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Who Are the Recipients of Meals-on-Wheels in New York City? A Profile of Based on a Representative Sample of Meals-on-Wheels Recipients, Part II

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A number of questions were asked of the recipients of the Meals-on-Wheels program in New York City to ascertain their food preparation methods and their nutrition so that we could better understand the context in which they were receiving the Meals-on-Wheels foods. Included were questions about ownership of food preparation facilities; their comfort with using these facilities; their consumption of fruit, vegetables, and milk per day; the number of non–Meals-on-Wheels meals they consume; and whether they shopped for and prepared non Meals-on-Wheels foods themselves or with assistance from others. Furthermore, recipients were asked to describe their financial situation as it related to food. Recipients' nutrition and ability to prepare food can be described through their use of the meals, use of non–Meals-on-Wheels food, and their food insecurity.

FACILITIES FOR FOOD PREPARATION

Since delivery times are variable, recipients may choose to eat the delivered meals at a later time, making possession of some facilities for food preparation necessary. Virtually all recipients have a refrigerator, a freezer, and an oven, while fewer recipients have microwaves and toaster ovens (Table 1). More recipients feel comfortable using a microwave or a toaster oven than an oven. While 93.3% of the recipients feel comfortable using a microwave and 93.8% feel comfortable using a toaster oven, only 68.8% feel comfortable using an oven.

SOURCE, TYPE, AND PREPARATION OF FOODS

A majority of the recipients in the Meals-on-Wheels program supplement their diet with non–Meals-on-Wheels food, but 13.6% are reliant solely on the food provided by the program (Table 2). At times, non–Meals-on-Wheels foods are bought and prepared by someone other than the recipient. Of those who do consume non–Meals-on-Wheels food, 66.2% prepare it themselves, 12% have relatives prepare it, and 11.3% have home attendants prepare the meal. In terms of shopping for non–Meals-on-Wheels foods, 35.8% shop themselves, 28.1% have relatives who shop, and 19.6% have home attendants (Table 3).

Recipients were asked about their fruit, vegetable, and milk consumption per day. Although most tend to consume fruit, vegetables, and milk at least once per day, a large portion of the recipients do not (Table 4). Approximately one-fifth (20.2%) eat fruit, 15% eat vegetables, and 13.8% drink milk less than one time per day.

Whites (17.2%) were somewhat less likely to not eat fruit than Blacks (24.2%) or Hispanics (27.8%) ($p < .018$). Hispanics (36.1%) were more likely to not eat vegetables than Whites (12.3%) or Blacks (12.7%) ($p < .001$). Blacks (17.6%) were slightly more likely to not drink milk than Whites (12.7%) or Hispanics (11.1%) ($p < 0.085$).

FOOD INSECURITY

Food insecurity is a concept that refers to the social and economic problem of lack of food due to resource, physical, or other constraints, not voluntary fasting or dieting or for other reasons. Food insecurity is experienced when there is uncertainty about future food availability and access, insufficiency in the amount and kind of food required for a healthy lifestyle, and/or the need to use socially unacceptable ways to acquire food. Food insecurity can also be experienced when food is available and accessible but cannot be utilized because of physical or other constraints such as limited physical functioning by elders. Some closely linked consequences of uncertainty, insufficiency, and social unacceptability are assumed to be part of the experience of food insecurity. These may include worry and anxiety, feelings of alienation and deprivation, distress, adverse changes in family and social interactions, and hunger. We assessed food insecurity using three questions and also asked about their financial situation.

About one-fifth (18.2%) of the recipients are unable to afford the right kinds of foods for their health, while 11% are unable to afford enough food. Almost 4% describe themselves as hungry because they cannot afford food (Table 5). A large percentage describe their financial situation as getting by with what they have (47.1%) or getting by and even have a little extra (33.7%). Five and a half percent of the recipients do not have sufficient resources, whereas 13.7% say that money is not a problem (Table 6). Hispanics, with 24.1% not being able to make ends meet, were in worse financial situation than Whites (3.3%) or Blacks (3.2%) ($p < .001$). Hispanics (34.5%) and Blacks (27.4%) were more likely to be food insecure than Whites (15.2%) ($p < 0.001$).

USE OF AND SATISFACTION WITH THE MEALS-ON-WHEELS PROGRAM IN NEW YORK CITY

This section describes how recipients use the Meals-on-Wheels program in New York City and how satisfied recipients are with the services that are provided to them. Recipients were asked a series of multiple-choice questions regarding their experience with the program. They were also given an opportunity to share any further thoughts they may have had and to describe their experience using their own words; these open-ended comments are summarized at the end of this section.

To evaluate use of delivered meals, recipients were asked about the type of meals they receive, if they eat their meals as soon as they receive them, and, if not, how they store or reheat their meals as well as what they do with leftovers. Some recipients receive five hot meals, delivered once per weekday, while others receive five frozen meals, delivered twice per week. Recipients also receive meals for the weekends and the holidays and in case of emergencies. Holiday food boxes are delivered on the last weekday before the holiday. Emergency food packages are delivered once each year in November in case of weather-related emergencies that may prevent meal delivery. Recipients were asked if they are able to open the boxes, if they find boxed foods useful, if they eat the boxed foods, and, if not, why.

