Improving the Flow of Information at Meals on Wheels

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Executive Summary

Meals on Wheels is a non-profit organization seeking to improve the quality of life for home-bound individuals in the Ann Arbor area by delivering meals to them daily. Clients sign up for meal delivery with the Meals on Wheels office, and the office staff members coordinate with staff in the University of Michigan Hospital Kitchen to ensure that the proper number and type of meals are prepared. Meals packed in coolers are driven from the kitchen to the office every day, where about twenty volunteers arrive to pick up these coolers to take them on different routes throughout Ann Arbor.

The MOW WOW All-Stars were tasked with streamlining the Meals on Wheels process of meal creation and delivery. This is quite complex given the physical separation of the office and kitchen and the geographically dispersed nature of the clients. We also hoped to make recommendations for improvements that would specifically facilitate Meals on Wheels implementing greater meal choice for their clients. To collect data, we interviewed six people associated in different capacities with Meals on Wheels and conducted two observation sessions. After each of these sessions, we held interpretation sessions to examine our data as a group from different perspectives. We looked at the cultural aspects of the process, the communication flows, and the information carriers (forms and calendars) used to support the process.

Information flow for the process of meal creation and delivery is driven by a constant remote exchange of information captured in a variety of forms and calendars. Given the physical separation of the office and kitchen, much of the coordinating communication takes place through faxed forms rather than face-to-face interactions. The office, responsible for coordinating volunteers, posts a number of calendars and forms on the walls, on counter tops, or in baskets which convey critical route and meal information to these volunteers. We were struck by the great importance of forms and calendars to the successful operations of Meals on Wheels as a whole, and we saw some of these as an area for improvement.

Our key findings were supported by data collected in interviews and observations and later modeled with particular themes in mind (cultural, communication, and information carriers). Below is a summary of the findings that require attention and recommendations to address them.

Finding: Meal tray and cooler packing can be inconsistent and inefficient in the kitchen.
Recommendation: Develop a consistent meal tray and cooler packing protocol and display this prominently in the kitchen and in coolers. In the long-term, develop a consistent color coding system for labeling trays by meal type.

Finding: Communication between the office and kitchen is remote and can be confusing.
Recommendation: Make layout and format improvements to form faxed daily from the office to the kitchen to improve its usability. In the long-term, find a time to have face-to-face interactions with both kitchen and office staff.

Finding: Communications and tracking methods between the office and volunteers can be simplified and streamlined.
Recommendation: Consolidate redundant forms and calendars, where possible, and improve the usability of the main calendar referred to by volunteers.
Background

Meals on Wheels is a non-profit organization dedicated to delivering meals to home-bound individuals in the Ann Arbor area. The organization works to maintain the dignity of the home-bound by providing them with nutritious meals that they would be unable to make for themselves. In general, Meals on Wheels is very organized, and they envision and work towards achieving both their long-term as well as short-term goals. The Meals on Wheels annual report includes a list of strategic goals that the firm wishes to achieve during the fiscal year 2010-2012. The two important goals which concern our project are making the currently running model more streamlined and efficient and increasing the number of meal choices available to the clients. Our recommendations in the sections below take into account these goals of Meals on Wheels.

Our project focus was, primarily, to document and analyze the meal creation and delivery process at Meals on Wheels, discover inefficiencies in the process and make recommendations about them. However, we also sought to address any issues which would make increasing meal choice more difficult for the organization.

To operate, the organization must be both a tiny and fairly large organization at once. Seven paid employees operate out of a main office, and three paid employees work out of the University of Michigan Hospital Kitchen. Most of these employees work only part-time, and so coordinating schedules between all the employees is a challenge. Despite the small number of full-time equivalent staff members, Meals on Wheels manages to oversee about 450 volunteers and successfully deliver over 100,000 meals annually.

The process for meal creation and delivery is fairly straightforward. Meals created in the kitchen are packed in coolers and brought daily to the office where volunteers congregate to pick up the coolers and deliver individual meals to clients. The office and the kitchen are separated by several miles, and so the success of the process relies on written communication between the office and kitchen. In addition, the process is also highly scheduled, with certain activities happening at the same time every morning to ensure that meals are delivered to clients daily by around noon. Meals on Wheels groups clients by route and the organization has created seventeen different routes around Ann Arbor. Volunteers deliver the meals on these routes by themselves or in pairs. Deliveries take place Monday through Saturday, and clients may elect to receive an extra cold meal on Saturdays for Sunday.

