



The Value and Outcomes of Michigan's

HOME DELIVERED MEALS FOR THE ELDERLY PROGRAM

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Prepared by:

**Area Agency on Aging 1-B
Committee to Identify Outcomes, Indicators,
And Evidence-Based Best Practices for the
Home Delivered Meals Program**

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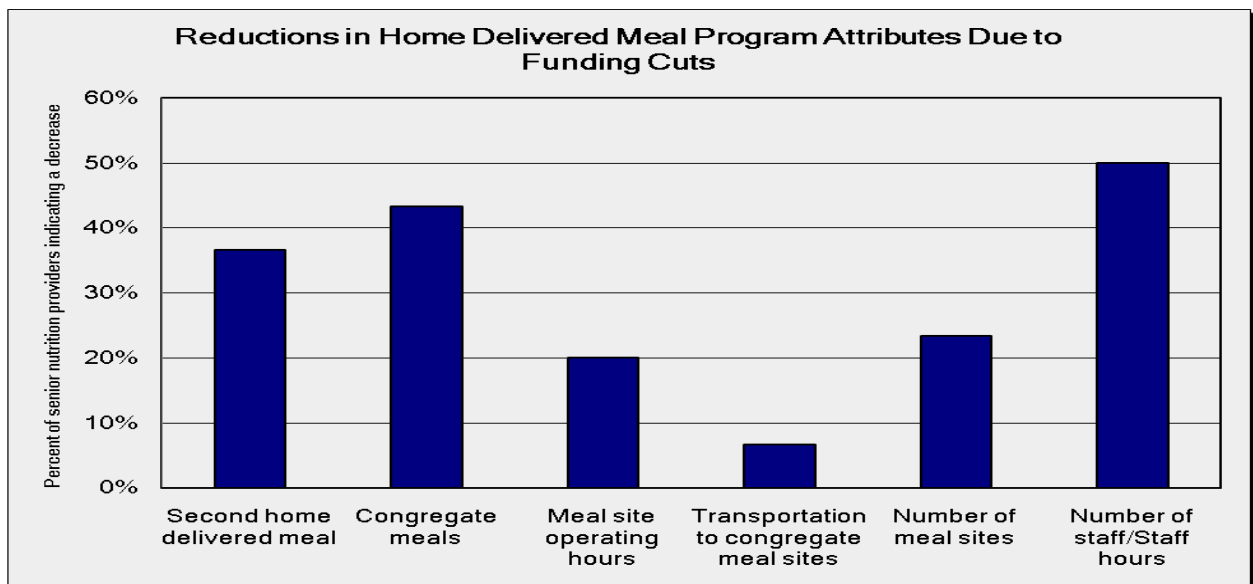
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Introduction

The Meals on Wheels/Home Delivered Meals (HDM) program for the homebound elderly is widely recognized as a valued service that assists homebound older adults to maintain proper nutrition, health and independent living. However, the actual value of the program extends far beyond just the delivery of a nutritious meal, and achieves many important but largely unknown outcomes that positively impact participants, family members, and public expenditures for the care of the elderly. Michigan's state and federally funded HDM provider network delivers high quality meals that meet consumer expectations and offer value-added benefits at an exceptionally low cost. The purpose of this report is to educate all stakeholders of Michigan's home delivered meals programs, especially elected officials who are responsible for the program's future through their allocation decisions, about the program's true value and outcomes.

