

Supplement 3

eTable 1. Variables and definitions.

Qualifying condition	Definition
Heart failure (positive predictive value of >90-95% ¹⁻³ compared with manual records review using Framingham Heart Study criteria ⁴)	≥3 prior outpatient diagnosis codes within 5 years OR ≥1 prior inpatient principal diagnosis code within 5 years OR Heart failure listed on current hospital problem list with a corresponding inpatient B-type natriuretic peptide value ≥100 pg/mL ICD-10 codes: I50.X, I13.0, I13.2, I09.81
Diabetes mellitus (consistent with American Diabetes Association diagnostic criteria ⁵)	≥1 prior principal inpatient diagnosis code within 5 years OR ≥2 prior outpatient diagnosis codes, excluding optometry and ophthalmology diagnoses, within 5 years OR ≥2 prior abnormal lab test results on separate days within 3 years a. Fasting glucose ≥126 mg/dL b. Random glucose ≥200 mg/dL c. Hemoglobin A1C ≥6.5% OR ≥1 prescription of a diabetes medication Exclusions: Any of the above diabetes indicators within eight months before to one month after childbirth OR a diabetes therapy prescription of metformin or a thiazolidinedione within two years after a diagnosis of a non-DM metabolic or fertility issue, with no other indication of diabetes. ICD-10 codes for diabetes: E10.X, E11.X, E13.X ICD-10 codes for gestational diabetes: O24.X ICD-10 codes for non-DM metabolic or fertility issues: E28.X, E88.X, N91.X, N97.X, R73.X, T37.X
Chronic kidney disease (based on Kidney Diseases Improving Global Outcomes [KDIGO] criteria ⁶)	≥2 pre-admission estimated glomerular filtration rate values between 30-45 ml/min/1.73 m² using the CKD-EPI equation,⁷ with the most recent value ≥30 ml/min/1.73 m²

Baseline Characteristics

Demographic characteristics (gender, race/ethnicity) were self-reported by participants. We used data from EHR and clinical databases to ascertain information on the index hospitalization (i.e., laboratory-confirmed Covid-19, length of stay, major diagnostic category for admission, Laboratory-based Acute Physiology Score-version 2,⁸ re-admission risk score,⁹ Comorbidity Point Score-version 2.5¹⁰), prior medical history (acute myocardial infarction, coronary revascularization, valvular heart disease, atrial fibrillation/flutter, ventricular tachycardia/fibrillation, ischemic stroke or transient ischemic attack, venous thromboembolism, hypertension, dyslipidemia, smoking status, hospitalized bleed, thyroid disease, liver disease, lung disease, depression and dementia). We also ascertained pre-admission body mass index and systolic blood pressure, as well as selected inpatient laboratory results at admission (hemoglobin, serum creatinine, blood urea nitrogen) from

EHR data. Left ventricular ejection fraction was ascertained among patients with heart failure using the most recent value prior to or during the index hospitalization from structured results of echocardiography, radionuclide scintigraphy, other nuclear imaging modalities, and left ventriculography or extracted from echocardiogram report text.

References:

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eTable 2. Food is Medicine Coalition nutritional standards for medically tailored meals.



Nutrient	HIV/AIDS	HIV/AIDS +HLD (hyperlipidemia)	Elderly	Kidney Chronic Stages 3-4 (non-dialysis)	Kidney Stages 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	10-35% of daily calories Individualized	N/A	0.55-0.6 g/kg	1.0-1.2g/kg	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	N/A	N/A	45-65% daily calories	N/A	N/A		N/A	55% daily calories Emphasize whole grains + vegetables
Total Fat % total daily calories	N/A	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% **	<7% total daily calories	<10% daily calories	N/A	N/A		<7%	6-7% daily calories
Sodium (mg)	DGA	DGA	2300 mg/day	</= 2100 mg	<2400 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	*14g/1000	30 g Male 21 g female 14g/1000 Kcal	N/A	N/A	N/A	Female: 21-25g Male: 25-28 g Soluble fiber 7-13 g	25-31g
Vitamin D (IU)	600 IU**	600 IU	800	N/A	N/A	RDA	600 IU	N/A
Calcium (mg)	1000 mg **	1000 mg	1200	Stages 3-5 not to exceed 2000 mg/day	N/A	RDA	1000 mg	1000-1200 mg
Potassium	DGA	DGA	4700	</= 3500 mg/day	<2400 mg/day	DGA	N/A	4700 mg
Phosphorus	N/A	N/A	700	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)	AL	NCM	NKF-K/DOQI EAL AND Nutrition Care manual	NKF-K/DOQI EAL AND Nutrition care Manual	ADA EAL	EAL	DASH TLC

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)

DGA= Dietary Guidelines for Americans - <https://www.dietaryguidelines.gov/>
RDA= Recommended Dietary Allowance - <https://www.nationalacademies.org/pubs/recommended-dietary-allowances/>
NKF K/DOQI= National Kidney Foundation Kidney Disease Quality Initiative - <https://www.kidney.org/health/clinical-guidelines/>
ADA= American Diabetes Association - <https://www.diabetes.org/healthcare-professionals/>
EAL= Evidence Based Guidelines - <https://www.evidencebasedguidelines.org/>
ADA Standards of Medical Care for Diabetes: 2020 - <https://www.diabetes.org/healthcare-professionals/>
TLC= Transatlantic Lifestyle Changes (NHLBI) - <https://www.nhlbi.nih.gov/health-topics/tlc/>
DASH Diet - <https://www.nhlbi.nih.gov/health-topics/dietary-guidelines/>

eTable 3. Characteristics of consented participants compared with those who refused participation.

