

Social Care Services Evidence Summary: Meal and Nutrition Services

This evidence summary includes a broad range of research/resources on meal and nutrition services and is primarily focused on health care impact. It is not intended to be an exhaustive compilation of research/resources on this topic. The information presented in this summary can inform the value proposition of partnering with a community-based organization (CBO) or a network of CBOs to offer these services and supports as part of a strategy to address social determinants of health (SDOH).

Meal and nutrition services support individuals in achieving food security and to meet their nutritional needs. Services may include, but are not limited to, congregate meals, home delivered meals, and medically tailored meals (MTM). These services may be linked with additional nutritional support such as connection to a licensed nutritionist or other nutrition education. Food security affects an individual's physical and mental health and, as a result, can influence their health care utilization. Meal and nutrition services may also provide the added benefit of socialization through gathering at congregate meals sites and through delivery staff/volunteers as part of home delivered meals.

Studies have demonstrated that congregate meals services support older adults to remain in their homes and communities longer by avoiding hospitalizations and nursing facility stays (Gualtieri et al. 2018). Meal delivery services have been demonstrated to increase participants' physical health and mental health. Specifically, both non-tailored home-delivered meals and MTM have been proven to increase participants' access to healthy food, reduce malnutrition, and lower depression (O'Leary et al. 2019; Walton et al. 2019; Berkowitz et al. 2017). In alignment with increased health benefits, meal and nutrition programs have been shown to decrease health care utilization through a reduction in hospital and skilled nursing admissions and less overall medical spending (Berkowitz et al. 2019).

For specific, further detailed information on this evidence, please review the resources listed below.

Meal and Nutrition Services Research and Evidence

Study	Population Studied	Objective of Study	Type of Analysis	Findings / Results
Berkowitz et al. (2017)	44 adults with diabetes, hemoglobin A1c>8.0%, and food insecurity (defined as at least one positive item on the two-item “Hunger Vital Sign”)	To test whether a MTM delivery program improved dietary quality in individuals with type 2 diabetes and food insecurity.	Randomized cross-over clinical trial	Participants who received the home delivered meals had a mean Healthy Eating Index (HEI) of 71.3 while the control group had a mean score of 39.9 following the 12-week intervention. Participants experienced improvements in almost all sub-categories of the HEI (higher score [range 0–100; clinically significant difference 5] represents better dietary quality), with increased consumption of vegetables, fruits, and whole grains and decreased consumption of solid fats, alcohol, and added sugar. Participants also reported lower food insecurity, less hypoglycemia, and fewer days where mental health interfered with quality of life.
Berkowitz et al. (2018)	Included individuals aged 21 and older, dually eligible for Medicare and Medicaid services enrollment in Commonwealth Care Alliance health plan; 133 participants received MTM, 624	To determine whether home delivery of either MTM or non-tailored food reduces the use of selected health care services and medical spending in a sample of adults dually eligible for	Statistical analysis following the development of matched cohorts	Compared with matched nonparticipants, participants had fewer emergency department visits in both the MTM program and the non-tailored food program. Participants in the MTM program also had fewer inpatient admissions and lower medical spending. Participation in the non-tailored food program was not

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	participants received non-tailored food, and 1,002 were included as matched controls.	Medicare and Medicaid.		associated with fewer inpatient admissions but was associated with lower medical spending.
Berkowitz et al. (2019)	Individuals 18 years or older who received MTM were matched with individuals or similar demographics who did not receive MTM within the Massachusetts All Payer Claims Database.	To determine whether participation in a MTM intervention is associated with fewer subsequent hospitalizations.	Retrospective cohort study using near/far matching instrumental variable analysis	Participation in a MTM program appears to be associated with fewer hospital and skilled nursing admissions and less overall medical spending.
Gualtieri et al. (2018)	8,646 randomly selected participants of the Older Americans Act (OAA) Nutrition Services Program (NSP) participants from randomly selected sites	To determine the impact of the OAA NSP meals and nutrition services on overall wellness and wellbeing by comparing outcomes for NSP participants and nonparticipants. Outcomes include health and health care utilization.	Outcomes evaluation using statistical analysis including both descriptive and multivariate analysis methods	Congregate meal participants were able to remain in their homes and communities more than nonparticipants. Congregate meal participants were 2.3 percentage points less likely to be admitted into a nursing care facility, and lower income congregare meal participants experienced nursing home admissions at a rate 8.5 percentage points lower than nonparticipants. Additionally, congregare meal participants who lived alone were less likely than nonparticipants to

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				have a hospital admission or an emergency department visit that led to a hospital admission.
Mabli et al. (2018)	OAA NSP participants and a matched population eligible for but not receiving NSP supports	To evaluate the effect of the OAA NSP on participants' health outcomes, health care utilization, and healthcare costs by comparing congregate and home-delivered meals participants to similar nonparticipants.	The study uses analysis and matching methods with the use of Medicare claims data and comprehensive surveys of congregate and home delivered meal participants and a matched comparison group of program-eligible nonparticipants.	<p>When compared to nonparticipants, congregate meal participants were less likely to be admitted into a nursing care facility. For lower-income congregate meal participants, the rate of nursing home admissions was lower than the rate for nonparticipants. Congregate meal participants who lived alone were less likely than nonparticipants to have a hospital admission or have an emergency department visit that led to a hospital admission.</p> <p>Home delivered meal participants experienced more varied results with home delivered meal participants experiencing a higher percentage of emergency department visits leading to a hospital admission. Similarly, the home delivered meal participants were more likely to experience a home health episode than nonparticipants. Study authors note that home delivered meal participants tend to be older, have less income, and were more likely to</p>