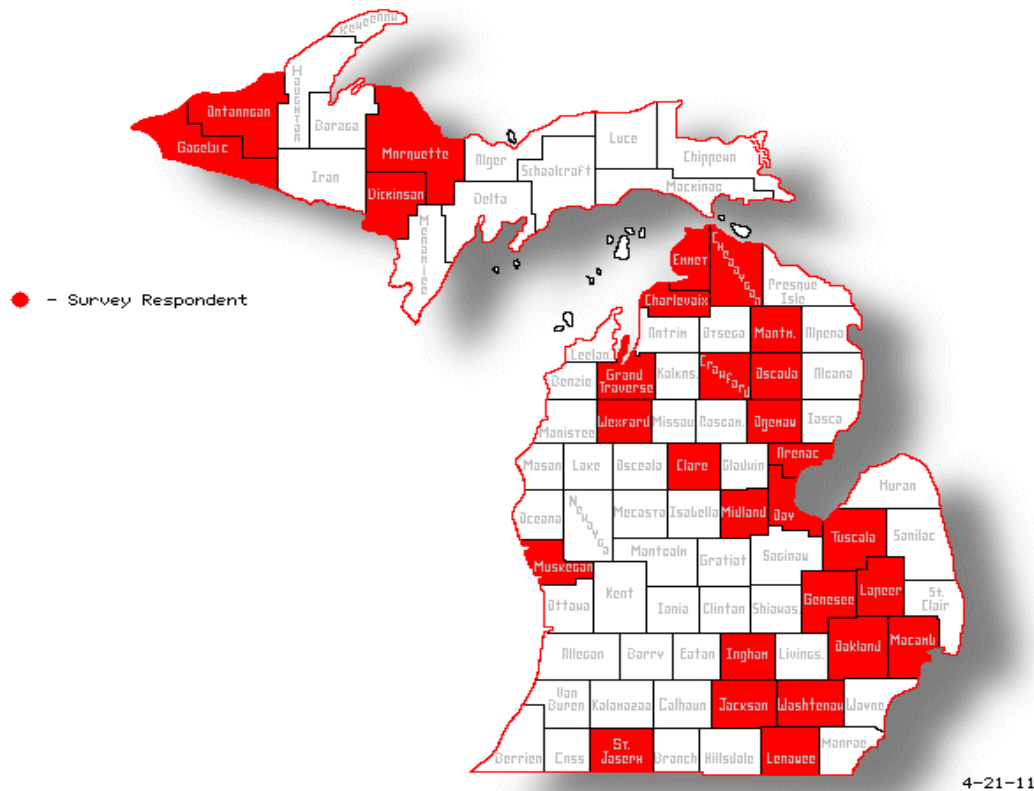
Home Delivered Meals (HDM) are available to all individuals 60 and over. However, this service is targeted to those in greatest economic and/or social need, with particular attention paid to low-income minorities and rural individuals. To receive home-delivered meals, an individual must be assessed to be homebound or otherwise isolated. Many HDM programs provide two nutritious meals five days a week to the senior population who are unable to shop or prepare their own meals. The meals are designed to meet one-third of The Dietary Reference Intake (DRI), provide for optimal nutrient intake and ultimately better health for older adults.

The Committee to Identify Outcomes, Indicators, and Evidence-Based Best Practices for Home Delivered Meals was established by the Area Agency on Aging 1-B (AAA 1-B) in collaboration with its home delivered meal (HDM) programs. Michigan Area Agencies on Aging and Senior Nutrition Providers are concerned about growing pressure to continue reducing public funding for Older Americans Act (OAA) and Older Michiganians Act services due to the projected federal and state budget deficits, and increasing competition for limited resources from other health and human service systems. For example, nearly 60% of surveyed HDM providers have indicated they recently cut or reduced meals or services due to funding cuts including decreasing staff, congregate meals and second home delivered meals.



The committee called on a wide range of experts from across the region to provide input on the specific values and outcomes. In addition, the statewide network of HDM service providers was polled via online survey to get their input and stories. There were 30 respondents to the survey, which represents meal delivery to approximately 42% of Michigan’s senior population. See the map below to view the counties that are represented by the survey respondents. This report is the outcome of the committee findings including data about the Michigan HDM program, highlights of a literature review on best practices for home delivered meal (HDM) programs, and the results of the service provider survey. It also contains current data on the value of HDM service, outcome data, and recommendations for integrating meaningful value and outcome measures into senior nutrition management practices.

Counties with Home Delivered Meal Survey Respondents



Committee participants:

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About Michigan's Home Delivered Meals Program

The Michigan Office of Services to the Aging's 2009 Michigan Aging Information System NAPIS Participant and Service Report reported that there are nearly 50,000 participants in Michigan's home-delivered meal program and over 8,000,000 meals are served annually. A conservative estimate is that approximately 8.9% of participants would qualify for nursing home care. The following describes expenditures, cost per meal and participant and the average number of meals per participant:

Home Delivered Meal Program Expenditures and Average Costs and Meals

Expenditures (all sources)	Avg. Meals/Participant	Avg. Cost/Participant	Avg. Cost/M meal	Avg. Statewide Meals/Day	State Cost/M meal
\$34,877,479	164	\$701.14	\$4.28	31,325	\$0.71