Variable	Consented (N=2000)	Refused (N=445)	Standardized Difference
Mean (SD) age, yr	68.4 (14.5)	71.0 (14.3)	0.18
Self-reported sex (from EHR databases), n (%) [*]			0.03
Men	1094 (54.7)	261 (58.7)	
Women	906 (45.3)	184 (41.3)	
Self-reported race/ethnicity (from EHR databases), n (%) [*]			0.04
White	1163 (58.2)	272 (61.1)	
Black	219 (11.0)	43 (9.7)	
Asian/Pacific Islander	239 (12.0)	51 (11.5)	
Multi-racial	117 (5.9)	32 (7.2)	
American Indian/Alaska Native	20 (1.0)	3 (0.7)	
Unknown or Hispanic only	242 (12.1)	44 (9.9)	
Hispanic ethnicity (from EHR databases), n (%) [*]	305 (15.3)	62 (13.9)	0.01
Medical Center, n (%)			0.07
Santa Rosa	639 (32.0)	125 (28.1)	
Santa Clara	631 (31.6)	145 (32.6)	
Oakland	345 (17.3)	66 (14.8)	
San Francisco	285 (14.3)	90 (20.2)	
San Rafael	100 (5.0)	19 (4.3)	
Qualifying MTM condition			
Heart failure, n (%)	651 (32.6)	134 (30.1)	0.02
Diabetes mellitus, n (%)	1373 (68.7)	302 (67.9)	0.01
Chronic kidney disease, n (%)	900 (45.0)	208 (46.7)	0.01
Index hospitalization characteristics			
Hospitalized with Covid-19	188 (9.4)	25 (5.6)	0.05
Median (q1, q3) length of stay, days	5.6 (5.7)	5.0 (4.8)	0.11
Major discharge diagnosis category, n (%)			0.09
Circulatory	636 (31.8)	143 (32.2)	
Infectious	344 (17.2)	72 (16.2)	
Respiratory	272 (13.6)	45 (10.1)	
Digestive	179 (9.0)	57 (12.8)	
Musculoskeletal	102 (5.1)	15 (3.4)	
Hepatobiliary	72 (3.6)	25 (5.6)	
Endocrine/Metabolic	75 (3.8)	13 (2.9)	
Kidney/Urinary	70 (3.5)	12 (2.7)	
Pregnancy	59 (3.0)	15 (3.4)	
Nervous	59 (3.0)	11 (2.5)	
Skin/Breast	38 (1.9)	11 (2.5)	
Other	94 (4.7)	25 (5.6)	
Mean (SD) laboratory-based acute physiology score	67.5 (34.5)	67.7 (37.0)	0
Missing, n (%)	15 (0.8)	1 (0.2)	
Mean (SD) predicted re-admission risk score	15.4 (9.6)	15.0 (9.1)	0.04
Missing, n (%)	55 (2.8)	16 (3.6)	
Mean (SD) comorbidity point score	42.6 (32.5)	42.4 (31.4)	0.01
Missing, n (%)	1 (0.1)	0 (0.0)	
Other prior medical history, n (%)			
Atrial fibrillation or flutter	515 (25.8)	118 (26.5)	0.01

Variable	Consented (N=2000)	Refused (N=445)	Standardized Difference
Ventricular fibrillation or tachycardia	34 (1.7)	4 (0.9)	0.02
Ischemic stroke or transient ischemic attack	78 (3.9)	13 (2.9)	0.02
Acute myocardial infarction	137 (6.9)	26 (5.8)	0.02
Coronary artery bypass graft	116 (5.8)	23 (5.2)	0.01
Percutaneous coronary intervention	188 (9.4)	38 (8.5)	0.01
Mitral or aortic valvular disease	281 (14.1)	65 (14.6)	0.01
Venous thromboembolism	205 (10.3)	47 (10.6)	0
Hospitalized bleed	114 (5.7)	27 (6.1)	0.01
Hypertension	1465 (73.3)	350 (78.7)	0.05
Dyslipidemia	1699 (85.0)	374 (84.0)	0.01
Hyperthyroidism	73 (3.7)	9 (2.0)	0.03
Hypothyroidism	351 (17.6)	68 (15.3)	0.02
Chronic liver disease	190 (9.5)	41 (9.2)	0
Chronic lung disease	708 (35.4)	138 (31.0)	0.04
Diagnosed depression	443 (22.2)	86 (19.3)	0.03
Diagnosed dementia	38 (1.9)	10 (2.2)	0.01
Pre-admission vital signs			
Body mass index, kg/m ²	32.0 (8.5)	30.4 (7.2)	0.20
Missing, n (%)	73 (3.7)	15 (3.4)	
Systolic blood pressure, mmHg	127.6 (16.6)	130.1 (17.3)	0.15
Missing, n (%)	82 (4.1)	13 (2.9)	
Inpatient laboratory values			
Hemoglobin, g/dL	11.4 (2.2)	11.4 (2.2)	0.02
Missing, n (%)	20 (1.0)	3 (0.7)	
Serum creatinine, mg/dL	1.0 (0.4)	1.0 (0.4)	0.08
Missing, n (%)	45 (2.3)	8 (1.8)	
Blood urea nitrogen, mg/dL	22.2 (13.5)	20.4 (10.9)	0.14
Missing, n (%)	72 (3.6)	19 (4.3)	

eTable 4. Characteristics of participants receiving more than 5 weeks of meals compared with those who received 5 weeks of meals or fewer.