Recipients were also asked about their contact with the agency that oversees meal preparations and deliveries as well as the deliverers. They were asked how often they have contact, the kind of contact they have, and if the deliverers or agencies are responsive. Since many recipients are homebound, often their only human contact is with the deliverers who informally check on the recipients. Thus, this human contact may be an important aspect of the program.

Finally, recipients were asked to evaluate the meals provided by Meals-on-Wheels. The meals were evaluated based on taste, variety, ease of preparation, whether the food is considered right for the recipient's health, and whether the food fits religious and cultural needs. Recipients were also asked whether they preferred to choose their own meals as well as their overall satisfaction with the program.

ENROLLMENT AND MEAL TYPES

While 36.8% of recipients were enrolled in the program for less than 1 year, 24.1% were enrolled for 1 to 2 years, 21.4% for 2 to 3 years, and 17.7% for 3 or more years (Table 7). Years of enrollment did not differ by ethnicity. Many enrolled recipients received a mixture of meals, including hot, frozen, and chilled, since the percentages add to greater than 100 in (Table 8). Most (90.6%) recipients received hot meals. Hispanics (81.4%) were less likely than Whites (92.4%) or Blacks (90.3%) to receive hot meals ($p < .001$). Hispanics (67.4%) were more likely than Whites (51.7%) or Blacks (54.1%) to receive hot meals ($p = .008$).

EATING BEHAVIOR

Recipients were asked whether they eat a delivered meal all in the same sitting, whether they store it (either leaving it on a counter or putting it away in a refrigerator), or whether they give their meal away. A very small percentage said they gave their meals away every day, while a larger percentage reported giving their meals away once per week or less (Table 9). A large percentage, however, reported eating the meal in the same sitting every day. Many recipients also store their food for later consumption: a little less than 20% keep the food on the counter every day, while about 34% put the food in the refrigerator. Leaving food on the counter is potential a safety issue if the food is left for too long a period.

Table 9 also shows how recipients' eating behavior differs with whether they receive hot meals. Recipients not receiving hot meals received frozen meals during the weekdays. Those

who do not receive hot meals are less likely to put food on the counter compared to the recipients who do receive hot meals (Table 9). While 47.5% of those who receive hot meals never put food on the counter, 61.4% of those who do not receive hot meals never put food on the counter ($p < .001$). More recipients who receive nonhot meals put food away in their refrigerator compared to recipients who receive hot meals ($p < .049$). The use of the microwave to reheat meals is higher when recipients receive nonhot meals compared to when recipients receive hot meals ($p < .007$). Giving away meals and eating all the meal in the same seating are similar for both types of meal received ($p < .286$ and $p < .367$, respectively).

When food needs to be reheated, half the recipients use microwaves, and about a quarter of them use the stove (Table 10). About 11% throw away leftover food, while 16% save the food to eat later on the same day, and 7.8% save it to eat later in the week (Table 11).

USE OF BOXED FOOD

Because many local meal centers are closed for holiday observances, Meals-on-Wheels provides canned and boxed meals to homebound recipients. Each holiday food box is filled with staple foods (tuna, canned chicken, and shelf-stable milk) and treats (cookies, crackers, and juices). Almost all the recipients (97.5%) reported receiving boxes, and 82.5% reported being able to open them (Table 12). Recipients unable to open boxes have family members, neighbors, meal deliverers, or other people open them. About half the recipients eat boxed foods all the time, and about a third eat boxed foods most of the time (Table 13). There is general consensus that boxed foods are useful, with over 95% of the recipients who received them reporting them to be useful *at least* some of the time. Most often, when boxed foods are not eaten, it is because a recipient does not like the food provided; sometimes the recipient does not like the canned foods that are provided, and at other times, they have enough food so that the boxed foods are not necessary (Table 14).

INTERACTION WITH DELIVERER AND AGENCY

The Administration on Aging of the U.S. Department of Health and Human Services, which heads the national Meals-on-Wheels program, encourages deliverers to interact with the elders. Almost 90% of the recipients physically see the deliverer most of the time, and about 47% of the recipients chat with the deliverer most of the time (Table 15). Hispanics (84.1%) were slightly less likely to see the deliverer most of the time than were Whites (88.2%) or Blacks (89.8%) ($p < .054$). Of those who do not chat with the deliverer, about 60% say it is because the deliverer is in a hurry (Table 16). Sometimes, recipients are physically unable to answer the door when the deliverers come, so the home attendant or another caretaker takes the meals. Nearly all recipients (96%) reported being satisfied with the friendliness and service of the deliverer most of the time.

Of all the recipients, 87.5% know how to contact the meal provider agency, but almost two-thirds have never called the agency with concerns (Table 17). Whites (39.5%) were slightly more likely to contact the agency than Blacks (27.2%) or Hispanics (31.8%) ($p < .01$). Of those who do call the agency, around 85% said that the agency both listens to the recipient's concerns and is responsive most of the time (Table 18).