Source: 2009 Michigan Aging Information System NAPIS Participant and Service Report

A Profile of the Home Delivered Meal Participants:

37% were 85 or older (Compared to 10.8% of entire state senior population over 85)
 71% were age 75 or older
 66% were female
 53% lived alone
 35% were low-income
 75% were at high nutritional risk
 24% were minority by race and/or ethnicity

Source: 2009 Michigan Aging Information System NAPIS Participant and Service Report

Home Delivered Meal Participants by Most Frequently Reported Activity Limitations

Most Frequently Reported Activity Limitations	% of Participants with Limitations
Cooking Meals	80%
Shopping	75%
Doing Laundry	62%
Using Private Transportation	57%
Cleaning	57%
Stair Climbing	57%
Participants with 3 or more ADLs and/or IADLs	84%

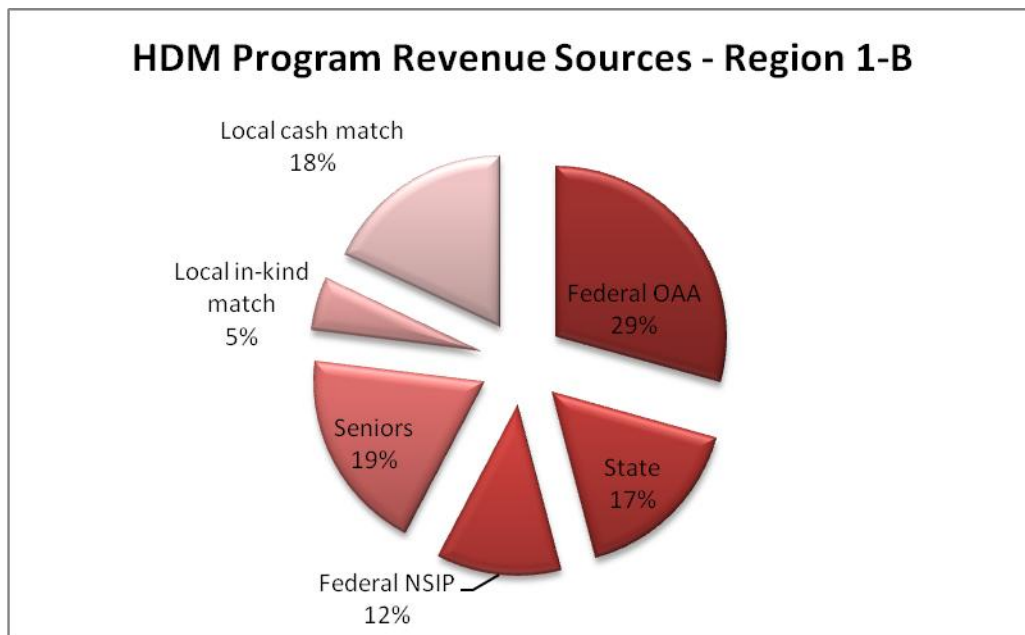
Participant Quality Feedback

AAA 1-B analyzed HDM participant satisfaction survey results from various nutrition providers in Region 1-B. The following are highlights from the collected surveys:

- 93% agree that HDM has helped them live independently and remain in their home
- 74% agree that their friends and family feel safer as a result of visits from HDM
- 46% agree that their health has improved since receiving home delivered meals
- 99% agree that the meals are a good value
- 99% say the volunteers are important to them
- 98% of participants say the meals are well cooked and tasty

Value for Money

Governor Snyder's budgeting plans call for "Value for Money" for Michigan taxpayers. Snyder said, "We need to take actions with meaningful measurable, tangible outcomes that positively benefit real people". Value for Money budgeting will ask the citizens what priorities are wanted in government services, and then work to ensure that each dollar of funding returns at least a dollar of value. The state of Michigan contributes on average 71 cents toward the average cost (\$4.28) of a HDM served in Michigan. The state gets a very high return on its leveraged investment of a very small amount for each meal.



The following are measurable values of the HDM program derived from the AAA 1-B Senior Nutrition Provider and senior advocate surveys:

Michigan Foods

Over 75% of Michigan's HDM providers report that 75% or more of their food used to prepare meals is purchased from Michigan based sources.