Variable	Received more than 5 weeks of meals (N=684)	Received 5 weeks of meals or less (N=309)	Standardized Difference
Age, yr	66.6 (14.7)	71.8 (13.8)	0.36
Self-reported gender, n (%)			0.02
Men	359 (52.5)	157 (50.8)	
Women	325 (47.5)	152 (49.2)	
Self-reported race/ethnicity (not mutually exclusive)			
White, n (%)	391 (57.2)	223 (72.2)	0.14
Black, n (%)	91 (13.3)	28 (9.1)	0.06
Asian/Pacific Islander, n (%)	103 (15.1)	31 (10.0)	0.07
American Indian/Alaska Native, n (%)	20 (2.9)	5 (1.6)	0.04
Hispanic/Latinx, n (%)	142 (20.8)	43 (13.9)	0.08
Decline to state, n (%)	3 (0.4)	1 (0.3)	0.01
Medical Center, n (%)			0.05
Santa Rosa	222 (32.5)	107 (34.6)	
Santa Clara	198 (28.9)	92 (29.8)	
Oakland	132 (19.3)	50 (16.2)	
San Francisco	95 (13.9)	47 (15.2)	
San Rafael	37 (5.4)	13 (4.2)	
Medicare insurance, n (%)	430 (62.9)	238 (77.0)	0.14
Medicaid insurance, n (%)	53 (7.7)	14 (4.5)	0.06
Median household income for census tract, dollars/year, mean (SD)	89,020 (35,349)	94,631 (38,246)	0.15
Median household income for census tract <\$35,000/year, n (%)	23 (3.4)	9 (2.9)	0.01
Low educational attainment for census tract (>25% with less than high school)	97 (14.2)	32 (10.4)	0.05
Neighborhood deprivation index, mean (SD)	-0.4 (0.8)	-0.5 (0.7)	0.21
Qualifying MTM condition			
Heart failure, n (%)	217 (31.7)	99 (32.0)	0
Diabetes mellitus, n (%)	467 (68.3)	204 (66.0)	0.02
Chronic kidney disease, n (%)	290 (42.4)	144 (46.6)	0.04
Current smoker, n (%)	47 (6.9)	20 (6.5)	0.02
Index hospitalization characteristics			
COVID-19 status			
Hospitalized with COVID-19 (positive within 2 weeks before admission or during index hospitalization), n (%)	51 (7.5)	20 (6.5)	0.02
COVID-19 >2 weeks prior to index hospitalization, n (%)	3 (0.4)	0 (0.0)	0.04
Mean (SD) length of stay	4.9 (4.3)	6.3 (6.6)	0.25
Major diagnosis category, n (%)			0.11
Circulatory	202 (29.5)	99 (32.0)	
Infectious	109 (15.9)	55 (17.8)	
Respiratory	83 (12.1)	45 (14.6)	
Digestive	74 (10.8)	28 (9.1)	
Musculoskeletal	34 (5.0)	14 (4.5)	
Kidney/Urinary	28 (4.1)	12 (3.9)	
Endocrine/Metabolic	34 (5.0)	5 (1.6)	

Hepatobiliary	26 (3.8)	13 (4.2)	
Pregnancy	28 (4.1)	7 (2.3)	
Nervous system	20 (2.9)	13 (4.2)	
Skin/Breast	14 (2.0)	6 (1.9)	
Other	32 (4.7)	12 (3.9)	
Laboratory-based acute physiology score (LAPS2)	67.4 (33.6)	70.6 (35.1)	0.09
Missing, n (%)	7 (1.0)	4 (1.3)	
Predicted re-admission risk score	14.9 (9.1)	17.4 (10.6)	0.26
Missing, n (%)	24 (3.5)	6 (1.9)	
Comorbidity point score (COPS2.5)	43.2 (33.0)	48.6 (35.9)	0.16
Missing, n (%)	1 (0.1)	0 (0.0)	
Other prior medical history, n (%)			
Atrial fibrillation or flutter	161 (23.5)	93 (30.1)	0.07
Ventricular fibrillation or tachycardia	12 (1.8)	3 (1.0)	0.03
Ischemic stroke or transient ischemic attack	29 (4.2)	14 (4.5)	0.01
Acute myocardial infarction	54 (7.9)	19 (6.1)	0.03
Coronary artery bypass graft	32 (4.7)	22 (7.1)	0.05
Percutaneous coronary intervention	58 (8.5)	35 (11.3)	0.05
Mitral or aortic valvular disease	84 (12.3)	54 (17.5)	0.07
Venous thromboembolism	66 (9.6)	37 (12.0)	0.04
Hospitalized bleed	42 (6.1)	25 (8.1)	0.04
Hypertension	486 (71.1)	238 (77.0)	0.06
Dyslipidemia	566 (82.7)	278 (90.0)	0.09
Hyperthyroidism	27 (3.9)	14 (4.5)	0.01
Hypothyroidism	116 (17.0)	60 (19.4)	0.03
Chronic liver disease	66 (9.6)	36 (11.7)	0.03
Chronic lung disease	258 (37.7)	106 (34.3)	0.03
Diagnosed depression	166 (24.3)	75 (24.3)	0
Diagnosed dementia	8 (1.2)	4 (1.3)	0.01
Vital signs			
Body mass index, kg/m2	32.2 (8.5)	31.1 (8.5)	0.13
Missing, n (%)	17 (2.5)	4 (1.3)	
Systolic blood pressure, mmHg	126.6 (16.5)	126.3 (17.0)	0.02
Missing, n (%)	21 (3.1)	5 (1.6)	
Pre-admission laboratory values, mean (SD)			
Hemoglobin, g/dL	12.8 (2.0)	12.6 (2.0)	0.07
Missing, n (%)	180 (26.3)	77 (24.9)	
Hemoglobin A1C, %	7.1 (1.9)	6.9 (1.6)	0.13
Missing, n (%)	145 (21.2)	78 (25.2)	
High density lipoprotein, mg/dL	46.2 (13.6)	48.8 (15.6)	0.18
Missing, n (%)	373 (54.5)	172 (55.7)	
Low density lipoprotein, mg/dL	83.4 (37.0)	82.9 (39.1)	0.01
Missing, n (%)	364 (53.2)	168 (54.4)	
Total cholesterol, mg/dL	163.0 (53.6)	157.3 (45.4)	0.12
Missing, n (%)	371 (54.2)	170 (55.0)	
Serum creatinine, mg/dL	1.0 (0.3)	1.1 (0.3)	0.08
Missing, n (%)	94 (13.7)	34 (11.0)	
Estimated glomerular filtration rate, mL/min/1.73m2	70.6 (24.0)	66.3 (22.8)	0.18
Missing, n (%)	94 (13.7)	34 (11.0)	
Proteinuria categories (from dipstick, PCR, ACR)			0.05