SATISFACTION WITH MEALS

A majority of the recipients report satisfaction most of the time with the Meals-on-Wheels program in terms of a meal's taste, variety, ease of preparation, and healthfulness as well as with the meal's meeting religious or cultural needs (Table 19). Regarding the taste and the variety of foods especially, the responses are very nearly the same. While almost half the recipients reported that most of the time it was important for them to choose the food they eat every day (see Table 20), 65.4% of the recipients reported that Meals-on-Wheels does not allow them to choose their own foods. There were no ethnic differences in the reporting of importance of choosing foods.

We constructed a continuous composite score for satisfaction by combining information from the six questions about satisfaction listed in Table 19. The Satisfaction Composite Score could theoretically go from 0 (meaning not at all satisfied) to 100 (meaning satisfied most of the time on all questions). The mean satisfaction score was very high at 87.9. Although the minimum score found was 0, only 5.0% had a score of 50 or less, and 18.1% had a score between 51 and 80. About one-third (31.3%) had a score between 81 and 99, and 45.4% had the maximum score of 100. There were only slight differences in the satisfaction score with ethnicity ($p < .075$), with 87.9 for Whites, 89.1 for Blacks, and 85.3 for Hispanics.

SATISFACTION WITH FOOD PACKAGING AND LABELS

Recipients were asked about their satisfaction with the packaging and labeling of the meals received. Most recipients (87.1%) indicated that they were satisfied with the packaging of the food "most of the time." Almost one-third (30.4%) said that they would like to see improvements made to the food packages. These respondents specified that tighter-fitting lids (32.2%), microwave-safe material (28.7%), and making packages easier to open (24.3%) were the most important packaging improvements needed. Other responses were color coding and/or Braille for the visually impaired (7.8%), oven-safe material (4.3%), and toaster-oven safe material (2.6%).

Sixty-percent of the recipients said that food labels are affixed to their food packages. Of these respondents, 86.1% stated that they were satisfied with the labeling of the food packages "most of the time." One-quarter (25.4%) said that they would like to see improvements made to the food labels. Using larger font for the labels was overwhelmingly the most common response (66.7%) for the most important food label improvement, with 27.0% reporting more nutritional information and 6.3% reporting Braille or tactile food labels.

FOOD ACQUISITION

Recipients were asked about their grocery shopping habits to understand the role of food acquisition in their lives. While 44.1% said that they go grocery shopping on their own, 49.2% indicated that someone else buys their groceries for them. Most commonly, the person buying the groceries for them is a relative (40.8%) or home attendant (39.9%); 6.7% have their groceries delivered, all from a local grocery store. Of the 44.1% who do their own

grocery shopping, the majority either walk or run to the store (67.6%) and carry their own groceries from the store to the house (65.6%).

Recipients who responded that they do their own grocery shopping were also asked about specific buying habits. Many recipients (43.9%) buy fewer than 5 items at a time, while 31.1% buy 6 to 10 items and another 12.8% buy 11 to 15 items during one grocery store visit. Table 21 lists the products that the recipients reported buying on a regular basis.

MEAL DELIVERY

Recipients were asked a series of questions about their satisfaction with meal delivery times and how the time of meal delivery could better accommodate their schedules. The majority of recipients (82.1%) indicated that they were satisfied “most of the time” with the meal delivery time.

Based on the recipients’ responses, most (81.6%) of meal deliveries fall between 10:00 a.m. and 12:59 p.m.: 23.0% receive their meals between 10:00 a.m. and 10:59 a.m., 33.1% between 11:00 a.m. and 11:59 a.m., and 25.5% between noon and 12:59 p.m.; 6.2% were delivered before 10:00 a.m. and 12.1% after 12:59 p.m. Just over half the recipients indicated that they would prefer to eat the delivered meal at lunchtime, with 14.4% saying they would like to eat the delivered meal between 11:00 a.m. and 11:59 a.m., another 36.6% between noon and 12:59 p.m., and 13.9% between 1:00 p.m. and 1:59 p.m. Furthermore, 9.2% would like to eat the meal before 11:00 a.m., 3.8% between 2:00 p.m. and 4:59 p.m., 21.1% between 5:00 p.m. and 7:59 p.m., and 0.9% at 8:00 p.m. or later. Comparison of when meals were delivered and when they were preferred to be eaten revealed that most (87.3%) recipients were delivered the meal at or before the time that they preferred to eat it.

Recipients reported these times of day when lunch is eaten: 11.4% between 11:00 a.m. and 11:59 a.m., 55.6% between noon and 12:59 p.m., and 23.3% between 1:00 p.m. and 1:59 p.m. The distribution of recipients eating dinner was 35.1% between 5:00 p.m. and 5:59 p.m., 38.1% between 6:00 p.m. and 6:59 p.m., and 12.6% between 7:00 p.m. and 7:59 p.m., The majority of survey respondents (54.5%) indicated that they would like to receive the delivered meal less than 30 minutes before they eat it. We were not able to calculate with the available data what percentage of recipients achieved this.