Emergency Preparedness

Michigan's HDM providers are an active part of their county emergency response plan including:

- 1) Coordination of resources with fire and police departments
- 2) Staff trained as emergency responders

- 3) Use of kitchen facility in the event of an emergency situation
- 4) Submission of HDM client list to county emergency operations officers and
- 5) Meal sites utilized in the event of an emergency.

Program Priority

In a 2010 survey of AAA 1-B senior advocates, home delivered meals were the highest ranked Older Michigianians Act/Older Americans Act service priority with over 87% ranking the program as either a medium high or a high priority.

Low-Cost/High Return Provider

Michigan's home delivered meals provides better security, comparable nutrition and quality processes at 33% to 42% less than private sector options with each meal costing an average of \$4.28, compared to a range of \$5.00 to \$7.99 for private market alternatives. See comparison chart below.

HOW MICHIGAN'S MEALS ON WHEELS PROGRAM COMPARES WITH OTHER HOME DELIVERED MEAL OPTIONS**

	Michigan's Home Delivered Meals	Jenny Craig at Home	Mom's Meals	Seattle Sutton's Healthy Eating
				
Cost per meal	\$4.28	\$5.00* - \$6.00*	\$7.74	\$7.99
Hot dinner meal		Cold or frozen	Cold	Cold or frozen
Daily delivery		Every two weeks	Every two weeks	Weekly
Comprehensive in-home assessment		Weekly phone consultation		
Daily security check				
Referral to other needed social and health-related services				
Fresh foods (milk, produce)				
Special diets (low fat, cholesterol and sodium restricted)				
Nutrition education				
All meals meet one third Dietary Reference Intake dietary guidelines				

* Price does not include additional \$239 annual membership, and additional shipping and handling costs

** Price survey conducted in November, 2010; state meal cost based on FY 2009 NAPIS data reported by the Michigan Office of Services to the Aging

Volunteer Hours

The average HDM provider survey respondent has 159 volunteers who contribute an average of 4,235 hours. Based on an estimated hourly value of \$7.40 (MI minimum wage), the value of volunteer hours exceeds \$31,000 on average per nutrition provider, which is a direct savings to taxpayers. Volunteers are depended on in both the meal preparation and delivery processes.

In-Home Assessment and Long Term Care Planning

HDM applicants receive a comprehensive in-person health and nutritional needs assessment administered by the HDM provider every 6 months, with consultation and referral to other needed supports and services that will help them remain living independently in a safe home environment. This assessment and referral is provided at no separate cost to the applicant. The cost of this assessment ranges from \$265 to \$325 if purchased at private market rates in Region 1-B from comparably trained geriatric care managers.

Outcomes

A “measurable outcome” is an observable end-result that describes how a particular intervention benefits or affects consumers, communities, and the public at large. It can demonstrate a change in functional status, mental well-being, knowledge, skill, attitude, awareness or behavior. It can also describe a change in the degree to which consumers exercise choice over the types of services they receive, or whether they are satisfied with the way a service is delivered. The following are HDM outcomes identified by the committee.

Literature Review Outcomes

- Studies suggest that programs, such as HDM and nutritional education that are grounded in behavior change theory produce a positive return on investment (ROI). (Aldana, 2001, Knight, Getzel, Fielding, et al., 1994)
- The American Dietetic Association reports that older adults receiving HDM have higher daily intakes of key nutrients compared to those who do not and their reported weekday nutrient intake is significantly higher than their daily weekend intake when meals are not provided.
- According to the Federal Interagency Forum on Aging-Related Statistics report (2008), nearly 10% of older adults live below poverty and 26% are considered low income. The oldest-old with the lowest incomes have inadequate means to meet their nutrition needs and those experiencing food insecurity have lower intakes of micronutrients and energy, more health problems, and functional limitations related to loss of independence.
- Eighty-seven percent of older adults have diabetes, hypertension, dyslipidemia, or a combination of these chronic diseases. These **diseases can be improved with appropriate nutrition** services. (Bengston, 1996, Wellman, Rozenzweig, Lloyd, 2002)
- 83% of older adults are considered to have a poor diet. (Ervin, 2008)
- The **cost of one day in the hospital equals the cost of one year of Older Americans Act Nutrition Program meals** based on 2007 reported total expenditures and number of HDM provided by states. (AoA, 2007)
- Meal programs **can improve or maintain nutritional risk** for vulnerable seniors. (Keller, 2006).
- One study in New York conducted a cost-benefit analysis to determine if the long term home health care program supported by HDM services resulted in Medicare and Medicaid cost savings by delaying or avoiding skilled nursing facilities. The analysis showed an average cost per day for a skilled nursing facility of \$136 per person and an average cost per day of a Long Term Home Health Program supported by a home delivered meal program of \$81.53 per participant for a **savings of \$54.47 per day per participant**. (Jerome, 2009)
- The American Dietetic Association found that a **two-meal program decreases risk of malnutrition and improves depression symptoms** in homebound persons. In addition,

