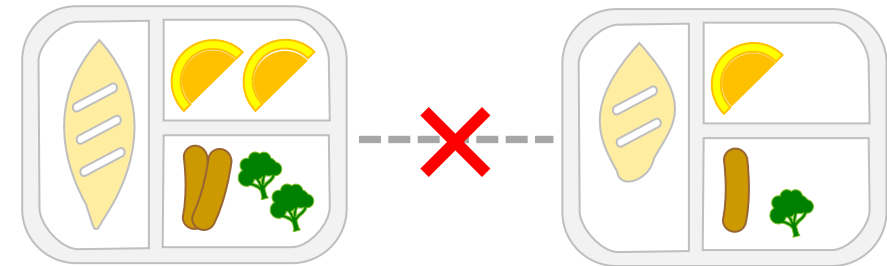
## Services included with the meals

1-on-1 coaching with registered dietitians, even after enrollment ends	✓
Meal delivery with refrigerated trucks <sup>a</sup>	✓
Nutritional education materials	✓
Virtual and live cooking classes	✓
Live telephone support for referring providers or clients	✓
Support for more frequent connection between clients and case manager	✓

<sup>a</sup>MANNA can ship frozen meals throughout the Mid-Atlantic region for an added cost.

<sup>b</sup>As funds are available.

MANNA can provide meals to dependent children or seniors with philanthropic programming<sup>b</sup>



Dependent meals help ensure the member does not share and receives full servings of MTMs



# Medically Tailored Meals (MTMs)

MTMs are tailored for the recipient's medical needs by a registered dietitian

In studies of MTMs...

**70%** of MTM recipients were **adherent** to medication vs **47%** at baseline ( $P=0.046$ )<sup>a</sup>

**71** **healthy eating** index score with MTMs vs **40** in those not on meals ( $P<0.0001$ )

**52%** lower inpatient admissions in an MTM intervention group vs control ( $P<0.05$ )

## DID YOU KNOW?



MTMs could avert **1.6 million** hospitalizations and result in net policy cost savings of **\$13.6 billion**<sup>b</sup> annually.

Copyright © 2023, All rights reserved.

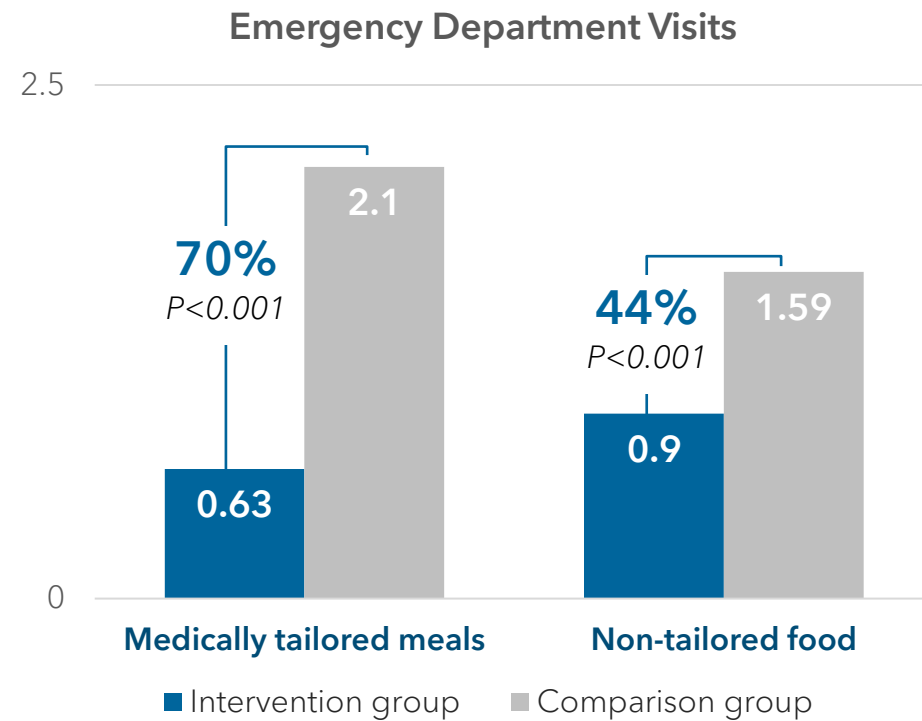
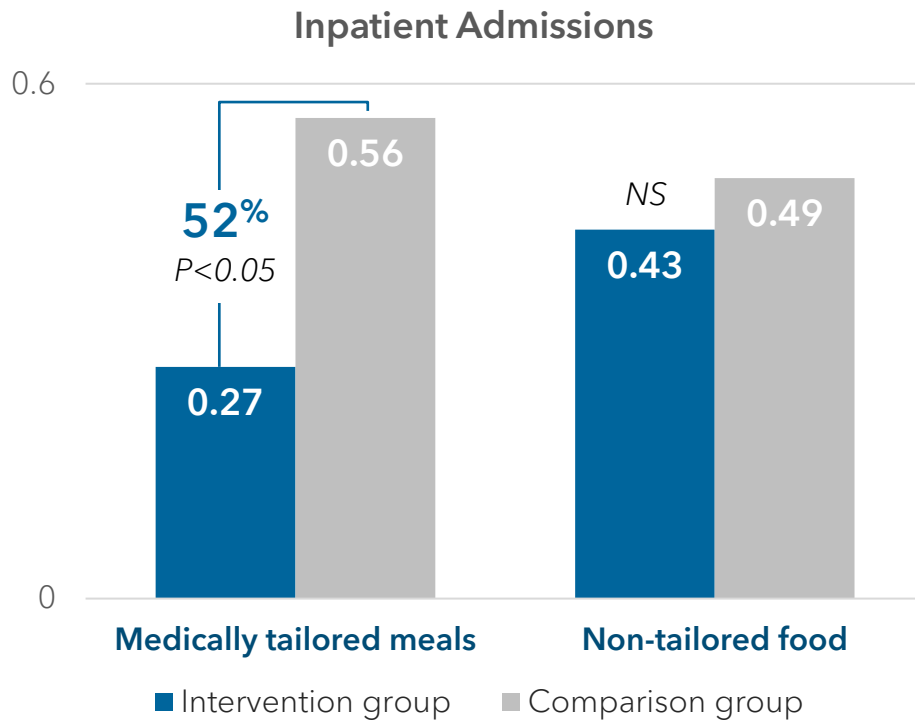
<sup>a</sup>Medication adherence defined as  $\geq 95\%$ .