MEAL VARIETY

The majority of recipients (70.0%) indicated that they were satisfied with the variety of the meals “most of the time,” and an additional 20.2% said that they were satisfied with the variety of the meals “some of the time.” When asked which ethnic foods they would be most interested in if offered, 16.4% said Italian, and 6.1% said Chinese, with less than 1% reporting each of Japanese, Mexican, Puerto Rican, and West Indian. About half the recipients expressed no preference if offered religious-or health-related foods. The religious-or health-related meals in which recipients expressed preference were kosher (21.3%), diabetic (15.2%), vegetarian (7.4%), specially prescribed therapeutic (2.9%), soft (2.7%), lactose free (2.5%), and foods for people with renal failure (0.4%).

Recipients were asked, “Because of your current health condition, has your doctor recommended that you eat any of following foods?” About half or more of recipients reported that their doctor recommended fruits/vegetables, low sodium, low fat, low cholesterol, and low sugar (Table 22).

OPEN-ENDED COMMENTS CONTRIBUTED BY RECIPIENTS

Recipients were asked to comment on any further thoughts or experiences with the program that they wanted to share and how they thought the program could be improved. Out of 1,505 total recipients, 942, or 62.6%, responded with additional comments regarding different aspects of the program, including delivery days and times, recent changes in the program, the effects on their health, packaging of foods, use of menus, and use of kitchen facilities. In terms of the meals themselves, recipients commented on taste, variety, portion sizes, and the labeling on the food.

Overwhelmingly, recipients appreciate the Meals-on-Wheels program; many were careful with their criticism because they were concerned about jeopardizing their receipt of the program. Often, recipients would suggest minor changes, usually in the menu, and then affirm that they appreciate the program: “Meals-on-Wheels is all right, but they send chicken all the time, and I’d like sausage or something like beef — but I am thankful that I get it. I just need a change sometimes. I don’t want to complain too much because I don’t want them to stop it.” Comments such as these were very common: “I am very grateful for Meals-on-Wheels, and I think it’s wonderful what they do to help people who are homebound and sick and can’t help themselves” and “Well, I have no problem with the program. They are very nice, and they deliver to my door, which is the most wonderful thing God could make because sometimes you can’t eat out and they bring you nice and hot food to your home. It’s wonderful.”

Meal Types

The comments provided further insight into recipients’ preferences for hot meals and nonhot meals. Although some recipients expressed interest and appreciation for nonhot meals, many recipients expressed apprehension and dissatisfaction with nonhot meals. Because frozen meals are often associated with food that is not fresh, many recipients associate the frozen meal with decreased quality and bad taste. For example, one recipient said, “The only thing is that I preferred the hot meals because it was a better taste, and those meals were cooked right there, and it was different,” or another recipient who said, “We did like the hot meals better when they made it from scratch. Before the frozen meals they made the meals from scratch, and that was much better.” In general, recipients said that the frozen food did not taste as good as the hot meals: “the frozen meal is horrible,” “I don’t want the frozen food,” or “I used to receive meals from the Y, and now meals are frozen coming from somewhere else and are awful tasting.”

One recipient distinguished the difference between frozen meals and hot meals by explaining that hot meals can be eaten right when they are delivered: “You’re bound to eat hot food right then, but frozen food is usually put away for later.” The kitchen facilities that are available seem to cause some of the frustration with the frozen meals: “My microwave

oven is broken, and I don't like the frozen foods and wish I were receiving hot foods daily as I used to" and "I don't like the frozen food, and I don't have a microwave oven." A couple of recipients reported that their physical disabilities prevented them from being able to use frozen meals: "I cannot handle the frozen dinners because I cannot read the directions. I am legally blind; I have to defrost the frozen dinners" or "I stay immobilized in my room all day. I want hot edible foods."

Some recipients were apprehensive about the prospect of a change in their customary daily hot meals and needed to get used to the idea of frozen meals: "I don't think that I would like to get frozen foods," "I just hope they don't implement the frozen thing," or "I surely do not want to receive frozen food daily."

On the other hand, recipients who appreciated the frozen meals valued the flexibility they offered: "The frozen meals are delivered twice a week, so I don't have to stay in the house waiting for the lady to come around" or "I'm delighted that I only get deliveries twice a week. I think it's great because I can make doctors appointments." Recipients also appreciated the packaging details of frozen foods because "it's neat and clean, much neater now that the program has gone to frozen foods." One recipient felt that the frozen meals would be better because hot meals make chewing difficult with dentures, and another recipient felt that frozen meals were more nutritious because "it's not overcooked" and "overcooking kills vitamins and minerals."

Eating Behavior

The comments showed that the method of reheating is related to the packaging of the meals. One recipient reported that when the meals were delivered in metal trays, the meals could be heated in the toaster oven, but when they switched to packaging the meals in plastic, the recipient was unable to use the toaster oven, making it difficult: "They used to deliver meals in metal trays, and then they changed to plastic; this makes it harder because I cannot put the plastic tray in the toaster oven, but previously I could put the metal tray in the toaster." Others preferred to use the microwave to reheat their meals and complained that the meals did not come in microwavable containers: "Something that I could put directly into a microwave instead of using metal pans. I would like to see a microwavable dish container" and "Meals in aluminum. I would like to see them in cardboard or microwavable material."