malnutrition, a multifactor condition influenced by physiological changes of aging, significantly adds to the cost of treating the older Americans. Loss of body fat and decreased energy intake are associated with nutrition deficiencies as well as:

- Frailty
- Frequent hospital admissions
- Longer lengths of hospital stays
- Increased falls and fractures
- Increased morbidity and mortality rates
- Increased infections
- Pressure ulcers
- Imbalance in electrolytes

Nutritional Risk Survey Findings

Nutritional risk data are consistently collected for every participant receiving HDMs via an in-home survey conducted every 6 months. The nutritional risk survey assesses current nutritional risk, and allows a comparison to be made with their level of risk before receiving meals. An analysis of data from 1,440 Macomb County Community Services Agency HDM recipients comparing the client's initial risk assessment with their most recent risk assessment (February, 2011) showed that after receiving meals, positive outcomes were found in the following areas:

- Malnourished older adults eat more often upon receiving HDMs. The number of participants who no longer eat fewer than two meals a day decreased from 165 to 71, a 57% decrease.
- The HDM program enabled many participants to afford to buy food. Seven percent of HMD participants went from being unable to afford to buy food prior to joining the program, to having enough money to buy food at the time of their last assessment. An additional 11% still do not always have enough money to buy food.

Saving Lives

Home delivered meals are delivered daily by a caring volunteer or paid driver of the nutrition service provider. The volunteers are trained on a process to check whether there is an in-home emergency when a recipient is unable to answer their door, and alert medical personnel and/or family members if there is an emergency need. The most common situation is when a HDM recipient has fallen, and is unable to call for help. The volunteer will call if help is needed and stay with the participant until help arrives. Ninety-three percent of providers report their drivers have intervened in situations where a staff member or volunteer has provided this potential life saving assistance to a program participant during the past twelve months. Approximately 165 cases have been documented where surveyed HDM programs have potentially saved a life. Survey results suggest that on average Michigan

HDM providers are responsible for saving the life of one homebound senior each day on average. Additionally, providers make referrals for home repair and report safety issues to help prevent in-home accidents like falls, which can result in hospitalization or in some cases death.

Leveraging Other Resources

The state of Michigan contributes on average 71 cents toward the average cost (\$4.28) of a HDM. While that amount is very small (it is less than the amount donated by seniors themselves), it is utilized by senior nutrition providers to leverage other additional resources (federal NSIP, recipient donations, and local matching funds). For every dollar of state home delivered meals money allocated, senior nutrition providers can leverage an additional \$1.50. Conversely, for every dollar of state nutrition funding cut, \$2.50 is lost to the HDM program, which is lost revenue that could have supported HDM provider jobs, and purchased a high percentage of Michigan food from a majority of Michigan-based companies and/or suppliers. In fact the main supplier of packaging for home delivered meals is a Michigan based company, (Oliver Foods) which has worked closely with HDM providers in Michigan to produce innovative products tailored for the senior nutrition program nationwide.

Saving Seniors Money

“Liquid meals” are an important part of the HDM program with about 733,000 (9%) liquid meals delivered in 2009. An effective cost reduction strategy of Michigan’s Senior Nutrition Programs has been to work collectively to jointly purchase the Ensure liquid meal product directly from manufacturer Abbott Laboratories at a significant discount. Ensure is purchased in cases of 24 or 30 eight ounce cans. A case of 30 sells for \$34.87 retail (\$1.16 per can) at Costco stores, or can be ordered online for home delivery with an additional \$20 delivery fee for a total of \$54.87 per case (\$1.83 per can). Michigan Senior Nutrition Providers have negotiated a price of \$13.21 per case of 24 with Abbott Laboratories, which allows them to deliver the Ensure liquid meals at a cost of \$0.55 per can, a savings of \$1.28 per can for delivered Ensure. **The total savings to Michigan’s HDM recipients who needed Ensure delivered in 2009 was almost \$1 million.**

Job creation and retention

The average HDM nutrition provider employs the equivalent of 27 full time employees, and contributes directly to the Michigan economy with educational opportunities for supervising students and interns and ability to retain a skilled workforce of credentialed food safety handlers in the economy.