<sup>b</sup>Representative sample of 6,309,998 US adults aged 18 years or older who had Medicare, Medicaid, or private payer insurance and at least 1 diet-sensitive condition and 1 limitation in ADL.



# Reduction in Healthcare Utilization With MTMs

Average savings of \$220 in the medically tailored meal group and \$10 in the non-tailored food group after subtracting intervention costs



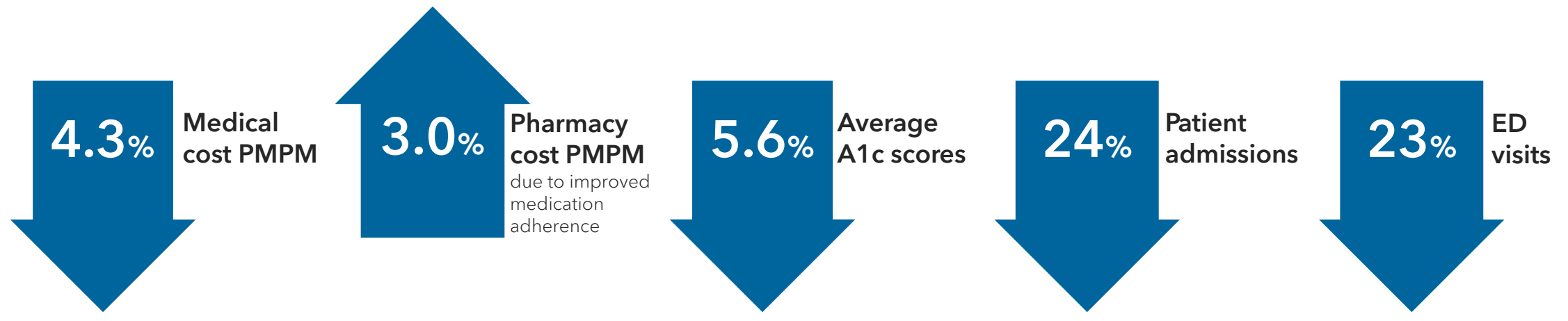
MTM Control N=1002; MTM Intervention N=133; NTF Control N=1318; NTF Intervention N=624.

# The MANNA Model Is a Proven Treatment Approach

## Real World Outcomes

6 MONTHS BEFORE VS 6 MONTHS AFTER MANNA

699 Medicare dual special needs members who completed a 4-week program



### DID YOU KNOW?



After completing the MANNA program, **34%** fewer participants were at risk of malnutrition<sup>a</sup>

<sup>a</sup>MANNA used the Malnutrition Screening Tool (MST), a validated tool, to understand clients' nutritional status pre- and post-services to gather sample data from 121 newly enrolled clients. Average length of program: 4.2 months.