Use of Boxed Food

Other reasons included that recipients cited for not eating boxed foods were saving the boxes for emergency situations or saving it for later. Recipients felt that some boxed foods did not fit into their particular diets. For example, recipients who are diabetic and cannot eat foods with high sugar content, while others are allergic to certain foods. Because of their poor appetites, 10 recipients said that there was too much food in the boxes. Others had difficulty preparing the boxed foods for themselves because of cans that were too large for them to open or other problems. One recipient said that blindness prevented the reading of labels, and therefore the boxed food could not be eaten. Some recipients complained about the expiration dates on the foods that either food comes stale or that food gets old and has to

be thrown out. When boxed foods are not consumed, they are offered to guests, home attendants, or other people.

Interaction With Deliverer and Agency

In general, recipients reported high satisfaction with the deliverers in the open-ended comments. Praise such as “The people delivering meals are wonderful! They are very generous and nice” was common. Issues with delivery revolved more around delivery time rather than the deliverers. From the comments, 55 recipients were unhappy with the delivery time, while only 13 expressed satisfaction with the delivery time. It is often frustrating for recipients to set aside half a day or longer just for the purpose of receiving a lunch meal: “They come very late. I am tired of having to wait for them because a lot of the time by the time they get here a whole day is wasted.” At the very extreme, recipients were upset that lunch deliveries were being made at night: “They bring me the hot foods at different times from 9 a.m. to 8 p.m. As an elder, I cannot open the door at those hours because I must protect myself.” Some recipients are diabetic and therefore have strict mealtimes; these people are reliant on Meals-on-Wheels for punctual delivery. One person said, “They come too late, but if I can get it a little earlier in the morning because I’m a diabetic, that would be better.” Others wish that there was a consistent delivery time so as to be prepared to walk up or down the stairs: “The only complaint that I would have is that I wish I knew when they were coming; sometimes I am not expecting them, and it’s a pain for me to run downstairs.”

Recipients also expressed concern with the delivery days in addition to the delivery times. There were six recipients who reported that there have been times when they did not receive their meals at all: “Well they’re not always dependable. Every once in a while they don’t come, and today, for example, they’re not always complete” and “Meals-on-Wheels did not come today.” One recipient, in particular, said that he or she was supposed to receive meals seven days per week but was receiving meals only on the weekends: “I want to know why they stopped the meals 7 days a week. I only get them on the weekends.” Others requested that they receive meals on weekends and holidays, while one recipient requested three meals per day.

Satisfaction

The comments showed that many recipients believed that the Meals-on-Wheels program can be improved by improving the quality of the food, including the taste and the variety of meals offered. While 20 recipients reported that there was enough variety in the meals, 86 recipients reported that there was not enough variety. The comments also showed a close relationship between variety and taste: “I think the food can be more varied (I get kosher foods). It can have a little more taste. It seems to be the same thing over and over again” or “We should have more selection. More flavor in the food other than the tomato sauce! I have to wash out the food, and the food is bland. More variety.”

This issue of variety and taste seems to accompany the issue of selection. Recipients value their role in choosing what they eat, which in turn affects the variety and taste of their meals. This is demonstrated through both the quantitative analysis and the open-ended comments. The same recipient who made the previous comments about flavor and variety also said,

“They should change menus, give us a menu where we can choose our own.” Furthermore, in the comments, some recipients who were satisfied with the program listed the ability to choose their own foods through the use of a menu as one of the reasons for their satisfaction: “I really have no complaints. Services are good, we get a menu, driver is also good.” Providing a menu, however, is not enough. Of those who do receive menus, some recipients reported that there was little adherence to the menus: “They used to give us a menu, but they don’t follow it” or “They list soup on the menu for Friday, but they do not deliver the soup.” Therefore, recipients feel that it is important not only for recipients to have a choice in the foods they eat but also for the program to provide that choice.

In terms of ease of preparation, recipients expressed concern with the packaging of the meals. Meal containers were neither toaster-oven proof or microwave proof. One recipient expressed concern about the safety of plastic wrappers: “If they would do away with those plastic wrappers, that would please me greatly. As you get older, your coordination isn’t the best, you could get burned.” Another recipient suggested using containers designed for those with visual impairments: “I would like to see a color coding on the emergency boxes, especially for me who is visually impaired.” Many of these recipients reaffirmed the importance they placed on receiving hot meals: “Some people are not able — I mean when you get the meals you have to get up and put it in the oven, and some people can’t even do it. But in all it’s nice when the food comes hot like it did before. It’s not as easy to cook it as when it came hot. It’s inconvenient.”

How well the meal was packaged was also of concern to recipients. Meals that have too much sauce or water result in spills, which upset recipients. If lids are not tightly placed, more spills are likely. Recipients also reported that by the time they receive their sandwiches, the bread is often soaked. They request that better containers be used: “Improve the containers in which the food comes in.” About 42 recipients said that the program could be improved if packaging was improved.