As mentioned above, the process of meal creation is greatly facilitated by several forms sent between the kitchen and the office. While Meals on Wheels wants to introduce more meal choice into their menu in the coming months, they are already dealing with some level of choice as they provide regular meals, diabetic meals, kosher and liquid meals. The forms sent between the office and the kitchen help clarify to the kitchen what exactly is needed the next day. In addition, the office has some other forms that are critical to the efficiency of the meal delivery process. These forms allow office staff members to keep track of which volunteers are delivering meals on what routes and what routes are not yet filled.

This report addresses several aspects of the current process of meal creation and delivery that can be improved. Our goal is to document the current process and to point out its strengths and
weaknesses. Our major findings concern issues in cooler packing, communication between the organization’s two offices, and the communication between staff members and volunteers. We present these findings here, along with some recommendations to help Meals on Wheels capitalize on its strengths and mitigate weaknesses. We paid particular attention to areas of the process which would be strained when the organization starts to implement greater meal choice into their meal creation and delivery process. The recommendations we have made here will be important to address and incorporate as the organization moves forward in its plan to roll out these new and better services to their clients.

**Methodology**

*Data Collection*

The MOW-WOW All Stars collected data from Meals on Wheels through an initial kick-off meeting, six interviews, and two observations. The kick-off meeting served to orient the group to Meals on Wheels and the basic outline of the process we planned to study. We learned about the organizational structure of Meals on Wheels, which helped us choose which employees and volunteers would be best to interview. The interviews we conducted were our primary source of information regarding the meal packing and delivery process. After our kickoff meeting we realized it would be critical to interview people from all different perspectives within the organization to gain a more coherent understanding of the entire process and so we interviewed office staff, kitchen staff, and volunteers.

We picked interviewees who were diverse in their job functions. In the office we spoke with the person who oversaw all volunteer activities. This person is critical to the process of ensuring all routes are covered by at least one volunteer and that no routes are double-booked with two sets of volunteers. In the kitchen, we spoke with three staff members each in charge of different aspects of meal preparation. These people have to determine how many of what kinds of meals to make and in what coolers to place the meals. By speaking with these staff members we could start to see inefficiencies in the creation and packing part of the process. Finally, we decided to speak with two volunteers, one experienced and one inexperienced, to try to understand what confuses them about the process. In addition, we observed activities both in the kitchen and the office to see how the process worked in real time.

*Data Analysis*

During our interviews and observations, we took detailed notes, and these formed the basis of our data analysis. After each interview or observation we spent time interpreting our notes to analyze the work processes described. During these sessions we also generated several different conceptual models of the data we had collected. These models described the communication flow, the sequence of tasks done, the culture, and the efficacy of documents used in the process. We created these models for each individual interview or observation, and after completing all the interviews and observations, we consolidated individual models of the same kind to discover broader patterns and insights.

During our interpretation sessions, our group also created “affinity notes,” which are special notes on the most relevant and helpful data collected during the interviews and observations. We then created an “affinity wall” by organizing these notes into main categories and subcategories. This process helped us identify patterns and inefficiencies across the whole work process and
launched our brainstorming sessions on key recommendations that might address some of the breakdowns in the process.

**Key Findings & Recommendations**

**Finding 1: Packing can be Inconsistent and Inefficient**

*Evidence*

Our first major finding was that there can be inconsistencies in packing meal trays and coolers. Immediately prior to being packed into the coolers, meal trays are assembled: soups and hot meals are stacked on a table by one staff member, while another places them in coolers in layers. The meal trays are packed as quickly as possible, without following a protocol, and different staff members stack the meals in different ways, which sometimes causes miscounting. For example, when the Kitchen Supervisor was assisted by another person in stacking meal trays on the table before packing them into the coolers, the layers did not have consistent numbers of meals. This inconsistency was confirmed by a volunteer, who stated, “The meals in the red coolers are very hard to count as they are in multiple layers and there is no fixed number of meals in each layer.”

In addition, we observed that while the trays have labels that indicate on which day meals are sent, these labels do not help volunteers differentiate the kind of the meal it is, or on which route it is supposed to be delivered. We observed this weakness in our observation session conducted at the Meals on Wheels office and during our kick-off meeting.

**Short-Term Recommendations**

Meals on Wheels should develop a consistent packing protocol to help the Kitchen Supervisor pack the trays in the coolers. These protocols should be well defined, printed, and posted on the wall or the table where the coolers are packed. In addition to simply having the written protocols, staff members must be trained about them so that they get used to following it while stacking the meals on the table. Also, we recommend the creation of a diagram, to be posted on the wall, which shows how to stack meals on the table (prior to going into the coolers) for the kitchen staff. We have provided an example of a possible packing protocol in Appendix E.