Mild (<30 mg/g)	335 (49.0)	155 (50.2)	
Moderate (30-299 mg/g)	144 (21.1)	70 (22.7)	
Severe (>=300 mg/g)	97 (14.2)	32 (10.4)	
Unknown	108 (15.8)	52 (16.8)	
B-type natriuretic peptide, ng/L	335.9 (481.0)	418.5 (565.9)	0.16
Missing, n (%)	250 (36.5)	99 (32.0)	
Platelet	255.8 (97.7)	247.7 (108.7)	0.08
Missing, n (%)	193 (28.2)	78 (25.2)	
Blood urea nitrogen	22.4 (11.0)	23.4 (11.8)	0.09
Missing, n (%)	390 (57.0)	173 (56.0)	
Serum potassium, mmol/L	4.3 (0.4)	4.4 (0.4)	0.1
Missing, n (%)	148 (21.6)	53 (17.2)	
Inpatient laboratory values, mean (SD)			
Hemoglobin, g/dL	11.4 (2.2)	11.0 (2.1)	0.18
Missing, n (%)	4 (0.6)	5 (1.6)	
Serum creatinine, mg/dL	1.0 (0.4)	1.0 (0.4)	0.14
Missing, n (%)	15 (2.2)	7 (2.3)	
Estimated glomerular filtration rate, mL/min/1.73m ²	76.4 (25.3)	70.1 (24.1)	0.25
Missing, n (%)	15 (2.2)	7 (2.3)	
B-type natriuretic peptide, ng/L	379.4 (517.0)	451.0 (596.6)	0.13
Missing, n (%)	358 (52.3)	144 (46.6)	
Platelet	238.9 (102.2)	236.9 (99.9)	0.02
Missing, n (%)	7 (1.0)	5 (1.6)	
Blood urea nitrogen	21.2 (12.1)	22.3 (13.2)	0.09
Missing, n (%)	27 (3.9)	9 (2.9)	
Serum potassium, mmol/L	4.1 (0.4)	4.0 (0.4)	0.11
Missing, n (%)	26 (3.8)	9 (2.9)	

eTable 5. Characteristics of 641 participants with heart failure enrolled and alive at discharge.

Variable	Medically Tailored Meals (N=316)	Usual Care (N=325)	Standardized Difference
Mean (SD) age, yr	71.3 (12.6)	71.4 (14.9)	0.01
Self-reported gender, n (%)			0.07
Men	174 (55.1)	201 (61.8)	
Women	142 (44.9)	124 (38.2)	
Self-reported race/ethnicity (not mutually exclusive)			
White, n (%)	218 (69.0)	233 (71.7)	0.03
Black, n (%)	46 (14.6)	34 (10.5)	0.06
Asian/Pacific Islander, n (%)	30 (9.5)	35 (10.8)	0.02
American Indian/Alaska Native, n (%)	8 (2.5)	9 (2.8)	0.01
Hispanic/Latino, n (%)	44 (13.9)	33 (10.2)	0.06
Medical Center, n (%)			0.08
Santa Rosa	93 (29.4)	93 (28.6)	
Santa Clara	93 (29.4)	110 (33.8)	
Oakland	59 (18.7)	45 (13.8)	
San Francisco	53 (16.8)	54 (16.6)	
San Rafael	18 (5.7)	23 (7.1)	
Other qualifying condition			
Diabetes mellitus, n (%)	146 (46.2)	179 (55.1)	0.09
Chronic kidney disease, n (%)	159 (50.3)	189 (58.2)	0.08
Left ventricular ejection fraction category, n (%)			0.05
<40%	79 (25.0)	79 (24.3)	
40-49%	39 (12.3)	50 (15.4)	
≥50%	190 (60.1)	191 (58.8)	
Unknown	8 (2.5)	5 (1.5)	
Index hospitalization characteristics			
Hospitalized with Covid-19	10 (3.2)	12 (3.7)	0.01
Median (q1, q3) length of stay, days	5.6 (5.0)	6.3 (6.4)	0.12
Major discharge diagnosis category, n (%)			0.17
Circulatory	156 (49.4)	195 (60.0)	
Infectious	46 (14.6)	37 (11.4)	
Respiratory	31 (9.8)	27 (8.3)	
Digestive	25 (7.9)	21 (6.5)	
Musculoskeletal	8 (2.5)	10 (3.1)	
Kidney/Urinary	12 (3.8)	2 (0.6)	
Endocrine/Metabolic	5 (1.6)	8 (2.5)	
Hepatobiliary	7 (2.2)	6 (1.8)	
Pregnancy	4 (1.3)	3 (0.9)	
Nervous system	6 (1.9)	1 (0.3)	
Skin/Breast	6 (1.9)	5 (1.5)	
Other	10 (3.2)	10 (3.1)	
Mean (SD) laboratory-based acute physiology score	76.4 (34.0)	74.0 (32.8)	0.07
Missing, n (%)	4 (1.3)	1 (0.3)	
Mean (SD) predicted re-admission risk score	19.7 (10.9)	18.5 (10.1)	0.12
Missing, n (%)	1 (0.3)	2 (0.6)	
Mean (SD) comorbidity point score	65.3 (34.6)	59.5 (31.8)	0.18
Missing, n (%)	0 (0.0)	0 (0.0)	