Recipients suggested that the food portion was another aspect that could use improvement. About 36 recipients reported that the meals could be larger, specifically that the main course could be larger.

There were recipients who reported that they were receiving foods to which they are allergic and thus felt that it was a waste of food: “I am allergic to fish. Please stop sending me fish. It makes me sick” or “I’m allergic to the milk. I hate to throw it out, I really do. I have no one to give it to. I put it in the freezer. I wish I could get the Lactaid milk.” As a way of solving this issue, a few recipients suggested finding out a recipient’s medical problems before supplying meals and catering meals toward different health diets.

Diabetes, cardiovascular disease, and cancer were some of the reported illnesses that affected what the recipients ate. There were 43 recipients who said that the meals came with too much salt, which also affected their health. Many of the diabetic recipients felt that it was unnecessary for them to receive sugar-rich foods: “I’m a borderline diabetic, and I don’t eat sugar and starch. When they send a meal, the Y should note that the food contains

sugar. Meals are very heavy on starch. Should not be sending diabetics sugar cookies. They should be sending sugarless cookies and sugarless cake.”

Recipients appreciated foods being labeled so that they could decide whether the food was appropriate for their health: “I appreciate the labeling of the foods.” Sometimes, however, recipients cannot tell the type of meat that is used in a meal or the method of preparation and therefore cannot judge whether they can eat the meal.

Thirty-two recipients expressed nostalgia for traditional foods. Some recipients expressed interest in Chinese, Latino, Italian, Japanese, and West Indian foods, while others wanted vegetarian options. Many recipients enjoy having a kosher meal option. One person said, “The new ethnic meals I could do without.” It seems that a menu would also serve to cater to recipients’ dietary preferences.

There were many positive comments about the role of Meals-on-Wheels. Even when criticizing the program, recipients expressed gratitude for its services. In fact, there were 223 recipients who expressed only positive comments about the Meals-on-Wheels program.

FACTORS PREDICTING SATISFACTION WITH HOME-DELIVERED MEALS

Regression analyses were undertaken to determine factors that are related to satisfaction with the meals. For these analyses, the satisfaction composite score was used. This variable was scored such that it could theoretically go from 0 (meaning not at all satisfied) to 100 (meaning satisfied most of the time on all questions). Table 23 lists the factors considered in these analyses as possible predictors of satisfaction. The model that resulted from these analyses is reported.

Several models were run, considering New York City as a whole, not explicitly accounting for borough. Adjustments for the complex survey were therefore required. Formal support variables were not considered, except for benefits (Supplemental Security Income, Food Stamps, and Medicaid), which was not important. Other variables were examined and not included further if found not to be important.

One of the models is reported in Table 24. The results from this model and others that were run indicated that people who were more satisfied were those who were characterized as follows:

- Without hearing problems
- Receiving hot meals
- Food secure
- More frail
- In better emotional mental health
- With informal social support
- For whom religion was more important

Receiving hot meals was the strongest predictor of satisfaction, with food insecurity the second-strongest predictor. The mental health scale was significant in other models until the informal support variables were added to the model because the mental health scale was associated with informal social support.

CONCLUSIONS FROM PART II

This section highlights the major conclusions from part II of this report.

1. Recipients who wish to reheat delivered meals can theoretically use an oven, a toaster oven, or a microwave. For each of these devices, about two-thirds of recipients both had the device and were comfortable using it.
2. Recipients consumed fruit and vegetables infrequently compared to recommendations, with three-quarters consuming fruit not at all or once per day and four-fifths consuming vegetables not at all or once per day.
3. One-fifth of recipients had at least one indicator of food insecurity, much higher than the 6.5% of households with an elderly person having food insecurity in the United States reported by the U.S. Department of Agriculture for 2004.
4. More than one-third of recipients were enrolled in Meals-on-Wheels for 1 year or less. Another one-quarter were enrolled between 1 and 2 years.
5. Most recipients (91%) received hot meals. About half (54%) received frozen meals, and half (50%) received chilled meals.
6. About one-fifth of recipients keep delivered food on the counter every day, which potentially raises food safety concerns. When food needs to be reheated, half of recipients use a microwave.
7. Almost all recipients reported receiving holiday boxes of food. Most of them use at least some of the food.
8. About 90% of recipients physically see the deliverer most of the time, and about half of recipients chat with the deliverer most of the time. Almost 90% of recipients know how to contact the meal provider agency, and about one-third of them have called the agency.
9. Recipients not receiving a hot meal were less satisfied with the program than those receiving a hot meal. This was the strongest predictor of satisfaction. About half of the association of receiving hot meals with satisfaction was accounted for by borough-to-borough differences, with much of the explanation for this being the transitions in service delivery that were occurring in the fall and winter of 2004–2005.
10. Recipients who were more satisfied with Meals-on-Wheels were those who were without hearing problems, receiving hot meals, food secure, more frail, in better emotional mental health, and with informal social support and for whom religion was more important. This is consistent with the idea that recipients are more satisfied if they are frail and in need of the program, food secure while receiving

the program, and in good emotional mental health and with informal support and have religion as an important part of their life.