Furthermore, we suggest adding diagrams to assist in cooler packing. First, a diagram can be placed on the underside of each cooler’s lid to depict the layout of each layer. This will assist the kitchen staff in packing coolers and make it easier for volunteers to check whether their cooler has been packed correctly. Also, horizontal lines can be drawn inside the cooler to help volunteers visualize and count layers, which will make the counting process easier and faster. We have provided an example diagram which could be adhered to the underside of the cooler lid in Appendix F.

**Long-Term Recommendations**

Devise a consistent color coding system for labeling trays. This system will play a key role when attempting to implement additional meal choices. Colors will need to be consistent over all forms and labels to make their association with each meal type completely clear. For example, meal totals on the “Kitchen Requirements by Route” form should be color-coded to
increase the association between colors and respective meal types. Labels should be heat tolerant so that re-heating of the meals is possible without affecting the stickers.

**Finding 2: Communication Between the Office and Kitchen is Difficult**

*Evidence*
Communication between the office and kitchen is critical to the success of the process, but the main form sent between the two areas, the Kitchen Requirements by Route form, is very confusing. This form, diagrammed along with other crucial forms in Appendix C, lists the number of meals needed from the kitchen for each route. It is created by the office staff and faxed daily to the kitchen staff. We noticed that the form contains a lot of tightly packed information, which makes it difficult to quickly read. This was confirmed when we observed kitchen staff mark the form with highlighter or cover portions of it with their hands to make it easier to read. We heard that sometimes, when a few regular kitchen employees were absent, the kitchen sent fewer than requested extra meals. Improvements to the Kitchen Requirements by Route form may allow the kitchen to more easily understand what needs to be packed and sent to the office.

Another issue related to this topic is the frequency and methods of communication between the kitchen and office. Communication between the two office locations is modeled in Appendix D. The distance between the offices and the availability of staff members make regular, face-to-face communication difficult, but we were told that the two offices hold a monthly phone conference as an attempt to make up for this. As a result of the lack of face-to-face communication, coordination between the office and kitchen appears to be difficult. For example, we heard both office and kitchen staff mentioning that they would like to add additional meal options and had some ideas for accomplishing this, but it did not appear that either side was aware that the other was willing to try or had ideas about how to implement these changes.

*Short-Term Recommendations*
To make the Kitchen Requirements by Route form easier to use, we recommend a few simple changes to the form’s design. The form should include grid lines dividing the rows and columns and that every other column should be shaded gray. This will make it easier for the staff to quickly and accurately read the contents of a column. In addition, some rows can be changed or added to make the form easier to use. The “diabetic” data, for example, should be moved to the “Cold Meals” section to reflect the fact that cold meals, and not hot meals, are diabetic. Also, staff members currently refer to the number of hot meals to determine how many cold meals need to be prepared. To make the form more clear, we suggest a list of the four meal types: hot meals, cold meals, diabetic meals, and cold bags. Meal totals can be moved to the bottom of the form. An example of this is provided in Appendix H.

*Long-Term Recommendations*
In the long term, if Meals on Wheels decides to add additional meal options, we recommend that rows on the form should be color-coded using the same scheme as in packing. For example, diabetic meal numbers should be colored green to correspond to their green labels. This will make it easier to visualize the number of meals required for each meal type. However, this will
require the form to be delivered through some other method, as the fax machine cannot support color. Therefore, we recommend that the Metro Van delivery driver should take the form back to the kitchen after he makes his delivery each day, and a fax could still be sent as a backup method.

To increase the effectiveness of communication and long-term coordination between the office and kitchen, we recommend that at least every six months, employees should have a face-to-face group meeting, which will be alternately held at the office and the kitchen. These meetings will allow employees to become more familiar with the daily operations of each work zone, and the increased face-to-face communication will allow for more effective coordination on long-term strategies such as the implementation of new meal choices.