Variable	Medically Tailored Meals (N=316)	Usual Care (N=325)	Standardized Difference
Other prior medical history, n (%)			
Atrial fibrillation or flutter	154 (48.7)	158 (48.6)	0
Ventricular fibrillation or tachycardia	11 (3.5)	13 (4.0)	0.01
Ischemic stroke or transient ischemic attack	19 (6.0)	9 (2.8)	0.08
Acute myocardial infarction	30 (9.5)	31 (9.5)	0
Coronary artery bypass graft	17 (5.4)	23 (7.1)	0.04
Percutaneous coronary intervention	36 (11.4)	54 (16.6)	0.08
Mitral or aortic valvular disease	78 (24.7)	94 (28.9)	0.05
Venous thromboembolism	36 (11.4)	32 (9.8)	0.03
Hospitalized bleed	31 (9.8)	19 (5.8)	0.07
Hypertension	244 (77.2)	262 (80.6)	0.04
Dyslipidemia	270 (85.4)	277 (85.2)	0
Hyperthyroidism	16 (5.1)	11 (3.4)	0.04
Hypothyroidism	60 (19.0)	56 (17.2)	0.02
Chronic liver disease	32 (10.1)	20 (6.2)	0.07
Chronic lung disease	150 (47.5)	130 (40.0)	0.08
Diagnosed depression	93 (29.4)	66 (20.3)	0.11
Diagnosed dementia	4 (1.3)	11 (3.4)	0.07
Pre-admission vital signs			
Body mass index, kg/m ²	32.0 (8.6)	32.9 (9.7)	0.09
Missing, n (%)	11 (3.5)	20 (6.2)	
Systolic blood pressure, mmHg	123.3 (17.5)	126.5 (18.4)	0.18
Missing, n (%)	14 (4.4)	23 (7.1)	
Inpatient laboratory values, mean (SD)			
Hemoglobin, g/dL	11.3 (2.4)	11.6 (2.5)	0.13
Missing, n (%)	1 (0.3)	2 (0.6)	
Serum creatinine, mg/dL	1.1 (0.4)	1.1 (0.4)	0.04
Missing, n (%)	3 (0.9)	1 (0.3)	
Blood urea nitrogen, mg/dL	26.9 (15.0)	27.0 (14.4)	0.01
Missing, n (%)	3 (0.9)	1 (0.3)	

eTable 6. Characteristics of 1360 participants with diabetes mellitus enrolled and alive at discharge.

Variable	Medically Tailored Meals (N=671)	Usual Care (N=689)	Standardized Difference
Mean (SD) age, yr	65.6 (14.3)	66.6 (14.5)	0.07
Self-reported gender, n (%)			0.06
Men	356 (53.1)	404 (58.6)	
Women	315 (46.9)	284 (41.2)	
Non-binary	0 (0.0)	1 (0.1)	
Self-reported race/ethnicity (not mutually exclusive)			
White, n (%)	364 (54.2)	394 (57.2)	0.03
Black, n (%)	90 (13.4)	85 (12.3)	0.02
Asian/Pacific Islander, n (%)	112 (16.7)	114 (16.5)	0
American Indian/Alaska Native, n (%)	20 (3.0)	12 (1.7)	0.04
Hispanic/Latino, n (%)	151 (22.5)	118 (17.1)	0.07
Decline to state, n (%)	3 (0.4)	3 (0.4)	0
Medical Center, n (%)			0.07
Santa Rosa	217 (32.3)	192 (27.9)	
Santa Clara	204 (30.4)	254 (36.9)	
Oakland	127 (18.9)	118 (17.1)	
San Francisco	90 (13.4)	88 (12.8)	
San Rafael	33 (4.9)	37 (5.4)	
Other qualifying condition			
Heart failure, n (%)	146 (21.8)	179 (26.0)	0.05
Chronic kidney disease, n (%)	210 (31.3)	212 (30.8)	0.01
Index hospitalization characteristics			
Hospitalized with Covid-19, n (%)	64 (9.5)	98 (14.2)	0.07
Median (q1, q3) length of stay, days	5.5 (5.5)	5.7 (5.8)	0.02
Major discharge diagnosis category, n (%)			0.09
Circulatory	177 (26.4)	207 (30.0)	
Infectious	122 (18.2)	136 (19.7)	
Respiratory	96 (14.3)	111 (16.1)	
Digestive	60 (8.9)	43 (6.2)	
Musculoskeletal	34 (5.1)	35 (5.1)	
Kidney/Urinary	26 (3.9)	19 (2.8)	
Endocrine/Metabolic	32 (4.8)	32 (4.6)	
Hepatobiliary	27 (4.0)	24 (3.5)	
Pregnancy	29 (4.3)	21 (3.0)	
Nervous system	24 (3.6)	18 (2.6)	
Skin/Breast	15 (2.2)	14 (2.0)	
Other	29 (4.3)	29 (4.2)	
Mean (SD) laboratory-based acute physiology score	67.6 (34.0)	65.1 (34.9)	0.07
Missing, n (%)	8 (1.2)	2 (0.3)	
Mean (SD) predicted re-admission risk score	15.1 (9.2)	14.6 (8.9)	0.06
Missing, n (%)	28 (4.2)	23 (3.3)	
Mean (SD) comorbidity point score	42.9 (33.7)	40.0 (31.5)	0.09
Missing, n (%)	1 (0.1)	0 (0.0)	
Other prior medical history, n (%)			
Atrial fibrillation or flutter	132 (19.7)	142 (20.6)	0.01
Ventricular fibrillation or tachycardia	10 (1.5)	12 (1.7)	0.01