TABLE 1

Facilities and Use of Facilities for Food Preparation

Facilities	Have Facilities (%)	Ease With Use of Facilities (%)
Refrigerator	99.9	N/A
Freezer	96.9	N/A
Oven	96.7	68.8
Microwave	69.5	93.3
Toaster oven	61.1	93.8

Note. N/A = not applicable.

TABLE 2

Consumption of Non-Meals-on-Wheels Meals per Day

Number of Non-Meals-on-Wheels Meals per Day	%
None	13.6
1	43.3
2	41.0
2	1.8
4+	0.2

TABLE 3

Preparation of and Purchasing Non–Meals-on-Wheels Meals

	Preparer of Non–Meals-on-Wheels meals (%)	Shopper for Non–Meals-on-Wheels Food (%)
You	66.2	35.8
Spouse	3.6	4.3
Relative	12.0	28.1
Friend	1.3	3.6
Neighbor	0.8	4.1
Home attendant	11.3	19.6
Other (specify)	4.9	4.5

TABLE 4

Fruit, Vegetable, and Milk Consumption as Measured by Number of Times per Day

Number of Times per Day	Fruit (%)	Vegetables (%)	Milk (%)
0	20.2	15.0	13.8
1	54.5	65.6	50.1
2	19.3	16.5	23.7
3	5.7	2.4	10.1
4+	0.3	0.5	2.2

TABLE 5

Food Insecurity

Affording Food in the Past 4 Weeks	%
Cannot afford right foods	18.2
Cannot afford enough food	11.0
Hungry because cannot afford food	3.8

TABLE 6

Financial Situation

Financial Situation	%
I/we really cannot make ends meet	5.5
I/we just about manage to get by	47.1
I/we have enough to get along and even have a little extra	13.7
Money is not a problem, I/we can buy pretty much anything I/we want	33.7

TABLE 7

Duration of Enrollment in Meals-on-Wheels Program

Enrollment in Years	%
0-1	36.8
1-2	24.1
2-3	21.4
3+	17.7

TABLE 8

Types of Meals Received

	White (%)	Black (%)	Hispanic (%)	Total (%)
Receive hot meals	92.4	90.3	81.4	90.6
Receive frozen meals	51.7	54.1	67.4	54.1
Receive chilled meals	49.0	48.9	54.8	49.6

TABLE 9

Frequency of Recipients' Eating Behavior With Regard to Receipt of Hot Meals

	Put Food on Counter (%)		Put Food in Fridge (%)		Give Meal Away (%)		Eat All in Same Sitting (%)	
	Total	Hot Meals? Yes No	Total	Hot Meals? Yes No	Total	Hot Meals? Yes No	Total	Hot Meals? Yes No
Every day	18.5	19.3 10.7	33.7 33.1	39.9 39.9	1.8 1.9	0.7 0.7	60.6 60.6	61.2 61.2
4-6 times per week	5.2	5.3 4.1	6.3 6.4	4.9 4.9	0.6 0.6	0.3 0.3	14.3 14.3	12.1 12.1
2-3 times per week	15.0	15.0 15.6	24.9 24.6	27.7 27.7	4.0 4.0	4.6 4.6	14.6 14.6	12.5 12.5
1 time per week or less	12.6	13.0 8.2	13.5 14.2	7.3 7.3	13.9 13.6	16.8 16.8	3.3 3.3	3.5 3.5
Never	48.8	47.5 61.4	21.5 21.7	20.3 20.3	79.9 79.9	77.6 77.6	7.0 7.0	10.6 10.6

TABLE 10

How Meals Are Reheated by All Recipients and as Divided Between Those Who Do and Do Not Receive Hot Meals

Method of Reheating	Total (%)	Receive Hot Meals	
		Yes	No
Do not reheat	3.5	3.6	2.7
Leave out (bring to room temperature)	0.2	0.2	0.2
Use microwave	50.9	49.6	63.7
Use stove	25.9	26.6	18.9
Use toaster oven	9.9	10.6	3.9
Other (specify)	9.6	9.5	10.6

TABLE 11

The Use of Leftovers

What Happens to Leftovers?	%
Throw it away	10.5
Save to eat later the same day	16.0
Save to eat later in the week	7.8
Save to eat later more than 1 week in the future	0.1
Someone else eats it	3.7
Other (specify)	1.8
No leftovers	60.1

TABLE 12

Use of Boxed Foods

Who Opens the Box?	%
Member of family	36.2
Neighbor	17.5
Meal deliverer	1.8
Someone else	43.6
I have no one to open it for me	0.9

TABLE 13

Usefulness and Consumption of Boxed Foods

	Find Boxed Foods Useful (%)	Eat Boxed Foods (%)
All of the time	0.0	46.2
Most of the time	83.4	33.8
Some of the time	12.7	15.6
Only occasionally	2.9	3.7
Not at all	1.0	0.7

TABLE 14

Why Boxed Foods Are Not Eaten

Why Boxed Foods Not Eaten	%
Do not like canned food	16.0
Do not like food provided	38.7
Have enough food	20.6
Cannot open packaging	4.3
Others need it more	6.5
Other reason	24.6