**Finding 3: Communications and Tracking Methods between the Office & Volunteers can be Simplified & Streamlined**

**Evidence**

Three different forms are used to record and update information related to tracking volunteers and route substitutions, each of which are noted in the communication model found in Appendix D. These include (1) clipboard sheets, used by volunteers to sign-up for substitute routes or by the office staff to sign-up on behalf of a volunteer; (2) the consolidated empty route sheet, updated at the end of every day to keep information about substitutes on the computer system and keep a track of the empty routes; and (3) the monthly calendar, updated based on the consolidated empty route sheet at the end of the day. Because the information is recorded by hand in multiple locations, it can lead to duplication or loss of information. For example, in an interview, the Volunteer Coordinator mentioned that she or her co-workers occasionally forget to update all the three artifacts used for reporting route-substitutes. This leads of doubling up of volunteers for a particular route. She mentioned that it is crucial to update information on all the three artifacts to avoid doubling-ups or no-shows for routes.

Mainly errors occur when –

- A volunteer requests a route substitution and the information is updated on the calendar and/or the empty route sheet but not the clipboard sheet. In this case, another volunteer may fill up the clipboard sheet for the same route leading to a “doubling up” on the route.
- Information on the calendar is not updated based on the information collected during the day in the consolidated empty route sheet and/or the clipboard sheets. Then the calendar is used to contact volunteers for route substitution. This will again lead to “doubling up.”
- A volunteer cancels a substitution on the clipboard sheet, and this information does not get updated on the calendar or consolidated empty route sheet. In this case, the route may never be filled and a staff member would go on the route to cover it.

Another, similar, issue for the office is that three different forms are used to indicate the presence of a diabetic meal for office staff and volunteers: (1) a monthly menu posted on the wall adjacent to the monthly calendar uses green stickers pasted above a day to indicate a diabetic day; (2) a client sheet, present in the basket used by volunteers which provides a list of all the clients who
are to be delivered meal that day and information about what type of meal (regular, kosher, or diabetic) is to be delivered that day; and (3) a yellow tag attached to the black bags delivered from the kitchen, which gives a count of the number of diabetic meals, if any, on that route. The diabetic meals present inside these black bags have a bright green-labeled sticker to indicate that it is diabetic. This system can be confusing to volunteers. It was mentioned in the discussion session after the final presentation that volunteers have reported difficulty in reading the Yellow Tag correctly. They misread the number of regular meals as the total number of meals and tend to skip the number of diabetic meals, eventually leading to errors. Also it was reported by volunteers that when they go to confirm their route on the Monthly Calendar, they look at the green dots on the monthly menu to see if it is a diabetic day. But then they have to confirm if their route contains a diabetic meal using the yellow tag and the in-basket route sheet. So, again the duplication of information at several places only increases the load on volunteers.

**Short-Term Recommendations**

To avoid unnecessary duplication and loss of information related to tracking empty routes and volunteers, the number of forms used to keep track of this information should be reduced. This can be achieved by getting rid of the clipboard sheets and merging their information with the monthly calendar, as the clipboard sheets contain the same information in a different format. Staff will be able to simply refer to the calendar and update the consolidated route sheet, making the record-keeping process less complex and easier to maintain. In addition, volunteers already refer to the calendar daily to verify their route, so volunteers could sign-up for routes while referring to the calendar instead of having to seek out additional forms. Instead of serving as the final inventory of route substitution data, the calendar should act as a primary and initial data-collection method. This can be achieved by –

- Making the columns bigger so that the volunteers could easily write on the calendar to sign-up as route-substitute. The bigger space also accommodates route cancellations and other changes.
- Drawing a red (or some other bright color) bold line inside the empty blocks on the calendar, depicting unfilled routes to help the volunteers as well as the office staff easily track the empty routes.
- Posting the coming month’s calendar adjacent to the current month’s calendar, at least when approaching the end of the current month. This will provide information of route substitutions needed into the coming month.

An example of these recommendations is provided in Appendix I.

Finally, the use of the monthly menu to indicate diabetic days seems redundant as the same information is being conveyed through the client sheet and the yellow tag. As at present only diabetic meals need to be indicated, this information can be conveyed by pasting a green dot beside these days on the calendar.

**Long-Term Recommendations**

In the future, when the type and number of special entrees increase, the client sheet should be used to indicate information regarding meal types (meal choice 1, meal choice 2, diabetic, kosher, liquid, etc.), instead of placing this information on the Monthly Calendar. As a long term
solution, the monthly menu should be omitted from use and the route-specific meal information should go only on the client sheet in the basket. The Kitchen Requirements by Route sheet can tell the number and types of meals required on each route. Staff can print out each column of this form separately and place it inside the basket for reference. Thus, the same form can be used by the kitchen and volunteers, which will standardize the process and reduce error in transmission of information by reducing the number of forms that need to be completed. The process will be streamlined and more efficient. Because the long-term solution utilizes an existing form, it should be easy to implement and thus highly sustainable.