Variable	Medically Tailored Meals (N=671)	Usual Care (N=689)	Standardized Difference
Ischemic stroke or transient ischemic attack	21 (3.1)	21 (3.0)	0
Acute myocardial infarction	50 (7.5)	51 (7.4)	0
Coronary artery bypass graft	39 (5.8)	44 (6.4)	0.01
Percutaneous coronary intervention	68 (10.1)	72 (10.4)	0.01
Mitral or aortic valvular disease	72 (10.7)	74 (10.7)	0
Venous thromboembolism	68 (10.1)	70 (10.2)	0
Hospitalized bleed	42 (6.3)	30 (4.4)	0.04
Hypertension	500 (74.5)	516 (74.9)	0
Dyslipidemia	594 (88.5)	623 (90.4)	0.03
Hyperthyroidism	23 (3.4)	21 (3.0)	0.01
Hypothyroidism	104 (15.5)	107 (15.5)	0
Chronic liver disease	79 (11.8)	66 (9.6)	0.04
Chronic lung disease	238 (35.5)	233 (33.8)	0.02
Diagnosed depression	159 (23.7)	131 (19.0)	0.06
Diagnosed dementia	10 (1.5)	20 (2.9)	0.05
Pre-admission vital signs			
Body mass index, kg/m ²	33.2 (8.7)	33.4 (8.5)	0.02
Missing, n (%)	15 (2.2)	36 (5.2)	
Systolic blood pressure, mmHg	127.4 (16.6)	128.4 (15.9)	0.06
Missing, n (%)	15 (2.2)	36 (5.2)	
Inpatient laboratory values, mean (SD)			
Hemoglobin, g/dL	11.4 (2.1)	11.6 (2.1)	0.10
Missing, n (%)	7 (1.0)	9 (1.3)	
Serum creatinine, mg/dL	1.0 (0.4)	1.0 (0.4)	0.04
Missing, n (%)	16 (2.4)	19 (2.8)	
Blood urea nitrogen, mg/dL	20.7 (12.5)	21.2 (12.2)	0.04
Missing, n (%)	29 (4.3)	32 (4.6)	

eTable 7. Characteristics of patients enrolled and alive at discharge, stratified by receipt of medically tailored meals, meals with nutritional counseling, and usual care.

Variable	Medically Tailored Meals only (N=496)	Meals with Nutritional Counseling (N=497)	Usual Care (N=984)
Mean (SD) age, yr	68.5 (14.6)	67.9 (14.6)	68.5 (14.6)
Self-reported gender, n (%)			
Men	254 (51.2)	262 (52.7)	567 (57.6)
Women	242 (48.8)	235 (47.3)	416 (42.3)
Non-binary	0 (0.0)	0 (0.0)	1 (0.1)
Self-reported race/ethnicity (not mutually exclusive)			
White, n (%)	301 (60.7)	313 (63.0)	627 (63.7)
Black, n (%)	63 (12.7)	56 (11.3)	109 (11.1)
Asian/Pacific Islander, n (%)	71 (14.3)	63 (12.7)	138 (14.0)
American Indian/Alaska Native, n (%)	9 (1.8)	16 (3.2)	19 (1.9)
Hispanic/Latinx, n (%)	86 (17.3)	99 (19.9)	142 (14.4)
Decline to state, n (%)	2 (0.4)	2 (0.4)	5 (0.5)
Medical Center, n (%)			
Santa Rosa	157 (31.7)	172 (34.6)	299 (30.4)
Santa Clara	148 (29.8)	142 (28.6)	333 (33.8)
Oakland	92 (18.5)	90 (18.1)	160 (16.3)
San Francisco	74 (14.9)	68 (13.7)	142 (14.4)
San Rafael	25 (5.0)	25 (5.0)	50 (5.1)
Qualifying MTM condition			
Heart failure, n (%)	164 (33.1)	152 (30.6)	325 (33.0)
Diabetes mellitus, n (%)	337 (67.9)	334 (67.2)	689 (70.0)
Chronic kidney disease, n (%)	206 (41.5)	228 (45.9)	453 (46.0)
Current smoker, n (%)	30 (6.0)	37 (7.4)	61 (6.2)
Index hospitalization characteristics			
Hospitalized with Covid-19, n (%)	35 (7.1)	36 (7.2)	111 (11.3)
Median (q1, q3) length of stay, days	5.4 (5.5)	5.3 (4.9)	5.5 (5.5)
Major discharge diagnosis category, n (%)			
Circulatory	161 (32.5)	140 (28.2)	329 (33.4)
Infectious	92 (18.5)	72 (14.5)	170 (17.3)
Respiratory	67 (13.5)	61 (12.3)	140 (14.2)
Digestive	44 (8.9)	58 (11.7)	76 (7.7)
Musculoskeletal	22 (4.4)	26 (5.2)	53 (5.4)
Kidney/Urinary	18 (3.6)	22 (4.4)	30 (3.0)
Endocrine/Metabolic	14 (2.8)	25 (5.0)	36 (3.7)
Hepatobiliary	20 (4.0)	19 (3.8)	32 (3.3)
Pregnancy	17 (3.4)	18 (3.6)	24 (2.4)
Nervous system	10 (2.0)	23 (4.6)	26 (2.6)
Skin/Breast	11 (2.2)	9 (1.8)	18 (1.8)
Other	20 (4.0)	24 (4.8)	50 (5.1)
Mean (SD) laboratory-based acute physiology score	70.1 (34.4)	66.7 (33.7)	65.7 (34.5)
Missing, n (%)	7 (1.4)	4 (0.8)	4 (0.4)
Mean (SD) predicted re-admission risk score	15.9 (9.8)	15.5 (9.4)	14.7 (9.0)
Missing, n (%)	14 (2.8)	16 (3.2)	25 (2.5)
Mean (SD) comorbidity point score	45.5 (34.4)	44.3 (33.7)	40.1 (30.6)