TABLE 15

Interaction With Deliverer

	Physically See Deliverer (%)	Chat With Deliverer (%)
Most of the time	88.2	47.2
Some of the time	5.4	16.0
Only occasionally	3.0	16.0
Not at all	3.5	20.8

TABLE 16

Reasons for Not Chatting With Deliverer

Why Not Chatting	%
Deliverer speaks different language	13.1
Deliverer in a hurry	59.8
Deliverer not friendly	1.0
No desire to talk to deliverer	8.2
Nothing to talk about	21.7
Other reason	16.2

TABLE 17

Interaction With Agency

Contact Agency With Issues	%
No, I never call them	64.6
Yes, I call them once every few months	26.6
Yes, I call at least once per month	7.2
Yes, I call at least once per week	1.6

TABLE 18

Response of Agency

	Does Agency Listen? (%)	Is Agency Responsive? (%)
Most of the time	86.5	84.3
Some of the time	4.9	5.4
Only occasionally	5.1	4.4
Not at all	3.6	5.9

TABLE 19

Satisfaction With Meals-on-Wheels Meals

	Taste (%)	Variety (%)	Ease of Preparation (%)	Right for Health (%)	Fit Religious/ Cultural Needs (%)	Overall Satisfaction With Meals-on-Wheels (%)
Most of the time	69.1	67	82.5	72.3	83.5	77.1
Some of the time	21.3	23.3	11.3	17.8	8.3	16.4
Only occasionally	6.8	7.0	3.8	6.9	2.4	4.9
Not at all	2.7	2.7	2.4	3.0	5.9	1.7

TABLE 20

Importance of Choosing Foods

Importance of Choosing Foods	%
Most of the time	47.1
Some of the time	25.0
Only occasionally	8.6
Not at all	19.3

TABLE 21

Items Regularly Bought While Grocery Shopping

Product Bought on a Regular Basis	%
Fruit	76.0
Other dairy products	75.6
Bread	72.4
Vegetables	65.0
Other grain products	64.2
Juice	56.7
Other beverages	56.2
Bakery items	52.3
Poultry	49.8
Milk	43.1
Seafood	39.6
Candy	38.7
Red meat	28.6
Alcoholic beverages	7.8

TABLE 22

Foods Recommended by Doctors for Recipients' Health Conditions

Foods Recommended by Recipients' Doctors	%
Fruits/vegetables	72.4
Low sodium	64.2
Low fat	59.6
Low cholesterol	58.2
Low sugar	47.6
Lactose free	19.2
Low potassium	18.7
Soft or pureed	11.0

TABLE 23

Factors Considered as Possible Predictors of Satisfaction With Home-Delivered Meals

	Type of Variable		
	Continuous	Nominal	Ordinal
Demographics			
Ethnicity		3	
Gender		2	
Age			4
Marital status		4	
Living alone		2	
Education			5
Financial status and food insecurity			
Financial status			4
Food insecurity			2
Health and frailty			
Frailty scale	12 physical function items		
Mental health score	K6 scale from 4 items		
Problems with vision			4
Problems with hearing			4
Informal support			
How often talk with children			2
How often see relatives			2
How often talk with friends			2
Have someone to talk to			2
Have someone to give extra help			2
Formal support			
Nine variables considered separately			2 each
Benefits and entitlements			
Benefits (Supplemental Security Income [SSI], food stamps, Medicaid)	Number		
Entitlements (except for SSI, food stamps, Medicaid) as separate variables			2 each
Religion			
How important			4
Frequency attending			8
Program			
Receipt of hot meals			2
Duration of enrollment	Years		

TABLE 24

Results of Regression Analysis Predicting Overall Satisfaction Composite Score

Parameter	Estimate	Standard Error	Hypothesis Test		
			t	df	Significance
(Intercept)	92.715	5.233	17.717	1,500	.000
Married	-1.211	2.223	.545	1,500	.586
Divorce/separated	1.302	1.965	-.663	1,500	.508
Widowed	1.003	1.754	-.572	1,500	.567
Never married (reference)					
Hearing problem most times	1.682	1.420	-1.185	1,500	.236
Hearing problem sometimes	.494	1.236	-.399	1,500	.690
Hearing problem occasionally	3.366	1.279	-2.632	1,500	.009
No hearing problem (reference)					
Not received hot meal	-9.682	1.515	6.392	1,500	.000
Live with others	1.021	1.166	-.875	1,500	.382
Food insecurity	-5.665	1.308	4.332	1,500	.000
Frailty	.123	.075	-1.639	1,500	.101
Emotional mental health	-.111	.142	.784	1,500	.433
Talk with children every day or week	1.278	1.018	-1.255	1,500	.210
See relatives every day or week	1.360	1.084	-1.254	1,500	.210
Have someone to talk to most of time	2.204	1.222	-1.803	1,500	.072
Have someone to give help most of time	2.691	1.054	-2.553	1,500	.011
More importance of religion	1.467	.598	2.455	1,500	.014
Frequency attending services	-.240	.206	1.164	1,500	.245