If the yellow tags need to remain in use, to make them easier to understand, Meals on Wheels may wish to convert route numbers to route letters and use numbers only to refer to the number of meals of specific types (referenced by color). Any coloring scheme implemented to facilitate packing should be reiterated in the forms seen by volunteers.

**Conclusion**

Meals on Wheels provides a very important, if not life-saving, function in our community. Our group was excited to help improve their meal creation and delivery process because we believe in the critical services they offer. In conducting interviews and observations, it became clear to us that Meals on Wheels serves a broad role in the community in addition to the role it serves for its clients. Volunteers feel like family and can be incredibly loyal to the organization. In one interview, we heard that a few people have been volunteering for several decades, and everyone exhibited pride. Interviewees from all areas of the organization were noticeably pleased with the work they do and the quality of the operation. Our team began to learn how tight-knit the Meals on Wheels community really was, a unique quality in any organization, and we hope that Meals on Wheels continues to foster this kind of pride felt by all involved. One basis for any successful organization is to have a fulfilled workforce.

However, despite the tight-knit feel of the Meals on Wheels community, the necessary physical separation of the two offices can pull this closeness apart. Communication between the office and the kitchen is frequent. Daily faxes from the office tell the kitchen exactly what is needed for the following day. Still, communication is not as high-quality as it could be. The forms being sent back and forth are confusing, and there is little face-to-face interaction between the kitchen and office. We heard that about two years ago, some office staff members took a trip to the kitchen to see some of their operations, and we think this needs to be regularly repeated. We hope that Meals on Wheels staff can sift through their incredibly busy schedules and find time every six months (at a minimum) to talk face-to-face and observe operations that go on at each site. With this kind of face-to-face interaction, Meals on Wheels can further foster the tight-knit feel of the organization and be able to more smoothly implement changes it wishes to roll out in the coming months.
Appendices

Appendix A: Additional Finding 1: The System Works

Evidence
Meals on Wheels has installed a range of back-up mechanisms to ensure that mistakes in the process are corrected. In general, there are very few mistakes in the meal packing and delivery process not corrected by the time meals are delivered, and consequently clients receive the exact meals they ordered almost all the time. For example, the Volunteer Coordinator is always thinking ahead about routes that do not have deliverers, and she and other office staff will call up to a month ahead of time to fill routes with substitutes. If no one can fill the route, the Volunteer Coordinator or office staffers will fill that route. Additionally, the kitchen sends four extra meals to the office in case any of the coolers were packed incorrectly. The meal preparation supervisor tests meals ahead of time and on the day of delivery for safety and nutrition, and also checks the meals when they are being packed for any leaks. During the football season, the whole process of meal packing and delivery starts earlier so that volunteers can avoid football traffic delays. If the kitchen runs short on supplies that are meant specifically for Meals on Wheels, it can use, as a substitute, food meant for the rest of the hospital. Volunteers count the number of meals in their coolers prior to leaving the office. The less-experienced volunteer noted, "It's better to spend five minutes in the Meals on Wheels office to counter-check the number of meals in the coolers rather than going on the route and figuring out that you are short on meals." Volunteers also know to call the office if they experience any issues while on their route, and they feel comfortable doing so.

Long-Term Recommendation
We recommend simply that Meals on Wheels keep up its commitment to solving problems before they occur.
Appendix B: Additional Finding 2: People are Proud of the Work

Evidence
Everyone affiliated with Meals on Wheels shares pride in the mission, vision and values of the organization. We noticed how the Volunteer Coordinator beamed when she explained the work she did, and spoke at length about the personal connections made with the clients by staff members and volunteers alike. One volunteer we interviewed told us that, “Clients are like your friends, and volunteers can tell when a client might be having problems.” The strength of these personal connections was emphasized by that same volunteer who declared, “You’re not doing it for the glory points; you’re just doing it for the people.” In addition to the bond volunteers have with the clients, the volunteers display great camaraderie amongst themselves. During the observation of the cooler pick up process in the office, we observed one volunteer say to another, “Ah, my buddy in crime!” in a light-hearted manner. Meals on Wheels has certainly managed to maintain a friendly atmosphere and a culture of commitment to the clients they serve.