Variable	Medically Tailored Meals only (N=496)	Meals with Nutritional Counseling (N=497)	Usual Care (N=984)
Missing, n (%)	0 (0.0)	1 (0.2)	0 (0.0)
Other prior medical history, n (%)			
Atrial fibrillation or flutter	125 (25.2)	129 (26.0)	251 (25.5)
Ventricular fibrillation or tachycardia	12 (2.4)	3 (0.6)	19 (1.9)
Ischemic stroke or transient ischemic attack	21 (4.2)	22 (4.4)	34 (3.5)
Acute myocardial infarction	39 (7.9)	34 (6.8)	63 (6.4)
Coronary artery bypass graft	28 (5.6)	26 (5.2)	60 (6.1)
Percutaneous coronary intervention	52 (10.5)	41 (8.2)	94 (9.6)
Mitral or aortic valvular disease	81 (16.3)	57 (11.5)	139 (14.1)
Venous thromboembolism	52 (10.5)	51 (10.3)	95 (9.7)
Hospitalized bleed	30 (6.0)	37 (7.4)	44 (4.5)
Hypertension	365 (73.6)	359 (72.2)	723 (73.5)
Dyslipidemia	429 (86.5)	415 (83.5)	837 (85.1)
Hyperthyroidism	20 (4.0)	21 (4.2)	32 (3.3)
Hypothyroidism	96 (19.4)	80 (16.1)	171 (17.4)
Chronic liver disease	53 (10.7)	49 (9.9)	87 (8.8)
Chronic lung disease	180 (36.3)	184 (37.0)	334 (33.9)
Diagnosed depression	123 (24.8)	118 (23.7)	197 (20.0)
Diagnosed dementia	4 (0.8)	8 (1.6)	26 (2.6)
Pre-admission vital signs			
Body mass index, kg/m ²	31.9 (9.0)	31.8 (8.0)	32.0 (8.4)
Missing, n (%)	13 (2.6)	8 (1.6)	51 (5.2)
Systolic blood pressure, mmHg	126.3 (16.4)	126.7 (16.9)	128.6 (16.4)
Missing, n (%)	13 (2.6)	13 (2.6)	54 (5.5)
Inpatient laboratory values, mean (SD)			
Hemoglobin, g/dL	11.2 (2.2)	11.3 (2.1)	11.5 (2.2)
Missing, n (%)	5 (1.0)	4 (0.8)	11 (1.1)
Serum creatinine, mg/dL	1.0 (0.4)	1.0 (0.4)	1.0 (0.4)
Missing, n (%)	10 (2.0)	12 (2.4)	23 (2.3)
Blood urea nitrogen, mg/dL	21.6 (12.9)	21.5 (12.0)	21.9 (12.2)
Missing, n (%)	16 (3.2)	20 (4.0)	36 (3.7)

eTable 8. Primary and secondary outcomes among participants receiving medically tailored meals, by receipt of nutritional counseling.

Outcome	No. of participants	No. of Events	Risk (95% CI)	Risk difference, % (95% CI)	Adjusted* cause-specific hazard ratio (95% CI)	Adjusted* subdistribution hazard ratio (95% CI)
Primary outcome: all-cause hospitalization						
Medically tailored meals with nutritional counseling	497	129	26.0 (22.2, 30.1)	-2.5 (-8.0, 3.1)	0.90 (0.71, 1.15)	0.88 (0.70, 1.11)
Medically tailored meals only	496	141	28.4 (24.5, 32.6)	-	-	-
Secondary outcomes						
All-cause emergency department visits						
Medically tailored meals with nutritional counseling	497	105	21.1 (17.6, 25.0)	-0.5 (-5.5, 4.7)	0.96 (0.74, 1.26)	0.95 (0.74, 1.23)
Medically tailored meals only	496	107	21.6 (18.0, 25.5)	-	-	-
All-cause death						
Medically tailored meals with nutritional counseling	497	19	3.8 (2.3, 5.9)	-0.6 (-3.1, 1.9)	0.82 (0.44, 1.52)	N/A
Medically tailored meals only	496	22	4.4 (2.8, 6.6)	-	-	-
Composite of all-cause death and utilization						
Medically tailored meals with nutritional counseling	497	187	37.6 (22.4, 42.1)	-3.1 (-9.2, 3.0)	0.91 (0.74, 1.11)	N/A
Medically tailored meals only	496	202	40.7 (36.4, 45.2)	-	-	-
Heart-failure hospitalization						
Medically tailored meals with nutritional counseling	152	12	7.9 (4.2, 13.4)	0.0 (-6.0, 5.9)	1.05 (0.48, 2.30)	1.00 (0.53, 1.89)
Medically tailored meals only	164	13	7.9 (4.3, 13.2)	-	-	-
Diabetes-related hospitalization						
Medically tailored meals with nutritional counseling	334	8	2.4 (1.0, 4.7)	2.4 (0.8, 4.0)	N/A	2.06 (0.87, 4.85)
Medically tailored meals only	337	0	0.0 (0.0, 0.0)	-	-	-