# MANNA Partnership Case Study



Health Partners Plans



Health Partners Plans has provided members with more than 1.2 million MANNA MTMs to date

## MEDICAL UTILIZATION COSTS SIX MONTHS AFTER MANNA (AS OF AUGUST 2022)



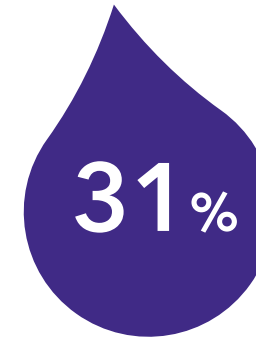
Admits  
per 1K



ER visits  
per 1K



Medical  
costs  
PMPM



of members had  
improvement in  
A1c scores

## MEMBER OUTCOMES AFTER MANNA



### Diabetes

- Lost 32 pounds
- HbA1c decreased from 9 to 6 in 4.5 months
- Felt able to self-manage disease



### History of asthma, COPD, osteoarthritis, peripheral vascular disease, and diabetes

- Lost 11 pounds
- Doctor lowered medications doses
- Greater ability to control portions and choose healthy foods

# Health Partners Plans Member Survey

**100%**

Stated the food met their medical needs

**100%**

Were better prepared to make healthy food choices

**97%**

Stated MANNA helped achieve health goals

**95%**

Had better comprehension of portion control

**75%**

Made lifestyle changes after program ended

Survey conducted in 2017.



Health Partners Plans



Delivering Nourishment.  
Improving Health.

# Referring Clients for MTMs

## The referral process is fast and simple

- 1 Providers identify eligible patients
- 2 Complete referral form
- 3 Send referral form to either the health plan or directly to MANNA
- 4 MANNA intake specialists reach out to client within 2-3 days
- 5 Clients schedule meal delivery & nutrition counseling appointment
- 6 MANNA magic commences

**MANNA** Independence Blue Cross/Strive Referral for Services

Name (First, M, Last): \_\_\_\_\_ Date of Birth: \_\_\_\_\_  
 Street Address: \_\_\_\_\_ Unit Number (if needed): \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Alt. Phone: \_\_\_\_\_ Email: \_\_\_\_\_  
 Gender:  Male  Female Ethnicity:  Hispanic  Non-Hispanic  
 Race (please check all that apply):  American Indian/Alaska Native  Asian  Black/African American  
 Native Hawaiian/Pacific Islander  White  Other: \_\_\_\_\_  
 Language:  English  Spanish  Other: \_\_\_\_\_  
 Emergency Contact Name: \_\_\_\_\_ Emergency Contact Phone: \_\_\_\_\_  
 Member ID: \_\_\_\_\_

Primary Diagnosis: \_\_\_\_\_ ICD Code: \_\_\_\_\_ Date of Diagnosis: \_\_\_\_\_  
 Food Allergies?  Yes  No Describe: \_\_\_\_\_  
 Coexisting Conditions: \_\_\_\_\_  
 Recent Hospitalizations/ER Visits (Dates/Reasons): \_\_\_\_\_  
 Current Height: \_\_\_\_\_ Current Weight: \_\_\_\_\_ Date Weighed: \_\_\_\_\_  
 Weight History (including dates): \_\_\_\_\_

Significant Lab Values (if available):

Test	Albumin	CD4	Chol.	Glucose	HbA1c	Hgb.	Kidney or Liver Tests	TG
Value								
Date Month/Year								

Current Medications or Supplements: \_\_\_\_\_  
 Ambulation or Living Environment Concerns: \_\_\_\_\_  
 Referrer Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Email: \_\_\_\_\_ Date of Referral: \_\_\_\_\_