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				be in poor health and that the inability to randomly assign participants may have led to differences in underlying characteristics of participants and nonparticipants, rather than the program itself.
Mabli et al. (2017)	OAA NSP participants and a matched population eligible for but not receiving NSP supports	To assess program effectiveness, as measured by the program's effects on a variety of important outcomes, including diet quality, socialization opportunities, health outcomes, and helping older adults avoid institutionalization.	The outcome evaluation uses information obtained from comprehensive surveys and 24-hour dietary recalls collected from samples of program participants and a matched comparison group of program-eligible nonparticipants.	Congregate meal participants experienced lower rates of food insecurity compared to nonparticipants. Home delivered meal participants experienced no difference in food insecurity rates compared to nonparticipants, with those receiving fewer than 5 meals per week experiencing greater food insecurity than nonparticipants. Congregate meal participants had more positive socialization outcomes compared to nonparticipants. For home delivered meal participants there were no significant differences between participants and nonparticipants. Lastly, congregated meals and home delivered meals had a positive effect on diet quality in comparison to nonparticipants.
O'Leary et al. (2019)	19 older adults living in the United Kingdom	To evaluate the effectiveness of a 3-week, daily meal	Data analysis	Following participation in the meal service, participants experienced increased score on the Mini

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		provision service by a non-profit provider on the physical and psychological wellbeing of an older adult population.		Nutritional Assessment (MNA), which assesses risk of malnutrition, and rated themselves as significantly less depressed.
Thomas & Mor (2013)	Individuals receiving home delivered meals in each state, adjusted for the state population aged 65 and older	To estimate the savings that states could realize on Medicaid spending by increasing the number of clients receiving home delivered meals.	Statistical analysis was used to develop a model to project nursing home utilization. The results were then used to approximate anticipated savings to state Medicaid programs by avoiding or delaying nursing home utilization.	The results from the model generated as part of the study were that a 1 percent increase in the proportion of adults ages 65 and older who received home delivered meals in a state was associated with a decrease in the state's low-care nursing home population of .2 percent.
Thomas et al. (2015)	626 seniors on waiting lists at 8 Meals on Wheels (MOW) programs across the United States	To evaluate the extent to which the home delivered meals program, and the type of delivery model, reduces homebound older adults' feelings of loneliness.	Three-arm randomized control study	Participants receiving meals had lower adjusted loneliness scores at follow-up compared with the control group. Individuals who received daily-delivered meals were more likely to self-report that home delivered meals improved their loneliness than the group receiving once-weekly delivered meals.
Thomas et al. (2016)	371 older adults on 7 MOW programs' waiting lists	To evaluate whether home delivered meals, and the frequency of	Randomized parallel three-arm study	The study indicates that daily delivered meals may reduce the risk of falls. At follow-up, 28.6% of the

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		delivery, reduces self-reported falls among homebound older adults.		control group that received no meals while on the waitlist experienced a fall, compared to 27.4% of participants who received once weekly delivered meals and 23.7% of participants receiving daily delivered meals.
Walton et al. (2019)	Older adults (>65), studies varied in sample size, from 16-2691 study participants	To determine whether nutritional intake is improved in community-living older adults when receiving meal services compared to when meals services are not received.	Systematic literature review of 13 original studies that was conducted up to January 2019.	Home delivered meals have a beneficial effect on dietary intake of energy, protein and/or certain micronutrient in older adults.

Additional Resources

Resource Author	Description of Content	Target Audience
Gualtieri et al. (2018)	<p>This review focuses on the effects of MOW on the physical and emotional well-being of older adults, and the wide variety of procedural and operational issues that various MOW programs around the county experience. Findings from the literature highlight the positive outcomes these programs have on their clients.</p>	<p>Policy makers and funders of meal programs</p>
The National Resource Center on Nutrition and Aging (NRCNA)	<p>The NRCNA’s purpose is to build the capacity of senior nutrition programs funded by the Older Americans Act (OAA) to provide high quality, person-centered services, and to assist ACL and stakeholders to identify current and emerging issues and opportunities to enhance program sustainability and resiliency. The intent of the OAA senior nutrition program is to: reduce food insecurity, hunger and malnutrition; enhance socialization; and promote health and well-being.</p>	<p>The Administration for Community Living and the senior nutrition program network</p>
Meals on Wheels America – More Than Just a Meal	<p>The More Than Just a Meal site includes a compendium of research supporting the positive outcomes associated with the Meals on Wheels program. The research includes demographics of seniors receiving Meals on Wheels services, health and wellness improvement of seniors through meal-delivery service enhanced with technology-supported monitoring, and the impact of home-delivered meal services on overall health and well-being and associated use of high-cost healthcare services.</p>	<p>Policy makers and funders of meal programs</p>
Meals on Wheels America – Partnerships between Community-based Organizations (CBOs) and Healthcare	<p>This report follows the partnership between community-based senior nutrition programs and a large healthcare company and explores how CBOs can work effectively with health plans to scale their services through outcomes-based financing, such as Pay for Success (PFS).</p>	<p>CBOs and healthcare organizations exploring or pursuing partnerships</p>