*Hazard ratios are adjusted for predicted re-admission risk score, comorbidity point score, and active Covid-19 infection during the index hospitalization.

eTable 9. Full Cox proportional hazards model results for all outcomes.

Model/Parameter	Estimate	Standard Error	Chi-square	P
All-cause hospitalization				
MTMs (vs. usual care)	0.02144	0.089	0.058	0.81
Medical Center B (vs. Medical Center A)	0.22745	0.12967	3.0765	0.079
Medical Center C (vs. Medical Center A)	0.05325	0.14292	0.1388	0.71
Medical Center D (vs. Medical Center A)	0.12682	0.20495	0.3829	0.54
Medical Center E (vs. Medical Center A)	0.07162	0.11285	0.4028	0.53
Readmission risk score	0.02233	0.00519	18.5183	<.0001
Comorbidity point score	0.00846	0.00158	28.6482	<.0001
Covid-19 during hospitalization	-0.55814	0.20789	7.2082	0.007
Hospitalization for heart failure (in subset of participants with known heart failure)				
MTMs (vs. usual care)	-0.65028	0.25359	6.5754	0.010
Medical Center B (vs. Medical Center A)	0.40182	0.33768	1.416	0.23
Medical Center C (vs. Medical Center A)	0.17734	0.36818	0.232	0.63
Medical Center D (vs. Medical Center A)	-0.02726	0.54786	0.0025	0.96
Medical Center E (vs. Medical Center A)	-0.34649	0.337	1.0571	0.30
Readmission risk score	0.0326	0.01166	7.8124	0.005
Comorbidity point score	0.00572	0.00385	2.2123	0.14
Covid-19 during hospitalization	-14.301	754.70152	0.0004	0.98
Hospitalization related to diabetes (in subset of participants with diabetes)				
MTMs (vs. usual care)	-0.45245	0.46568	0.944	0.33
Medical Center B (vs. Medical Center A)	0.15076	0.5706	0.0698	0.79
Medical Center C (vs. Medical Center A)	-0.18686	0.6823	0.075	0.78
Medical Center D (vs. Medical Center A)	-15.5219	2006	0.0001	0.99
Medical Center E (vs. Medical Center A)	-1.09602	0.67879	2.6071	0.11
Readmission risk score	0.03906	0.02805	1.9382	0.16
Comorbidity point score	-0.0065	0.00911	0.509	0.48
Covid-19 during hospitalization	-15.3581	1242	0.0002	0.99
Emergency department visit for any cause				
MTMs (vs. usual care)	-0.06926	0.09801	0.4993	0.48
Medical Center B (vs. Medical Center A)	0.15381	0.13513	1.2955	0.26
Medical Center C (vs. Medical Center A)	-0.14972	0.15632	0.9174	0.34
Medical Center D (vs. Medical Center A)	-0.06133	0.22862	0.072	0.79
Medical Center E (vs. Medical Center A)	-0.31247	0.12728	6.0268	0.014
Readmission risk score	0.01463	0.00641	5.2094	0.023
Comorbidity point score	0.00251	0.00189	1.7677	0.18
Covid-19 during hospitalization	-0.33749	0.19952	2.8612	0.090
Death from any cause				
MTMs (vs. usual care)	-0.44391	0.20959	4.4861	0.034
Medical Center B (vs. Medical Center A)	-0.26382	0.32568	0.6562	0.42
Medical Center C (vs. Medical Center A)	-0.01948	0.31836	0.0037	0.95
Medical Center D (vs. Medical Center A)	0.52467	0.37441	1.9637	0.16
Medical Center E (vs. Medical Center A)	-0.40942	0.26943	2.3091	0.13
Readmission risk score	0.0699	0.00909	59.1537	<.0001
Comorbidity point score	0.00153	0.0032	0.2285	0.63
Covid-19 during hospitalization	-0.569	0.51671	1.2126	0.27

Model/Parameter	Estimate	Standard Error	Chi-square	P
Composite of all-cause utilization and death				
MTMs (vs. usual care)	-0.12304	0.07217	2.9064	0.088
Medical Center B (vs. Medical Center A)	0.2501	0.10264	5.9375	0.015
Medical Center C (vs. Medical Center A)	-0.02668	0.11608	0.0528	0.82
Medical Center D (vs. Medical Center A)	0.1214	0.16359	0.5507	0.46
Medical Center E (vs. Medical Center A)	-0.05427	0.09184	0.3492	0.55
Readmission risk score	0.0229	0.00435	27.7492	<.0001
Comorbidity point score	0.00584	0.00133	19.2084	<.0001
Covid-19 during hospitalization	-0.46622	0.15456	9.0983	0.003