Long-Term Recommendation
We advise Meals on Wheels to keep up the good work, and to maintain your sense of pride and excitement in the organization. We do suggest that Meals on Wheels not let this pride prevent them from facing and addressing some of the inefficiencies in the process. The following findings and recommendations focus on some of these issues.
Appendix C: Consolidated artifact model

**Consolidated Artifact Model: Multiple Artifacts for a Coordinated Purpose**

**Overall Use:** Pack correct number and type of meals and deliver to the correct clients. (U02, U04, U05, U06)

**Overall Intention:**
- Provide detailed, easily-read artifacts for each step of the cooler-packing and delivery process.
- Artifacts are tailored for the needs of each part of the process.

**Kitchen Requirements by Route Form**

**Use:** Provide info on number and type of meals required for next day (U02, U04)

**Intention:** Provide an easily-read chart detailing meal requirements.

**BD:** Chart has misleading labels and is confusing, leading to incorrect number of meals being packed.

**Monthly Menu**

**Use:**
- Tells what meals to pack each day (U04)
- Multi-colored version gives overview of all meals for a month (U02, U04)
- Tells when to watch for diabetic meals during delivery (U05, U06)

**Intention:** Provide a consistent way to know what meals are planned for each day, especially regarding days with diabetic desserts planned.

**BD:** Lack of color on two versions of menu makes it less intuitive to read.

**Route List**

**Use:** Used for meal delivery, to help volunteers deliver correct meals to each client (U06)

**Intention:** Provide a list of each client’s name and address and the meals they will receive that day so that each client receives the correct meals.

**Client Delivery Information Sheet**

**Use:** Used by volunteers to help them navigate to each client’s home and deliver meals safely and consistently (U05, U06)

**Intention:** Provide a list with directions telling best route to get to each client’s house, and with details on how volunteers should enter client’s homes to deliver meals.

**BD:** Directions tell how to get to each client’s house, regardless of whether a client is receiving a meal on a particular day. This makes routes longer than necessary.

**Yellow Meal Count Tag**

**Use:**
- Tells how many regular and diabetic meals go in each black cooler (U04)
- Tells how many regular and diabetic meals need to be delivered (U06)

**Intention:** Provide a highly visible tag on cooler telling the number of meals of each type in a cooler.

**BD:** Directions tell how to get to each client’s house, regardless of whether a client is receiving a meal on a particular day. This makes routes longer than necessary.

**Key:** BD = Breakdown
Appendix D: Consolidated communication model
Appendix E: Meal Tray and Cooler Packing Protocol

1) The internal layer of the coolers should be marked with lines labelled with integral numbers with a gap of two, for example, 2-4-6-8. These numbers will refer to the number of hot trays per layer.

2) Each layer should consist of two hot trays and three soups.

3) Divide the layers using the horizontal dividers as usual.

4) Paste a poster portraying a person packing the cooler in this way (with two trays and three soups in hand for each layer) on the inner side of the wall of the coolers and the same on the wall of the kitchen close to the packing area, on the bulletin board above the sink.

5) Tags (may be transparent) should hang on the side of the bags and trays, indicating the route number, meal type and the expected day of delivery.
Appendix F: Diagram to be Posted Inside Lid of Cooler
Many of our recommendations center on the addition of a color-coding system for use on tray labels and on forms. We believe this system will enable quick recognition of meal type and reduce errors in packing and delivering meals, which will be crucial as Meals on Wheels prepares to introduce more meal choices. For example, a red tag could indicate meal choice 1, while a black tag could indicate meal choice 2. Purple tags could represent diabetic meals, blue tags could indicate kosher meals, and pink tags could indicate liquid meals. So, this way a meal would have either a red or a black tag, and may also have a purple, blue and/or pink tag, accordingly.
# Appendix H: Kitchen Requirements by Route Form

Ann Arbor Meals on Wheels  
Kitchen Requirements - By Route  
Delivery Date: Tue. 9/21/10

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<th>R-2</th>
<th>R-3</th>
<th>R-4</th>
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<th>R-7</th>
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<th>R-14</th>
<th>R-15</th>
<th>R-16</th>
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## Appendix I: Monthly Calendar for Volunteer Substitutes

The following is a screenshot of an example of a revised calendar for the sign-up of substitute volunteers. Our client liaison will be in contact with you to email you a full Excel version of the calendar, for your convenience in adopting this new format.

| Monday          | R-1 | R-2 | R-3 | R-4 | R-5 | R-6 | R-7 | R-8 | R-9 | R-10 | R-11 | R-12 | R-13 | R-14 | R-15 | R-16 | R-17 | R-18 |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 10/04/2010      | Mr. John | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC |
| 10/11/2010      | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC |
| 10/18/2010      | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC |
| 10/25/2010      | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC | Mr. JC |

R -> Route