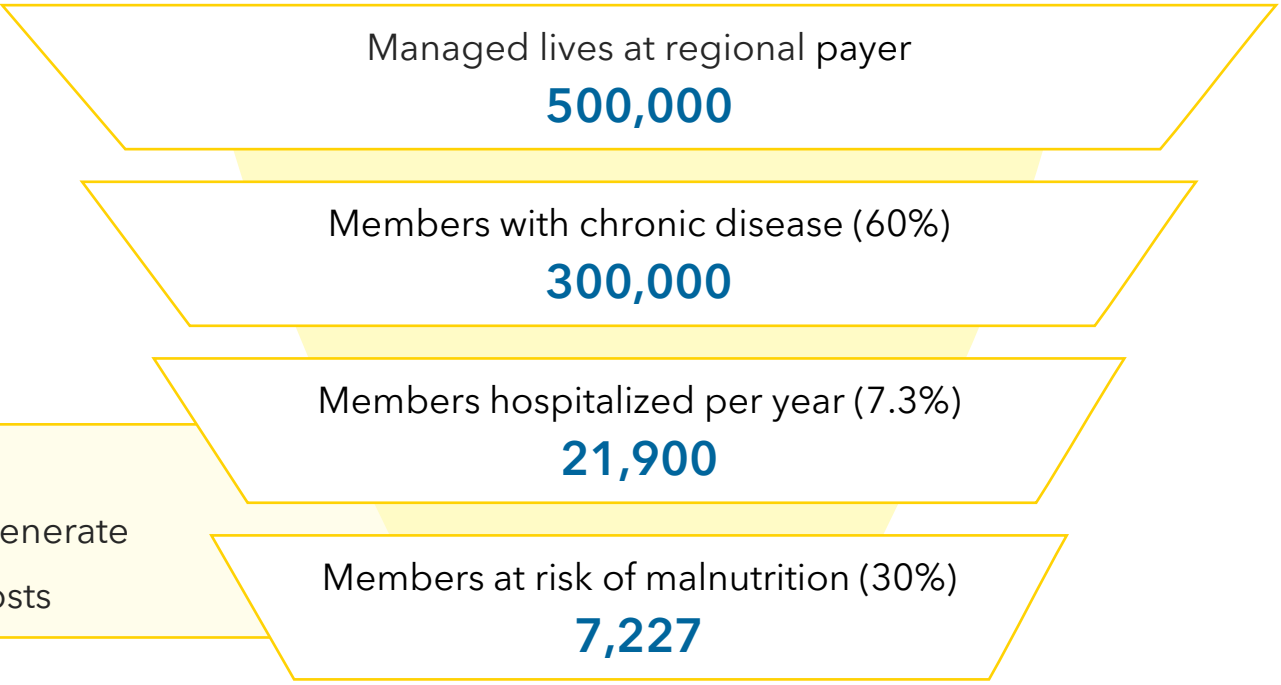
Please email form to IBX@manna.org or fax to (215) 496-9102.  
 Please call Client Services at (215) 496-2662, option 5, with any questions or concerns.

Electronic referral form facilitates a streamlined and HIPAA-compliant process

# MTM-Eligible Members

Recipients with complex, often diet-related, severe and chronic illnesses are eligible to receive MTMs after being referred by a provider

MTMs help the **5%** of patients who generate **50%** of healthcare costs



# Eligibility Criteria

Patients eligible for MTMs have a diagnosis AND secondary nutritional risk factor(s)

## DIAGNOSIS EXAMPLES

- ❑ HIV/AIDS
- ❑ Cancer (undergoing active treatment)
- ❑ End stage renal disease
- ❑ Heart disease
- ❑ Diabetes
- ❑ Hepatitis C or liver disease

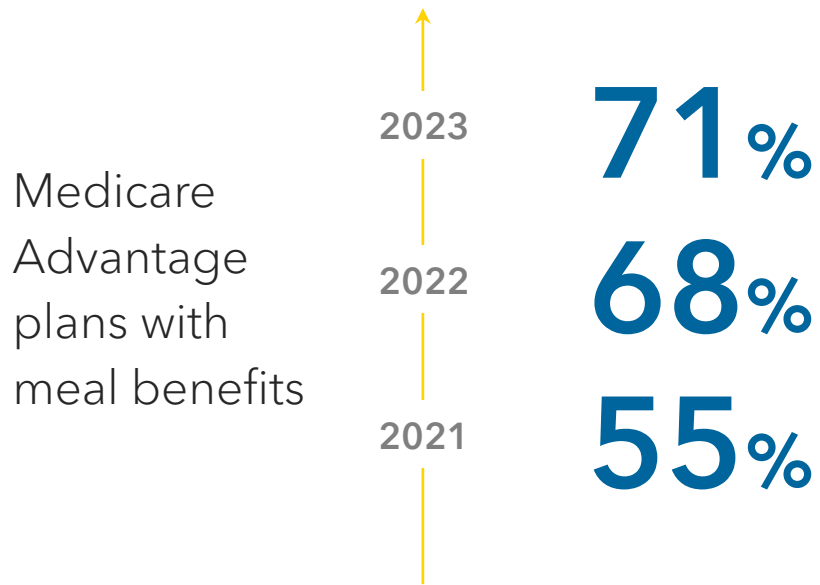
## RISK FACTOR EXAMPLES

- ❑ New diagnosis with disease-related complications
- ❑ Start of medical treatment (hemodialysis, chemotherapy, radiation, wound care)
- ❑ Recent, unintentional weight loss
- ❑ Recent hospitalization (within one month and length of stay >3 days)
- ❑ Recovery from a recent surgery

**MANNA can help train providers and staff to ensure appropriate members are selected for MTMs**



# Growing Coverage of Food As Medicine





# THANK YOU

Rebecca Boova-Turner, MS, RD, LDN  
Healthcare Partnerships Manager  
P: (215) 496-2662 x 133  
[RBoova-Turner@mannapa.org](mailto:RBoova-Turner@mannapa.org)