HDM Participant and Volunteer Stories

The following are quotes from the senior nutrition providers describing their observations and stories about volunteers where lives have been saved.

"We have had several situations where the client had fallen. The driver called 911 and stayed with the client until help arrived. We had one situation where the client had left the door open for the meal delivery but was found unresponsive in bed. The driver called 911 and stayed until help arrived. Our drivers also notice if the senior seems different than usual for them and they call a caseworker if they think the senior should be getting medical attention. Every day that a senior does not come to the door as usual, we have staff making phone calls trying to determine their well-being. We call the house, the emergency contact person, and the hospitals to see if the senior was admitted. We have family members who say to us, "We have peace of mind that someone is checking on Mom or Dad at least once daily, if you are delivering the meals". I don't know how you put a price tag on that outcome. But the program is certainly more than just a meal. It provides a window to the outside world for the homebound senior, and their well-being is verified at least once on the day of the hot meal delivery."

"The drivers in our county work on basically the same route each day. They develop a relationship with the elder; they try to cheer up the senior and may be the only person that senior sees during the day. The drivers pick up on comments the senior makes...if he/she says I couldn't finish the meal yesterday, they can check the refrigerator to see if the client is eating the meals we send. The driver picks up on dementia issues -- we will have seniors call and say they did not get their meal. When we look into it we find the remains of the package in the trash...and we start to pick-up on the short-term memory problems (seniors with dementia sometimes have no memory of eating the meal that was just delivered within 24 hours). In these situations it is certainly not very safe for the senior to be operating the stove."

"One participant was found in the yard, one in their bedroom had fallen. When volunteers deliver meals, if meal recipient is not home, phone calls are made to emergency contacts so individuals are checked on."

"We found a client on the floor (she had a stroke) and called 9-1-1 and stayed with them until the EMS arrived. We then contacted the clients' family."

"One senior had a stroke. When the client did not answer the door for her meal, emergency contact system was set in motion. Her daughter was contacted and she checked on her and found she had a stroke. If the driver had not called this in, no one

would have seen her for another eight hours and the damage could have been much worse, or fatal.”

“Ruth was new to the area, depressed, and shutting herself off from others. She agreed to help out at one meal. She then saw that she was needed and continued to volunteer for our meals and is now using her nursing skills to volunteer everyday. She is now the smiling, sunny face that greets you at the senior center.”

Recommendations

It is recommended that the Michigan Legislature increase, and not cut home delivered meals funding because of the program’s: growing demand; meaningful contribution to the continued independence of vulnerable older Michigianians; proven positive outcomes; outstanding value to taxpayers; and significant contributions to Michigan’s economy through leveraging additional funds which multiply purchasing of Michigan products, purchasing mostly from Michigan businesses, and creating Michigan jobs.

It is recommended that home delivered meal providers conduct an annual comparative analysis of their Nutritional Risk Survey data, comparing their participants’ initial risk assessment score to their most recent score, to document the outcomes of the HDM program on frequency of eating meals, and ability to afford food.

It is recommended that each HDM provider systematically collect, analyze, and report data that measures the program impact on at least two program outcomes. Among the potential program outcomes that could be selected for measurement are:

- **Saving lives**
- **Job creation and retention**
- **Leveraging of additional resources**

It is recommended that each HDM provider systematically collect, analyze, and report data that measures the program’s Value for Money for at least two indicators. Among the potential Value for Money indicators that could be selected for measurement are:

- **Use of Michigan foods and businesses**
- **Value of volunteer contributions**
- **In-home assessments conducted and their market value**
- **Cost of HDM in comparison with private market alternatives**

It is recommended that further research be conducted to ascertain the impact of the HDM program on utilization of expensive health care services such as hospital admissions and length of stay, emergency room visits, and nursing home admission, through a pilot program with at least two Region 1-B HDM programs.

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