Food is Medicine Research Action Plan
# Medically Tailored Meals

## Table 8: Medically Tailored Meals Peer-Reviewed Literature

<table>
<thead>
<tr>
<th>Author</th>
<th>Study Design</th>
<th>Intervention</th>
<th>Key Findings</th>
</tr>
</thead>
</table>
| Tapper*272 (2020) | Pilot RCT  
\(n = 40\) adults with cirrhosis and ascites (chronic liver disease) | MTM delivery program: 4 weeks of meals and 8 weeks of follow-up | MTM group vs. standard of care group:  
- Required fewer paracenteses  
- Quality of life improved more  
- Spent fewer days in the hospital |
| Berkowitz*273 (2020) | Semi-structured interviews  
\(n = 20\) adults diagnosed with type 2 diabetes with HbA1c>8.0% | MTM delivery program 12 weeks of meals  
\(\text{MTM group vs. standard of care group:}  
- Required fewer paracenteses  
- Quality of life improved more  
- Spent fewer days in the hospital |
| Berkowitz*274 (2019) | Retrospective cohort study with near/far matching  
\(n = 1020\) adults  
Intervention: 499 existing MTM program clients | MTM delivery program: average of 12.4 months of meals | MTM group vs. matched cohort:  
- 49% fewer inpatient admissions  
- 72% fewer admissions to skilled nursing facilities  
- 16% reduction in health care costs |
| Berkowitz*275 (2019) | Randomized cross-over trial  
\(n = 42\) adults diagnosed with type 2 diabetes with HbA1c>8.0% | MTM delivery program: 12 weeks “on-meals” (intervention) and 12 weeks “off-meals” (control) | “On-meals” group vs. “off-meals” group:  
- Increased Healthy Eating Index 2010 score by +31.4/100  
- Reduced food insecurity from 62% to 42%  
- Reduced hypoglycemia from 64% to 47%  
- Fewer days when mental health interfered with quality of life |
| Henstenburg*276 (2019) | Retrospective chart review  
\(n = 103\) adults, existing MTM program clients with complex health conditions who filled out the 2016 Client Satisfaction Survey | MTM delivery program: at least 6 months of meals |  
- Decreased hospitalizations (p=0.0077)  
- BMI was stable (median decrease of 0.04) and did not vary by diagnosis |
| Berkowitz*277 (2018) | Retrospective matched cohort  
\(n = 3077\) adults, dually eligible for Medicaid and Medicare; members of a managed care plan  
Separate matched cohorts:  
MTM recipients: \(n = 133\), \(n = 1002\) nonrecipients  
Non-Tailored Food: \(n = 624\) recipients, \(n = 1318\) nonrecipients | MTM delivery program and non-tailored food (NTF) delivery program: at least 6 months  
\(\text{MTM group vs. matched cohort:}  
- 70% fewer ED visits  
- 72% fewer uses of emergency transportation  
- 52% fewer inpatient admissions  
- lower medical spending (−$570)  
- $220 in net health care cost savings  
\(\text{NTF group vs. matched cohort:}  
- 44% fewer ED visits  
- 38% fewer uses of emergency transportation  
- lower medical spending (−$156) |
| Hummel*278 (2018) | RCT  
\(n = 66\) adults ≥ 55 years old with a history of systemic hypertension, discharged to home following hospital admission for acute decompensated heart failure. | MTM delivery program: 4 weeks of meals, with 12 weeks of follow-up | Intervention vs. control:  
- Similar Kansas City Cardiomyopathy Questionnaire summary scores  
- Increased Kansas City Cardiomyopathy Questionnaire clinical summary scores (p=0.053)  
- Fewer 30-day heart failure readmissions (p=0.06) and days re-hospitalized within that timeframe (p=0.055) |
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<tbody>
<tr>
<td>Palar&lt;sup&gt;279&lt;/sup&gt; (2017)</td>
<td>Pre-post with no comparison</td>
<td>MTM pickup program: 6 months of meals</td>
<td>Nutritional measures:</td>
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<td>n = 56 adults, existing Project Open Hand clients with HIV and/or type 2 diabetes and income under 300% FPL</td>
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<td>• Decreased food insecurity (p&lt;0.0001)</td>
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<td>• Decreased consumption of fatty foods (p=0.003)</td>
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<td>• Decreased consumption of sugary foods or drinks (p=0.006)</td>
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<td>• Fewer depressive symptoms (p=0.028)</td>
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<td>• Decreased binge drinking (p=0.008)</td>
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<td>• Decreased number of participants reporting giving up health care for food (p=0.029) or food for health care (p=0.007)</td>
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<td>• HIV group: increased ART adherence (p=0.046)</td>
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<td>• Type 2 diabetes group: decreased diabetes distress (p&lt;0.001); increased perceived diabetes self-management scores (p=0.007); decreased BMI (p=0.035)</td>
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<td>DiMaria-Ghalili&lt;sup&gt;280&lt;/sup&gt; (2015)</td>
<td>Cross-sectional descriptive study</td>
<td>MTM delivery program (duration not specified)</td>
<td>MTM recipients vs. National Survey of Older Americans Act Participants:</td>
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<td>n = 171 adults, MTM program clients who completed Client Satisfaction Survey</td>
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<td>• More likely to rate the program highly (p&lt;0.01)</td>
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<td>Comparison: National Survey of Older Americans Act Participants (NSOAAP) respondents</td>
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<td>• Reported healthier eating (p&lt;0.01); improved health (p&lt;0.01); satisfaction with taste (p&lt;0.01), and satisfaction with variety (p&lt;0.01)</td>
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<td>n = 191, 272 from the Northeast</td>
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<td>n = 622,410 from urban/suburban areas</td>
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<td>Gurvey&lt;sup&gt;281&lt;/sup&gt; (2013)</td>
<td>Pre-post pilot with comparison group</td>
<td>MTM delivery program: at least 6 months of meals</td>
<td>Intervention vs. comparison:</td>
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<td>n = 698 adults, members of a Medicaid Managed Care Organization</td>
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<td>• Lower mean monthly health care costs ($28k vs. $41k)</td>
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<td>Intervention: = 65 existing MTM program clients</td>
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<td>• Lower mean monthly inpatient costs ($220k vs. 132k)</td>
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<td>Comparison: n = 633 matched nonrecipients</td>
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<td>• Lower HIV/AIDS mean monthly costs ($37k vs. $17k)</td>
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<td>• Fewer monthly ED visits (p=.0001)</td>
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<td>• Fewer monthly inpatient visits (p=.0001)</td>
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<td>• Shorter monthly inpatient length of stay (p=.0008)</td>
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<td>• Lower percentage of individuals discharged to home (p=.0001)</td>
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**Research Table Acronyms**

- AIDS: Acquired Immunodeficiency Syndrome
- ART: Antiretroviral Therapy
- BMI: Body Mass Index
- BP: Blood Pressure
- CDC: Centers for Disease Control and Prevention
- CSA: Community Supported Agriculture
- DSME: Diabetes Self-Management Education
- ED: Emergency Department
- FPL: Federal Poverty Level
- FQHC: Federally Qualified Health Center
- FV: Fruit and Vegetable
- HbA1c: Hemoglobin A1c
- HIV: Human Immunodeficiency Virus
- MTM: Medically Tailored Meal
- NSOAAP: National Survey of Older Americans Act Participants
- NTF: Non Tailored Food
- RCT: Randomized Control Trial
- Rx: Prescription
- SD: Standard Deviation
- SES: Socioeconomic Status
- SNAP: Supplemental Nutrition Assistance Program
- WIC: Special Supplemental Nutrition Program for Women, Infants, and Children